Unequal Opportunities and Social Inheritance

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Ideology and myth do not die easily. Even with decades of cumulative social scientific evidence to the contrary, many stubbornly believe that we live in a land of equal opportunities. We have witnessed a half century of educational expansion and social reform and, yet, individuals' life chances remain as powerfully determined by their social origins as in the epoch of our grandfathers. This is cause for worry if we care about social justice, and also quite problematic if we are concerned with our future economy. If a large share of today's youth fails to realize its full productive potential, tomorrow's retirees will be less well off.

This paper brings together what sociologists and economists know (or need to know) about social inheritance and life chances. The bad news is that we must basically confirm the constancy of social inheritance. The good news is that recent research has uncovered a few non-trivial exceptions to the rule. If we can identify the precise mechanisms at work, this might help governments devise policy that more effectively ensures equal opportunities. To anticipate our conclusions, we are skeptical of the standard assumption that generational inheritance is primarily driven by investments in education. Instead, as our empirical analyses suggest, the decisive mechanisms probably lie in families' 'cultural capital' and, furthermore, that it is in early childhood that parental transmission is key. This would indicate that research needs to be re-focused from education systems towards families. And, similarly, the upshot is that equal opportunity policies will need to pay far more attention to early childhood welfare.

The economics and sociology of social inheritance

A superficial reading might conclude that economists and sociologists pursue quite different aims, even when they appear to be studying a similar issue. To sociologists, inter-generational inheritance is foremost important because it tells us something about social

divisions and ascriptive processes in the opportunity structure. The key concern is with peoples' life chances. Economists, too, worry about equal opportunities but their concern is market imperfections – i.e. inter-generational mobility correlations tell us something about the economy. Economists are foremost preoccupied with earnings and incomes, while sociologists mainly examine educational, occupational, or social class attainment. [2] And methods, too, appear divergent. Economists prefer linear estimation, because of its superior ability to deliver unbiased results, and their favoured unit of analysis is the individual. Sociologists are driven towards non-linear analysis, largely because they see the world in terms of discrete classes and categories. They prefer the household as their unit of analysis so as to capture the embeddedness of the individual in social collectivities.

A closer look suggests, however, that convergence overwhelms diversity. The main mobility variables – income to economists, occupational class to sociologists – are pretty much two sides of the same coin. Indeed, the early socio-economic status (or prestige) measures that sociologists constructed – Duncan's (1961) SEI scores – were a weighted composite of occupation-specific earnings and the level of qualifications associated with the jobs. Earnings and occupational status are, unsurprisingly, very highly correlated (Erikson and Goldthorpe, 1992), and this holds also for marxian inspired class categories (Wright, 1979). [3]

Both disciplines also agree that education is the crucial site where social inheritance is transmitted. To be sure, the theoretical underpinnings differ, both in terms of formalization and of substantive interpretation. Human capital theory permits formal modelling to an extent that is not possible (or even desired) in sociology. Following Becker (1964), and more recently, Becker and Tomes (1979; 1986) it is possible to construct strong and elegant theoretical prediction from few variables – as does Solon (1999). The basic model typically takes the following form:

$$lnY_{i,c} = (1 + r)lnY_{i,p} + \varepsilon_{i,c} + \mu_{i,c}$$

This means that child's income, Y_c (in family i), is correlated with parental income, Y_p, because parents invest in their offspring's education. The r- term takes into consideration prevailing returns to human capital investment. In addition, the child's income will depend also on its endowments (ε) and 'luck' (μ), the latter presumably independent of either ε or of Y_p. The Y_p elasticity may diminish if government investment in education is to the

greatest benefit of lower income families. Economists would posit a similar intergenerational correlation everywhere and at any time unless there is a change in either, or both, of two parameters: in the distribution of inter-household income and/or in public educational subsidies. The causal chain is, in any case, exclusively money-driven: *money(p) -> investment -> money(c)*.

Obviously, in order to establish whether observed variations in mobility are non-trivial, we need to know *a priori* the unbiased core elasticity. Not surprisingly, this is a key objective in many studies. [4] As the reader will have noted, the search for a core Y_p elasticity is wrought with difficulties, in particular because parent-child income correlations are very sensitive to *when* (and for how long) we monitor parental and offspring income: earnings usually rise with age and can fluctuate substantially from year to year. Hence information on permanent income is desirable, and we would be best off with income data at a similar stage in the parent's and child's life cycle. Recent advances in panel data availability has made the task of estimating a core Y_p elasticity much easier, and we must assume that the most up-to-date findings are more robust than previous (and generally lower) estimates.

Firstly, there does seem to be substantial support for a core elasticity in the neighborhood of 0.4. – at least for the U.S.(Solon, 1999). Secondly, there is credible support for the prediction that changes in income distribution and/or in government investment in education will affect the elasticity. Diachronic comparisons, such as Harding et.al. (2002) demonstrate an over-time change in the U.S. elasticity that is related to both government expenditure and to declining household income dispersion during the 1960s and 1970s. Interestingly, rising inequalities thereafter produce a reversal. Comparisons with other countries are, of course, better suited to test the effects of differing educational policies. Bjorklund and Jantti (1997) compare Sweden and the U.S. and find substantially greater intergenerational income mobility in the former. Blanden et.al. (forthcoming) show that government policy may easily reinforce – rather than weaken – the social origins effect if, as in Britain, the expansion of higher education was mainly to the benefit of the privileged classes.

Providing a direct link to sociological research, economists have recently begun to detect *non-linear* (or assymetric) inheritance effects: the Y_p elasticity may diverge considerably across social (or income) classes. Ermisch and Francesconi (forthcoming) suggest that downward mobility from the top of the class structure is far less likely than is upward mobility from the bottom. Couch and Lillard (forthcoming) find that immobility among sons of high income fathers is more prevalent in the U.S. than in Germany while, in contrast, children of poor parents are more likely to move up in the income hierarchies in the U.S. than in Germany. Unfortunately, it is not easy to ascertain how such non-linearities in the Y_p-Y_c relationship are brought about. As Ermisch and Francesconi suggest, the *inter-class* differences in mobility run counter to standard economic theory. Since such differences indicate class closure, this is exactly what sociologists would predict.

A skim-read of standard sociological treatments of social stratification would probably not help much. Sociologists take their clues from an age-old debate on where modern society is

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[4] See, for example, M. Corak, ed. (forthcoming)

heading. In a nutshell, the issue is whether modernization, i.e. economic growth and industrialization, will, in the long run, reproduce or undo the old class-divide? The key hypothesis that guided postwar mobility research was that, yes, modernization expands individual mobility and, hence, produces a less class-ridden society. [5] It was assumed, rather than demonstrated, that the United States – as the vanguard of economic development – boasted substantially more social fluidity than elsewhere. And it was predicted that Europe, and even Third World nations, would eventually exhibit similarly high mobility rates once the economic catch-up process caught on. [6]

Mobility research over the past decades has given this thesis the death-knell, not least because comparative data indicate that the U.S. is probably *less* mobile than other countries (Solon, 1999). The new consensus, as far as long-run, historical evolution is concerned is best captured by Erikson and Goldthorpe's (1992) notion of the *constant flux*. That is, the correlation between social origins and achievement appears extraordinarily stable and trendless over even very long historical periods. [7] And this holds for occupational class mobility, as in Erikson and Goldthorpe's (1992) research, and for educational attainment, as in Shavit and Blossfeld (1993). Yet, these very same studies do identify exceptions to the constant flux. In the former it is found that intergenerational class mobility has increased among the youngest cohorts in Sweden, and arguably also in the Netherlands. The latter study arrives at a very similar conclusion: there is a clear decline in the social inheritance effect on educational attainment in Sweden and, again, apparently also in the Netherlands. Subsequent analyses corroborate this (Erikson and Jonsson, 1996).

The upshot is that we must look elsewhere than economic development for any explanation of mobility behavior. Like in economics, also sociological mobility research assumes education to be the main locus of inter-generational transmission. But this seems increasingly doubtful considering that inter-generational education correlations echo inter-generational occupational correlations, both over time and across nations. And like in economics, also sociologists typically find that the *direct* effect of education on later earnings or occupation is modest at best, and that it gradually declines as peoples' careers progress (Warren et.al., 2002).[8]

As we discuss in the next section, sociologists have always been preoccupied with the mechanisms that connect origins with destinations, especially with those that may jointly explain both educational and job inheritance. Hence, most sociologists will interpret inter-generational mobility correlations in terms of two main kinds of social interactions: firstly,

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[5] A subsequent revision of the thesis argued that rising mobility would mainly occur in the initial stages of industrialization, after which mobility flows would stabilize (Featherman, Jones and Hauser, 1975). For an overview, see Grusky and Hauser (1984).

[6] In practice the modernization hypothesis that guided sociological mobility research has a close kinship to the thesis in economics that earnings begin to regress to the mean as countries become rich (Solon, 1999:1779).

[7] It is important to note here that we are referring to *net* mobility rates, i.e. net of changes in the marginals of parent-child mobility matrices.

[8] Very similar to inter-generational earnings estimates in economics, sociologists show that correlations are very sensitive to the age at which we monitor the achievements of offspring. Warren et.al. (2002), using siblings data, show that the effect of education declines across the life course. The same is, however, not the case for alternative human capital measures, such as cognitive abilities.

the social milieu of the family during childhood and youth (such as family stability, poverty, or 'cultural capital') and, secondly, the characteristics of the social community (neighborhood class or race segregation, or social networks). [9] In effect, sociologists would advocate going beyond any straightforward *money -> investment -> money* model.

When confronting recent mobility research in economics with its sociological counterparts, one is struck by the consistency of empirical results. The emerging consensus around a core 'inheritance elasticity' among economists has its counterpart in the sociologists' *constant flux*. Moreover, both disciplines are discovering significant and seemingly important deviations from the core elasticity, both across time and nations. If 'money' is not everything what, then, can help us understand both the constant flux and its deviations?

The Mechanisms of Inter-generational Transmission

The assumption that education is the chief mechanism through which origins are linked to destinations has been broadly shared by postwar social reformers. Indeed, the expansion and democratization of schooling in the postwar era were launched in the name of meritocracy and equality. From what we now know the promise largely failed, and this requires explanation.

We must remember that the explanatory logic of 'education' changes all depending on whether our study is micro- or macro-based. In the former case, we treat the system as given and are more concerned with the processes of social selection within that very system. In the latter, as in cross-national mobility comparisons, we are probably more concerned with educational *systems,* with whether one model promotes more or less opportunity than an another.

Many of those studies that explicitly compare across systems present provocative and even puzzling nation-differences, but they are typically hard-put to offer unambiguous explanations. This is certainly the case for Shavit and Blossfeld's (1993) finding that Sweden, with the Netherlands, has managed to rupture the constant flux. Similarly, a recent study by Couch and Lillard (forthcoming) finds that upward mobility from the bottom is greater in the U.S. than in Germany. This contradicts the *money -> investment ->money* theory because Germany's household income distribution is far less inegalitarian than the American. It also contradicts the thesis that public investment in education is decisive because public spending on education differs very little between the two countries. More generally, the results that come from comparative educational attainment research suggest that differences in public educational spending matter very little (Shavit and Blossfeld, 1993; Eriksson and Jonsson, 1996; OECD, 2001). The two exceptions to the constant flux

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[9] Economists like Borjas (1995) and Corcoran et.al. (1992) have begun to move in similar directions. In this chapter I will not address the community effects, mainly because they are empirically less salient than the family effects.

of educational attainment, Sweden and the Netherlands, cannot be explained in terms of extraordinary levels of public investment in education.[10]

System *design* might conceivably be of greater importance. It is, for example, an old established fact that early tracking in schools reinforces social inequalities. And the Swedish comprehensive school reform was explicitly designed to augment equal opportunities. Some studies give credence to a systems-explanation. Indeed, Couch and Lillard's (op.cit) finding that upward mobility from the bottom in Germany is limited squares better with sociological research than with economic theory. As Blossfeld (1993) and Blossfeld et.al. (1993) show, the heavy skill-biased credentialism that is built into the German dual system implies that those who fail to pursue either academic or vocational training will have foreclosed, practically for ever, any chances of upward mobility.

Educational system characteristics (such as tracking, or the mix of public and private schools) may help account for group-specific mobility patterns, but they generally fail to explain overall mobility differences. Hence, the constant flux of occupational mobility or educational attainment prevails in countries with distinctly different educational systems – such as the United States, Germany, Italy and the U.K., four countries that pretty much represent the global diversity in education systems.[11] Nor is it easy to explain the two deviant cases by reference to system attributes. Dutch education is quite similar to the German dual system while Sweden (since the 1960s) boasts an unusually comprehensive school system. [12]

When we move to micro-analyses, the education variable comes closer to the individualized investment-logic that drives economic theory. The prevalence of a core Y_p income elasticity in economics and a constant flux in sociology, coupled to significant deviations (like the Dutch and Swedish enigmas), raises the question of how, more precisely, this transmission occurs. If we doubt that it is all money-driven, we need to broaden our search for the smoking gun. In fact, education hardly ever explains more than a fifth of the variation in log-earnings (Card, 1999).

Sociologists generally prefer to study educational attainment in terms of transitions rather than years of education (Mare, 1993). This is so for two principal reasons. One, the social origins effect is not monotonic and linear by years of schooling. It is stronger at earlier key transitions (in particular transitions into secondary education) and tapers off later on. Put

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[10] Public expenditure on education is actually a couple of percentage points higher in Sweden than the OECD average, but the Dutch spend less than the mean. The U.S. lies almost exactly at the mean, and Germany a bit below (OECD, 2000: Tables B1-B2)

[11] The main results from OECD's (2001) PISA study corroborate this. It shows that variations in youth (aged about 15) educational and cognitive performance are predominantly related to family-of-origin variables. National differences in school systems, or even intra-national variations in the quality of teachers and schools, make very little difference.

[12] As Erikson and Jonsson (1996) suggest, it is possible that the comprehensive Swedish system has helped create more educational equality. Yet, they remain quite sceptical as to whether this is what accounts for the declining social inheritance effects found for Sweden. In fact, as we shall see below, also Denmark and Norway (previously un-studied) exhibit a similar (and very strong) declining inheritance effect, and their education systems are not of the comprehensive type. Echoing the growing consensus in the literature, we must probably look elsewhere for explanations.

differently, if 'poor' kids make it through the hurdles their performance is more on par with 'rich' kids. There is, in other words, a potential problem of selection bias when we measure education simply in terms of years of schooling. [13] Two, the important selection occurs at the moment youth face transitions, because it is at this point that they (and their parents) will calculate the potential gains, risks, and opportunity costs associated with additional schooling (Breen, 2001). The risk calculus is, itself, likely to co-vary with the mechanisms (such as income, social networks or cultural capital) that link social origins to educational outcomes. What, then, determines educational choices and outcomes?

An important clue comes from research on remedial education (Heckman, 1999). One solid finding is that attempts to correct for skills-deficiencies later in life are ineffective if people do not already possess adequate motivational or cognitive resources to begin with. This, as developmental psychologists have established, all begins in *early* childhood, in particular in the ages 0-6, which is when the basic abilities for learning are most intensely developed (Danziger and Waldfogel, 2000; Duncan and Brooks-Gunn, 1997). [14] This said, one would therefore predict that family effects will overshadow community or neighbourhood effects (which are more likely to assert their influence at later stages). [15]There is now substantial and consistent evidence that the family milieu during early childhood is decisive for later achievement, such as educational attainment, earnings, and careers, and also for later social problems, such as school drop-out and criminality. One factor that has been studied extensively is the impact of family poverty and, more generally, of family resources (Duncan, 1998; Duncan and Brooks-Gunn, 1997; Machin (1998); McCulloch and Joshi, 2002). Indeed, the effects can be very powerful as illustrated by American estimates that show that poverty in childhood is associated with an average of two years less of schooling and substantially lower earnings as adult (Mayer, 1997; Duncan, 1998). There is also strong evidence that family instability, parental unemployment, and alcoholism seriously impair children's educational attainment. But there is no evidence that mothers' employment, *per se,* harms children's development – rather to the contrary (for an overview, see Duncan and Brooks-Gunn, 1997).

Admittedly, many of these family characteristics are correlated with parental income and will, accordingly, be captured in the *money -> investment -> money* model. Financial security within the family is, for example, key to Breen's (op.cit) rational choice theory of transition decisions: the perceived risks associated with continuing education are likely to be more intense in families that feel financially insecure. But other characteristics are not necessarily correlated with income. Inspired by Bourdieu's (1983) stress on 'cultural capital', there is a growing literature which suggests that a) social skills, personality traits, and cultural capital may be as important as educational certificates in hiring and promotion decisions or, more broadly, in dictating who gets ahead (Jencks et.al., 1979; DiMaggio, 1982; DiMaggio and Mohr, 1985; de Graaf et.al., 1998; for an overview, see also Bowles

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[13] Considering that early transitions, such as between elementary and lower secondary education, are now more or less universal, there is a good case to be made for a quadratic specification if years of education is used.

[14] The decisiveness of early childhood is also highlighted in Jencks and Phillips' (1998) analysis of the black-white score gap.

[15] Solon et.al.'s (2000) attempt to distinguish the impact of neighborhood from family effects show clearly that the latter are, by far, the most important (the ratio between the two correlations is about 5:1).

et.al., 2001); and b) that the cultural and educational resources of parents are vital for children's cognitive development and subsequent school performance (OECD, 2001). Cultural resources may also be decisive in allowing parents to better 'navigate' the educational system in the best interests of their offspring (Erikson and Jonsson, 1996).

That cognitive skills compete with education in dictating life chances is fairly well established. What comes as a surprise is that the two are only weakly correlated – in other words they capture different dimensions of human capital.[16] There is evidence that cognitive abilities, independently of educational attainment, affect life chances. Bowles et.al.'s (2001: 1154) review of the econometric evidence from 24 studies concludes that "a standard deviation difference in cognitive performance is associated with something less than a ten percent increase in wages, and is in this respect roughly equivalent to a year of schooling". Green and Riddell (2000) find that cognitive abilities account for about a third of the 'returns to education' in earnings equations. There is strong support for the possibility that a good part of the inter-generational class inheritance effects we observe in earnings, education, and occupational outcomes is mediated via parents' impact on children's cognitive development.

If that is so, we obviously need to estimate a broader menu of parental characteristics, and we also need to focus more on what happens *before* children even start school. Economists have taken some steps to study more dimensions of parents' status. Solon (1992) instruments parental income with father's education, and Mulligan (1997) estimates with a series of different alternatives, such as occupation, race and education. Sociologists have routinely controlled for these (and other) variables in their mobility studies. Some recent work has deepened the family context considerably by including direct information on cultural assets, such as literature, reading, and cultural consumption (deGraaf, 1998; OECD, 2001).

To the extent that cognitive abilities and education measure distinct attributes, and to the extent that the former in great part are developed in pre-school ages, we are in a position to account for the 'constant flux' of educational attainment. The selection mechanisms that occur in school systems are, in large part, already prefigured in that cognitively strong children will profit far more from any given curriculum and teaching than will their weaker counterparts, *regardless* of what kind of school system prevails or of how well-financed it is.[17] In other words, if we want to identify the smoking gun behind the constant flux, parental influence on cognitive development may be a good place to start.

We can use the International Adult Literacy Survey (IALS) data to arrive at a first approximation. Ideally we would like to correlate cognitive performance 'both ways': with social origins, and with career outcomes. Unfortunately, the IALS data furnish no information on parents' income, and child's earnings data are available only for a handful of countries. It does, however, give information on parents' education. As a first

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[16] Using IALS data, the simple bi-variate correlation hovers between .4 and .5, depending on country
[17] This, in fact, is also the main conclusion from OECD's (2001) PISA study, which includes detailed information on children's cognitive performance, knowledge, and social background as well as on the schools and on 'neighbourhood effects'.

approximation we can therefore regress offspring's cognitive performance (and educational attainment) on parents' educational level. Below, in Table 1, I present regression estimates for the impact of father's education. To arrive at unbiased estimates of father-child education correlations, the coefficients are adjusted for differing generational distributions in educational attainment (see note to Table 1). We include 8 countries that represent the diversity of educational systems within advanced countries. All estimations control for gender and for immigrant status and pertain only to age group 30-40. [18]

The results confirm much of what we already know. We notice, in particular, the unusually modest parental impact on children's education *and* on their cognitive performance in Scandinavia (although the education elasticity is rather strong in Denmark). We also note that the Dutch results contradict the conclusions from earlier research, at least as far as educational attainment is concerned. [19] The U.K. and, especially, Germany show unusually strong elasticities as far as educational attainment is concerned, and the U.K. with the U.S. stand out in terms of very strong parental effects on cognitive performance.[20] A coefficient of 10.251 for the U.S. tells us that fathers with five more years of schooling than average will push their offspring roughly one quintile up in the distribution of cognitive skills.The standardized Betas serve to compare across the two human capital dimensions. As signalled, cognitive abilities and educational attainment are both powerfully and rather similarly driven by social origins.

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[18] I limit the sample to age 30-39 (25-35 in the case of Canada) because this assures that the vast majority will have completed formal education, and also because this is the age range employed in most income mobility estimations.

[19] In reality, these and earlier estimates are not strictly comparable given that the correlations presented here are based on *years* of education and not on educational transitions, as in Shavit and Blossfeld (1993) or Erikson and Jonsson (1996).

[20] The German (and probably also Dutch) education coefficients are probably exaggerated due to measurement problems. Transforming educational levels into their year-equivalents is especially difficult for these two countries.

TABLE 1.

The Impact of Father's Education on Educational Attainment and on Cognitive Performance in Eight Countries. Ages 30-40 Only.
(all estimates include controls for gender and immigrant status)

	Coeffcients for:				
	Child's Years of Education 1)			**Child's Cognitive score**	
	$\overline{\beta}$	Stand. Beta		β	Stand. Beta
Canada	.080	.423		5.055	.411
U.S.A.	.206	.424		10.251	.364
U.K.	.489	.331		11.247	.284
Sweden	.085	.339		6.203	.338
Norway	.105	.328		6.064	.286
Denmark	.277	.259		4.397	.204
Germany	.803	.403		4.051	.105
Netherlands	.319	.377		4.987	.251

Note: All estimates are significant at .001 or better. The cognitive performance variable is the mean individual score on the three literacy items tested in the IALS (document, prose, and quantitative abilities). Note also that the age bracket for Canada is 25-35.

1) $\overline{\beta}$ is adjusted for the differing variance in fathers' and children's education, i.e. $\overline{\beta} = \beta(\sigma^2_y/ \sigma^2_x)$

Source: IALS microdata (second wave), provided by Canada Statistics.

The two measures tap distinct human capital attributes and, yet, both are strongly related to social origins. Considering the modest amount of information available on the parental milieu, it is not easy to go from here to a fuller understanding of whether this is chiefly 'money-driven' or if, alternatively, we need to worry about 'culture'. Fortunately, the recently released PISA data allow us to identify more directly cultural factors and, to some extent, also to differentiate these from money factors. [21] The study does not include information on parental income, but does include a 'wealth' variable based on a composite of information on the size, standards, and quality of the parental home – arguably a reasonable proxy for income. It also includes a variable that describes the socio-economic status of parents, information on father's and mother's education, and a battery of variables that tap the family's cultural milieu.[22]

In Table 2, we present simple OLS regressions of children's scholastic-cognitive aptitudes (in reading) on 'wealth', 'cultural capital', father's education, and household's socio-economic status. 'Wealth' is albeit a very indirect measure of income, but the household socio-economic index score – as in Ermisch and Francesconi's study – should also help capture family income. [23] With these qualifiers in mind, it is nonetheless evident that *children's* (aged 15) cognitive performance is far more powerfully related to the family's cultural capital than to its material wealth or, alternatively, to its socioeconomic status. Indeed, the 'wealth' variable (household amenities) is systematically weak and, in several cases, not statistically significant. The socio-economic status variable performs everywhere much better (with Betas in the neighborhood of .170-.200), but it is the culture variable that dominates. And this seems quite robust when we note that the culture effect is consistent across such very different nations.

In other words, we do seem to have a fairly good case for a family culture explanation that is distinct from 'money' effects. That is, of course, not to say that parents do not invest in their children, only that arguably very decisive kinds of investment are not of the monetary kind and, furthermore, do not seem to correlate strongly with money. [24] It

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[21] The PISA study is an international OECD-sponsored study of the scholastic and cognitive aptitudes of 15-16-year olds. For a description, see OECD (2001).

[22] The socio-economic status variable is an updated variant of the old Blau-Duncan occupational prestige index. Like its progenitor, it offers a weighted score for the educational and income profile of occupational groups. In the analyses that follow, I will use the socio-economic index scores that pertain to the household (the highest of either of the parents), and I use only father's education (as in the earlier regressions). Note that there are no colinearity problems between the Household SEI and the father education variables.The 'culture' variable I use in the following derives from factor analysis which yields a strong and unique 'culture' factor based on three variables: a measure of the quantity of books possessed by the family; a measure of 'high' culture (classical music, theatre and the like); and a measure of cultural communication within the family (like frequency of discussing literature or the like). For details on variable measurement, see OECD (2001).

[23] In reality, the two variables are not correlated very strongly. The correlation is strongest in the U.S. (.36) and hovers around .25 in Western European countries with, unsurprisingly, Sweden being the lowest (.13). Note that there are no problems of multi-colinearity in any of the regressions. However, the surprisingly modest effects of father's education on child's cognitive performance is, no doubt, partly attributable to the socio-economic status variable (the bi-variate correlation hovers between .4 and .5).

[24] The simple correlation between 'wealth' and our culture factor is generally about .15; the correlation between household socio-economic status and the culture factor is around .4.

is important to introduce here a note of caution, considering that 'cultural capital' is indisputably a rather unprecise phenomenon. As here measured, it should mainly capture the standards of cultural communication and consumption within the family, but this may arguably also mirror aspects related more to 'nurturing' within the family, i.e. that parents generically care more for their children. To exclude this potential ambiguity we have rerun the regressions in Table 2, including a control for 'intensity of social interaction' in the family (frequency of talking and eating together). The results (not shown) indicate that the coefficients for cultural capital are not affected – in brief, the cultural capital variable appears to be reliable and robust. [25]

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[25] I thank Ernesto Villanueva for alerting me to this possible source of error.

Table 2. Money and Culture. OLS regressions of cognitive performance among Children in Six Countries (Beta coefficients). 1)

	Germany	France	Denmark	Sweden	Canada	U.K.	U.S.A
Cultural capital	.296***	.307***	.297***	.255***	.272***	.317***	.259***
Father's education	.118***	.003	.157***	.002	.080***	.023	.047*
Socio-economic status	.178***	.213***	.126***	.190***	.145***	.212***	.172***
Household 'wealth'	-.020	.033*	-.031*	-.011	-.001	.042***	.057***
R^2	.213	.198	.177	.131	.142	.193	.163
N	4164	3774	3572	3970	26735	7752	2732

1) **Dependent variable is the mean test-score performance on three tests of reading ability, comprehension and interpretation. Its distribution is almost perfectly normal.**
Source: OECD's PISA microdata set

As mentioned, it is more difficult to correlate 'the other way', i.e. connecting cognitive abilities and education to life chances. If the two tap uniquely different aspects of human capital – while both being powerfully correlated with family origins – and if earnings are importantly related to cognitive abilities, this further leads us to question the standard 'money' assumptions behind inter-generational earnings models.

Here, of course, the PISA data do not help since they observe children still in school. The IALS data furnishes full annual earnings information for the U.S., and Sweden. Table 3 below presents regressions of cognitive performance, of educational attainment (years), and of experience on log (annual) earnings, controlling (as earlier) for gender and immigrant status. [26] Table 3 compares Sweden and the U.S. which are, without doubt, the two most orthogonal cases in terms of earnings distribution.

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[26] I limit the sample to full-time, full year workers. Experience is years since completed education minus 6. Cognitive score is the mean value on the three literacy items, as above.

Table 3. Education, Cognitive Abilities, and (log) Annual Earnings. Full-time, Full-year workers aged 20-60 only. OLS estimates.

	U.S. Model 1	U.S. Model 2	Sweden Model 1	Sweden Model 2
Gender (w=1)	-.369***	-.364***	-.244***	-.241***
Foreign born	-.164***	.005^{ns}	-.104^{ns}	-.079^{ns}
Experience	.046***	.046***	.030***	.030***
Experience^2	-.0007***	-.0007***	-.0004***	-.0004***
Education (yrs)	.096***	.063***	.033***	.030***
Cognitive Ability		.003***		.001***
Constant	8.544***	8.122***	11.362***	11.178***
R^2	.322	.370	.136	.139
N	1133	1133	1096	1096

*** =significant at .001 level. Ns = non-significant.
Source: IALS

The U.S. regressions in Table 3 are very similar to those obtained by Green and Riddell (2000: Table 1) for Canada. The inclusion of the cognitive variable leads to a 30 percent decline in the education elasticity (and eliminates the immigrant effect). Since the experience coefficients remain unchanged, it is evident that work experience does not have much of an influence on cognitive performance. A comparison of Betas (not shown) in Model 2 tells us that the relative causal weight of education and cognitive ability is just about the same (.305 for education; .298 for cognitive score).

The Swedish story is very different, mainly because earnings are far less related to any observable human attribute. This is hardly surprising considering Sweden's uniquely compressed wage structure.Hence, in Model 1, the education elasticity is only one third that of the U.S., and the inclusion of cognitive score in Model 2 contributes very little as well.

When we hold these results up against what we learned from Table 1, we begin to see the contours of very different, indeed orthogonal, life chance logics. On one side, parental inheritance is far more powerful in the U.S.(with the U.K.) than in Sweden, be it for educational attainment or for cognitive skills. On the other side, the very same educational and cognitive attributes play a far greater role in dictating adult life chances (here earnings) in the U.S. than in Sweden.

In any case, the transmission mechanisms are fairly similar across all countries. As we have learned, the money-investment model does not offer a very complete account of how inter-generational correlations come about. If anything, the cultural capital of families appears rather more decisive. As Mayer (1997) has argued, money alone cannot buy equal opportunities.

We are then left with the one overriding puzzle:Why is the social inheritance of life chances so much stronger in some countries than in others? And why does it also vary over time? Since family culture seems to play a key role in the process of transmission, the economists' money-investment-money thesis has shortcomings. What, in other words, have countries like Sweden done to diminish the Y_p-Y_c correlation; and what has the U.S. done to sponsor internationally high inheritance effects?

Public Policy and Equality of Opportunity

Since it would be difficult to explain Sweden's egalitarianism in terms of public investment in education, an alternative economic explanation might lie in Sweden's extraordinarily compressed wage distribution which, de facto, implies that earnings are only weakly linked to human capital or gender. The U.S. has one of the OECD's most unequal wage distributions, wage setting is extremely de-centralized, and hence one would expect that skill or other worker attributes play a far greater role in dictating individual earnings. No doubt there is some truth in this account. Yet it fails to explain the fact that Sweden is also more egalitarian in terms of educational attainment, occupational mobility, *and* cognitive development.

It is very tempting, in fact, to explain it all tautologically: very inegalitarian societies beget very inegalitarian results. But the tautology disappears when we add to this that very inegalitarian societies also beget more ascription and less mobility. [27] This runs counter to prevailing thought which continues to insist that unequal income distributions (such as in the U.S.) are offset by greater individual mobility. Indeed, the standard assumption is that income inequality stimulates incentives for mobility. From sociological research we know that educational and occupational attainment is less correlated with social origins in Sweden and other fairly egalitarian societies. We also know from economic research that this is similarly true for earnings and incomes. It may therefore be that the old 'mobility myth' is simply false. Rather, there is a good argument to be made that mobility is *negatively* related to levels of overall inequality.

If we tackle this hypothesis cross-nationally, the evidence seems supportive. Take the case of cognitive abilities which we have emphasized so much. These are distributed far more unequally in some countries than in others. Using test-score data from the IALS we can compute national 'cognitive' Gini coefficients. In a large sample of advanced societies, the Gini ranges from .08 in Denmark to .158 in the U.S. (and is substantially higher in countries like Poland and Chile). The telling point is that the cognitive Ginis are very powerfully correlated not only with national income Ginis, but also with the elasticity of father's education on child's cognitive performance and educational attainment. [28]

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[27] Corak (2001) has also argued that inter-generational correlations will be higher in more unequal societies, and his study also stresses the centrality of non-monetary factors, such as parents' cultural stimulation.
[28] The R-squared for 15 countries is .68

This does not tell us anything about causal direction, only that unequal societies also boast more social inheritance. Why this is so is the great policy challenge. The challenge can motivate two kinds of strategies. The first, and classic one, is to pursue more equality by reforming key institutions. Indeed, the foremost strategy over the past half century has been educational expansion and reform; delaying or abolishing tracking, affirmative action for underprivileged children, standardizing curricula, school facilities, and so forth. There is certainly evidence that institutional changes can yield positive results – at least at the margin. Head Start is clearly a success in the U.S., albeit limited to severely disadvantaged children. But the pervasive sociological finding that differences in education system explain little in terms of the constant flux suggests that we might turn our attention elsewhere.

The second strategy is more attentive to the micro-processes of social transmission. If, as so much data suggest, the real selection process begins already *prior* to school-age, clearly the focus needs to be shifted from schools to families. [29] Erikson and Goldthorpe (1992) speculate that the diminished impact of origins in Sweden may be related to the equalization of family resources – including the virtual eradication of child poverty – brought about by the welfare state.

Equalizing household incomes via transfer programs is arguably one important pre-condition for more equality of opportunity. Income-poor families are less resourceful, less able to plan ahead and 'navigate the school system', and poor parents are more likely to spur their children to abandon school in favor of a job. After all, we do know that child poverty is strongly correlated with inferior educational and job attainment later on. Yet, there is a huge amount of research that shows that social transfers to the poor can 'go both ways'. As is widely known, traditional U.S. social assistance (AFDC in particular) helped inadvertently reproduce inter-generational welfare dependency. The point here is that money is possibly less neutral than we believe; social transfers have second-order distributional effects which depend very much on how a transfer program is designed. As Korpi and Palme (1998) argue, the universal nature of the Scandinavian social transfer system yields far more effective redistribution than does an American-style system that narrowly targets the poor. Perhaps most importantly, targeted benefits to the poor (as in the U.S.) are far more likely to produce poverty and welfare dependency traps which clearly are counterproductive for mobility. This suggests that the economists' money-investment model needs to be ammended by information on the nature of the money in question. When we more closely examine why there is so little child poverty in Scandinavia, this becomes all the more evident.

The abolition of poverty and material want in Scandinavian child families is, in fact, far less due to public income transfers than to public social service provision. It is universal access to affordable day care that explains why virtually all mothers are employed and it is this, in turn, which explains the absence of poverty (Esping-Andersen, 2002: Chapter 2). This is especially evident in the case of Swedish lone mothers, whose employment rate is near 80 percent and whose poverty rate is only 4 percent. Of course,

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[29] This is all the more so when we include what we know about adult remedial programs, namely that they only work well for those who already possess a strong motivational and cognitive base.

also American mothers are now typically employed and use daycare. But here the similarities end. More unequal wages means that low-educated American mothers will have greater difficulty raising the family above poverty. In fact, the U.S. child poverty rate (1995) stands at 19.3 percent, and in excess of 50 percent in lone mother households (Esping-Andersen, op.cit). Additionally, American daycare is almost exclusively privately provided, and quality care is simply priced out of the market for low income families (Blau, 2001). Scandinavian day care is basically of uniform, high pedagogical standards, meaning that children from disadvantaged families will benefit disproportionally. American day care is of extremely uneven quality, and children from disadvantaged families are likely to find themselves concentrated at the low end. Additionally, it is common practice in the Nordic countries that school-age children remain in schools after classes in organized 'after-hours' activities. This implies fewer hours parked in front of the family TV.

The upshot is that the uneven distribution of cultural capital among families is greatly neutralized in the Nordic countries, simply because much of the cognitive stimulus has been shifted from the parents to centers *that do not replicate social class differences*. As Waldvogel's (2002) recent review of both American and European research shows, child care programs that are intensive, intervene early, and that promote high pedagogical standards contribute very effectively to raise the cognitive performance of children from disadvantaged milieux. In turn, this helps children start and proceed on a much more equal footing once they enter formal education. Although we have preciously little longitudinal research, what evidence there is suggests that early quality care continues to exert positive emotional and cognitive results throughout childhood (Waldvogel, 2002: 539).

All this said, we should be careful not to throw the baby out with the bathwater. 'Money' is decisive, and perhaps most important of all is long-term financial security. This emerges clearly from research on educational transitions. Gifted or not, children from financially strained families are far more likely to cease studies and seek employment at the decisive educational hurdles for two reasons: one, the family may need additional income; two, as emphasized in Breen's (2001) rational choice approach, the family's risk calculus is powerfully related to its financial status. We have here a situation very akin to Rawls' veil of ignorance: (income) security raises the willingness to accept risks. That social origins matter less for life chances in Scandinavia may very well have something to do with *de facto* universal welfare state guarantees that reduce perceived risks to a minimum.

The last word is certainly not in, but there is a lot of -- at least circumstantial – evidence that both sociological and economic studies of social inheritance have been barking up the wrong explanatory tree. True enough, the parental effect on children's life chances *is* mediated through education. Social inheritance remains as pervasive as ever in large part because education systems largely reproduce pre-existing inequalities. Where we have gone wrong, for almost one half century now, was that we believed that formal education could undo these inequalities, either by redistributive investment (as in the Becker tradition) or by system reform. If cultural capital rivals money, and if the decisive moment of social inheritance pre-dates formal education, the standard money-

investment model must be re-thought. Yet, such a re-thinking should not provoke despair among those who believe in money. For one, public investment in early childhood development will undoubtedly help neutralize the uneven distribution of cultural capital in families. It is not wholly utopian to believe that if Head Start were expanded to cover say a third of all American children, then the U.S. opportunity structure might look more Scandinavian. For another, I think we can fairly safely hypothesize that the key lies in how 'money' and 'culture' interact. A policy single-mindedly aimed at rectifying deficiencies in cultural capital, say through early child development, is unlikely to be sufficient if the risk of premature school-exit is continuous through youth. Likewise, a one-dimensional 'money' strategy, say through income redistribution in favor of low income families, will most likely fail unless it somehow also helps correct for cultural capital inequalities.

To conclude, one promising avenue for future research is to, firstly, refine the *money-investment-money* model so that it can better differentiate 'types' of money and, secondly, to deepen the model so that it better captures money-culture interactions. And considering what we now know, there are some clear suggestions for where policy might fruitfully move. Firstly, notwithstanding their contemporary popularity, 'activation' and 'life long learning' policies may be worthy of pursuit for other aims, but they are very unlikely to correct for socially inherited disadvantages. Remedial programs are very cost-ineffective. Secondly, educational system reform may be very desirable but it is by now evident that it is unrealistic to expect that even the most egalitarian-looking blueprint will deliver much more equality of opportunity. Since it is pretty evident that school systems by and large reproduce prevailing social inequalities, policy needs to be redirected at those institutions which, in the first place, produce the inequalities. A lot of what we now know tells us that the family is key. This leads us to the third, and final, policy conclusion: the pressing need for a new family policy. [30] Most advanced welfare states have proceeded on the assumption that families require little public support. On one side, it is still commonly believed that parental (i.e. fathers') earnings suffice to ensure adequate economic welfare. This, of course, is belied by the rising child poverty rates. On the other side, governments rarely worry about early childhood development or care, assuming this to be the domain of the mother. Yet, the housewife is rapidly becoming extinct. The irony, as far as policy is concerned, is that the most effective remedy against child poverty *and* arguably also an effective strategy of equalizing children's cultural capital is to support working mothers by providing – or subsidizing – quality care for small children *across the board*. It appears, additionally, to be a perfectly paretian policy because the individual gains that many children and families will reap will also yield a substantial collective dividend – not least for those among us who will retire in the coming decades.

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[30] I have elaborated these arguments in much greater detail in Esping-Andersen (2002).

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