

## Trois Lectures (II)

### Equal Opportunities in an Increasingly Hostile World

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#### Introduction

The standard critique of the welfare state is that it sacrifices efficiency in its quest for equality. The claim is that welfare guarantees erode the work incentive, reduce our propensity to save, and lower productivity. We face a cruel trade-off if, indeed, social protection eats the hand that feeds it.

The trade-off theory rests more on a basic belief than on hard evidence. Serious empirical assessments have generally failed to uncover any serious efficiency losses that can be ascribed to the welfare state.<sup>1</sup> There are equally plausible arguments for why it may contribute to a stronger economy. Healthy and well-educated citizens are more productive, and if they feel secure they are more likely to accept rapid change. Moreover, the 'equality' side of the trade-off is typically way too undefined. To arrive at a minimal level of clarity we need at least to distinguish between equality of outcome and equality of opportunity. We also need to recognize that the connection between equality and social policy is ambiguous and often even contradictory.

We know that the income distribution is less unequal after taxes and social spending, but we also know that a lot of this is simply due to redistribution over the life cycle, in particular from younger to older ages. It is also clear that large slices of the social budget favour the rich more than the poor. This is certainly the case for higher education and the most expensive items in health care. Generally speaking the primary aim of the welfare state was never income redistribution for its own sake but rather to provide insurance and protection. To the extent that the welfare state has ever committed itself to an egalitarian ideal it has predominantly been to advance equal *opportunities* rather than actual outcomes. In the distant past this was framed in social class terms and the promise was to ensure that class origins should not dictate a person's life chances.

Even the staunchest advocates of the trade-off theory will agree that equal opportunities are important for efficiency, at least to the extent that they are pursued in the spirit of investing in a nation's human capital. Post-war reformers were persuaded that the extension and democratization of education would, at once, raise productivity and eliminate the vestiges of social inheritance. Towards the end of the 20<sup>th</sup> Century it became increasingly evident that universal and free education had failed in its mission to equalize life chances. With the accumulation of high-quality comparative research, such as Erikson and Goldthorpe's *The Constant Flux*, we were forced to conclude that in virtually all advanced countries there had

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<sup>1</sup> See for example N. Barr, *The Economics of the Welfare State*. Stanford University Press (1998), and A. Atkinson and G. Viby-Mogensen, *Welfare and Work Incentives*. Clarendon Press (1993).

been no significant equalization of opportunities: the link between social origins and children's life chances is as strong today as it was in the times of our grandfathers.<sup>2</sup>

A great paradox of our times is the lack of any serious equal opportunities progress despite so much effort invested in education, let alone in welfare state redistribution. As is typical of most paradoxes, they vanish once we arrive at a better understanding of the true mechanisms that guide social life. What is now firmly understood is that education systems, no matter how progressive and egalitarian in design, are institutionally ill-equipped to create equality. Pierre Bourdieu has provided one explanation, namely that the school milieu is inherently biased in favour of a middle class culture that unintentionally penalizes children from lower social strata. In recent years has emerged an alternative and surely more powerful explanation that is grounded in developmental psychology, namely that the crucial cognitive foundations are cemented very early in childhood. What occurs in the *pre-school* ages is fundamental for children's ability and motivation to learn once they start formal education. The imprint of social origins is therefore already firmly established before the welfare state plays any major role in our life. The logical conclusion is that we should centre our attention more on what happens within the family than on education policy.

The quest for more equality of opportunities is in many ways facing rising obstacles that are inherent in the evolution of advanced knowledge economies. In fact, there is a good argument to be made that the knowledge economy alters the nature of the 'equality-efficiency' trade off.

### **The New Challenges**

The international PISA studies have provoked intense debate precisely because they provide us with an excellent opportunity to gauge how well prepared we are for the knowledge economy. The gist of these studies is to measure the cognitive skills among youth, aged about 15. Cognitive skills are, virtually by definition, key to the knowledge economy insofar as they capture the ability to understand and use information. In many countries, unfortunately, the debate about the PISA results has focused on the national average. The media became obsessed about whether, say, the Germans are really inferior to the French. There are surely country differences but they pale in importance compared to the degree of *dispersion* of skills within any given country. Whether we mainly care about social exclusion or about our future economy, our primary concern should be directed to the size of our population which is *de facto* dysfunctional.

There are two basic 'efficiency' reasons for why we need to ensure minimal inequality of skills and human capital. The first is demographic. Due to prolonged low fertility the coming youth cohorts are, and will continue to be, very small. Over the next decades, the working age population of the EU will shrink by 50 million. The small future cohorts must support a large and rapidly growing elderly population. Hence, we need to invest maximally in the productive potential of contemporary youth in order to guarantee a sustainable welfare state.

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<sup>2</sup> Comparative research concludes that the Nordic countries may be a sole exception to this 'constant flux' scenario. These countries have, without doubt, succeeded in equalizing educational attainment across the social strata. It is, however, doubtful whether we can ascribe this to education reforms.

The second reason has to do with the rapidly rising skill requirements in the knowledge-intensive economies. While everyone agrees that skills are ever more decisive, there is substantial controversy over what types of skills matter most. Formal educational attainment surely remains crucial. We can, as a rule of thumb, pretty much predict that someone with no more than lower secondary degrees will fare very poorly in tomorrow's labour market. In virtually all advanced economies today, early school leavers suffer three times more unemployment than do those with higher degrees, and they are hugely over-represented among the long-term unemployed. Viewed in life course terms, the low educated are unlikely to accumulate much pension wealth and are, accordingly, at risk of old age poverty. It is, nonetheless, ever more evident that cognitive and non-cognitive skills are gaining in importance. Cognitive skills are a precondition for school success to begin with, and there is substantial evidence that they are crucial throughout peoples' careers. It has, for example, been demonstrated that formal education matters most for a person's initial career moves, while cognitive abilities continue to exert a powerful influence over the entire working life. The case for non-cognitive skills is being powerfully argued by James Heckman, the Economics Nobel prize winner.<sup>3</sup> The core argument is that traits like leadership abilities, communication skills, initiative, and the like are increasingly decisive for success in modern firms.

As with an array of other difficult-to-observe abilities, cognitive skills are partially transmitted genetically and partially the result of nurturing – that is, of environmental stimulus (Bowles et.al., 2001; 2005; Bjorklund et.al., 2005). This is certainly also the case for non-cognitive skills. It may be futile to aspire towards an exact differentiation between nature and nurturing effects but there is little doubt that the impact of the latter is very large. Since cognitive (and non-cognitive) abilities influence school success and, subsequently, adults' life chances, the policy challenge is to ensure a strong start for all children. Virtually all research concludes that early childhood is key and, as a result, that the really important mechanisms lie in the family environment (Brooks-Gunn et.al., 1997).

Any serious consideration of equality and efficiency must, in any case, realize that children are a positive collective good. It is certainly not easy to arrive at any precise estimate of their social value. A recent estimate suggests that an average US child produces a positive externality equivalent to \$100.000 (Preston, 2005). But, once again, averages hide substantial variation. Wonder-kids will undoubtedly yield substantial value for the collective good, but these must be held up against the potentially large net cost of the failures. To illustrate, the price of one year's incarceration in the US hovers around \$50.000 which, coincidentally, is what it costs to study at Harvard University. There are also recent estimates that suggest that child poverty creates social costs equivalent to 4% of GDP in the US. This is in great part caused by the strong link between poverty, school failure, and youth delinquency.

We might imagine two radically contrasting versions of the knowledge society. The inegalitarian scenario would look like 'islands of excellence in a sea of ignorance', i.e. a knowledge elite surrounded by a large mass of low skilled populations. I think we can assume that most would favour the alternative scenario of homogeneity in which the average skill level is high and in which there is minimal dispersion. The proportion of today's youth with inadequate skills signals the likely size of tomorrow's social exclusion problem.

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<sup>3</sup> The importance of cognitive abilities is reviewed in Farkas (2003). The case for non-cognitive skills is presented in Heckman and Lochner (2000) and in Carneiro and Heckman (2003).

I present two telling indicators in Table 1: the share of young adults with no more than lower secondary education (ISCED 1-2), and the ‘cognitive’ performance among 15 year olds from the 2000 PISA study. Falling below the PISA minimum means that respondents have difficulty in understanding even basic information; this is accordingly a measure of cognitive dysfunction. A quick glance at the table suggests that Denmark and Finland score well on homogeneity while the US lies closer to the ‘islands of excellence’ scenario. France falls between the extremes with a fairly high rate of early school leavers but with a fairly homogeneous distribution of cognitive abilities.

**Table 1. A Skill Profile of Tomorrow’s Workforce in Representative OECD countries.**

	% with only ISCED 1-2 (age 20-24)	PISA (Math) Performance:		
		mean score natives	% below PISA minimum	%PISA ‘Elite’
<b>Denmark</b>	<b>4</b>	<b>526</b>	<b>5</b>	<b>4</b>
<b>Finland</b>	<b>8</b>	<b>547</b>	<b>7</b>	<b>19</b>
<i>France</i>	<i>19</i>	<i>501</i>	<i>7</i>	<i>4</i>
<b>Germany</b>	<b>15</b>	<b>527</b>	<b>9</b>	<b>5</b>
<b>Spain</b>	<b>31</b>	<b>487</b>	<b>19</b>	<b>4</b>
<b>Sweden</b>	<b>10</b>	<b>518</b>	<b>12</b>	<b>11</b>
<b>UK</b>	<b>8</b>	<b>511</b>	<b>13</b>	<b>16</b>
<b>US *)</b>	<b>20</b>	<b>499</b>	<b>18</b>	<b>12</b>

ISCED data from OECD (2003: Table C5.2). PISA data directly from raw data files. PISA elite refers to the percent scoring in the top 5th level (in mathematics).

\*) The US figure refers to those who did not complete highschool (12%) plus those who obtained only GED diplomas (8%) (Haveman et.al., 2004: Table 4.8).

Since no-one can argue that some nations are genetically superior to others, these huge country differences in school drop-out rates and in the dispersion of cognitive abilities must be ascribed to institutional factors. In principle, Spain should be able to reduce school drop-out rates to below 10% and its dys-functional population to 5%. A striking feature is that the skill dispersion seems unrelated to a country’s mean performance. In other words, greater homogeneity need not be achieved at the expense of inferior standards. Finland suggests that polarization can be minimized even when the average performance is record high.

## **The mounting obstacles**

### *Rising Income Inequality*

There are several structural trends that to varying degrees can jeopardize the pursuit of more equality of opportunity. One menace comes from rising income inequality and how it influences the opportunity structure. At one extreme we see top income households distancing themselves from the middle, in part because of rising returns to skills and, in part, due to concentrations of high-earning dual-career couples at the top of the income pyramid. At the bottom of the pyramid, low-educated couples face high probabilities of low income and

joblessness (Katz and Autor, 1999; Gregg and Wadsworth, 2001; Hyslop, 2001). With the notable exception of France, the Gini coefficient of (market) income inequality has risen throughout the advanced societies, in some (like Germany, Sweden, the UK and the US) by more than 20%. Perhaps the single most troubling trend lies in the often substantial rise in child poverty. It has doubled in Italy, Germany and the Netherlands, but has remained fairly stable (at about 8%) in France.

As inequality widens, parents' capacity to invest in their children's fortunes will become more unequal. This means that social inheritance is reinforced. This phenomenon has been researched extensively in recent years by estimating the direct link between parents' and offsprings' (as adults) income. What we find are truly large differences among countries – differences that are closely related to prevailing income inequalities. To exemplify, the correlation between parents' and children's income is 4 times stronger in the US than in Denmark and Sweden. France's income distribution is comparatively quite unequal and this spills over to social inheritance. Although not as strong as in the US, the French correlation (0.4) is nonetheless more than twice as strong as the Danish (0.15). Publicly financed education will, of course, help soften the impact of parental income but it will not eradicate it.

The income effect is especially pronounced at the top and the bottom of the income distribution. As far as the top is concerned, there is clear evidence that the rich can buy a secure future for even the least gifted offspring. Indeed, here we encounter substantial over-investment in children that is clearly an inefficient use of our economic resources. The effect at the bottom is potentially much more severe. We know from US research that a poor child will, on average, have two years less schooling than a non-poor child. Similar, if rather less dramatic, effects have been found also for Britain, France and Germany. High child poverty, as I noted earlier, has major social costs but it also constitutes a massive barrier to individual opportunities.

### *Demographic challenges*

Ongoing trends in family structure may very well contribute to polarization. To begin with, families are more unstable and the share of children growing up in lone mother households is rising. Lone mother families now account for 15-20% of all child families in Northern Europe and the US. The consequences for children's well-being are very negative in the US but the evidence for Europe is more ambiguous. This has undoubtedly something to do with underlying social selection. In the US (and UK) lone motherhood and divorce is highly concentrated among the lower social strata, while this is not the case in most of Europe. There are two main reasons why lone mother families create negative child outcomes. One is that they are at high risk of poverty. In the US, half of all lone mother families are poor, but as we would expect the risk is lower in Europe – about 25% in France, 38% in Germany and a low of 13% in Sweden. The modest level of poverty in Scandinavia is probably less due to generous welfare state support and more to the fact that virtually all lone mothers work (in Denmark, 81%). Another reason why children of lone parents fare poorly lies in the potential 'nurturing deficit' due to less parental time dedication.

A second trend is the strong increase in marital selection, particularly with regard to educational homogamy. This is especially pronounced at the top and the bottom of the social ladder so that, at one end, we see a concentration of two parents with strong human capital

and, at the other end, a concentration of parents with very low education. This constitutes a major source of inequality, not only because of the gap in earnings power, but also due to employment patterns. In most countries the revolution of women's roles remains incomplete in the sense that the lifetime career commitment that higher educated women now embrace has not been extended to the less educated. When we add to this the far greater probability of male unemployment at the bottom, we see here a major source of polarization. The key lies in the degree to which women's participation is socially skewed. Where, as in Scandinavia, virtually all women work, polarization is minimal; where, as in France, female employment is concentrated at the top, the gap becomes large. To exemplify, in France women in the top income quintile earn 9 times more than women in the bottom quintile, mainly because the latter work very little. In Denmark, top income women earn only 4 times as much. Marital homogamy is also likely to polarize parental dedication to their children. As I will examine in more detail below, there is clear evidence that highly educated mothers *and* fathers dedicate much more time to their children, in particular with regard to what we might call developmental time, that is, active stimulation.

A third demographic challenge comes from rising immigration. A curious fact about immigration is that second generation immigrants tend to converge with local populations in terms of demographic behaviour, such as fertility, but not in terms of education and skills. To illustrate, in Sweden the school system has ambitiously sought to rectify immigrant children's learning disadvantages and, yet, the probability of school failure is roughly 5 times higher for immigrants than for natives.<sup>4</sup> A more general illustration comes from the PISA data which show generally very large gaps in cognitive abilities between native and immigrant youth. Of course, this gap is partially explained by factors that are not strictly related to being immigrant, such as low parental education or family income. But even when we adjust for such factors, the immigrant deficit remains very substantial. In Belgium, Germany and the Netherlands immigrant children score about 10% lower than native children after adjusting for such factors. In France, immigrant children score about 5% lower.

### **Identifying the Causal Mechanisms behind Social Inheritance**

We now realize that the long and concerted effort to equalize opportunities through education policy failed because policy makers erroneously believed that the roots of unequal life chances lay in socially skewed access to education. This does obviously not imply that differences in educational design make no difference whatsoever. It is well-established that early tracking in schools intensifies social selection, that integrated comprehensive schools do help diminish social class differences in upper-secondary school attendance, and that income subsidies for higher education can help boost enrolments of less privileged students.

As I already mentioned, there is now a growing consensus that the really important mechanisms of social inheritance lie buried in the pre-school ages. For most children this is also the period where they are most 'privatized', depending almost exclusively on the impulses that come from the family milieu. In fact, just about any elementary school teacher can testify to the huge differentials in children's school preparation already from the very first day of classes. Schools and, more generally, the education system, are inherently poorly

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<sup>4</sup> This evidence derives from the author's participation in an OECD mission to Sweden in February 2005.

equipped to remedy such gaps and we also know from a huge amount of evaluation research that later remedial policies are rather ineffective. This all suggests one crucial point. Whether our aim is to create more equality or simply to raise the productivity of tomorrow's workforce, our analytical lens should be focused on what happens behind the four walls of the family. This is where the really important effects lie buried.

From an abundant amount of research it is quite clear that we must distinguish three kinds of family effects, what I choose to call the 'money' effect, the 'time investment' effect, and the 'learning culture' effect. An interesting aspect of these is that they do not necessarily coincide: the rich are not necessarily those who dedicate most time or stimulation to their children; school teachers earn very little, but they read many books.

### *The importance of money*

The influence of income inequality on life chances is inherently ambiguous. Inequality should, on one hand, create incentives for people to invest in more human capital and, more generally, to be more motivated to get ahead. On the other hand, the prevailing level of inequality in the parental generation will influence the distribution of parents' capacity to invest in their children. The impact of family origins on children's life chances should be positively associated with the degree of inequality. The standard assumption behind postwar policy was that equalizing access to all levels of the education system (especially via public financing and targeted subsidies) would prove 'paretian' in the sense that it would cancel out the effect of parental resources on human capital acquisition with no need to alter the earnings or income distribution.

Recent research on inter-generational income mobility suggests that this has been an overly optimistic assumption.<sup>5</sup> As discussed earlier the association between parental and children's income (as adults) is exceptionally strong in countries, like the US but also France, where income inequalities are pronounced. We can say nothing about the causal direction between inequality levels and mobility. The twain are bound to reinforce each other in any case. The point is that welfare and efficiency concerns coincide. From an equity perspective, children's life chances should depend less on the lottery of birth than on their own latent abilities. From an efficiency point of view high parent-child income correlations imply that society is under-investing in a sizable share of its children (and possibly also over-investing in some).

And we should not forget that the income effect is especially strong at the top and bottom. This is why child poverty warrants special attention. I already cited US research which concludes that poor children will have two years less schooling than the non-poor. They are also far more likely to suffer from poor health, engage in crime, and fall into unemployment as adults (Mayer, 1997; Duncan and Brooks-Gunn, 1997). Perhaps worst of all, they have a high probability of ending up as poor parents, which means that the syndrome is perpetuated from one generation to the next. The impact of poverty is perhaps a little less severe in Europe, but this does not mean it matters less (Gregg et.al., 1999; Maurin, 2002). For the UK, Gregg et.al.'s (1999) data show that financial difficulties during childhood reduces by about a half children's likelihood of advanced vocational training and poor children are 3 times less likely to attain higher academic degrees. Their study

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<sup>5</sup> For an overview, see Solon (1999) and Corak (2005).

controls for children's cognitive abilities at age 7, which means that the effects are *net* of abilities. The picture is fairly similar in France. The likelihood of leaving school with no completed degree is 4 times higher for children from poor as compared to non-poor families (CERC, 2004: 107).<sup>6</sup> Poverty is probably not simply a question of parental spending power. An additional effect comes from income insecurity which produces risk adversity and may lead parents to curtail children's schooling prematurely. In either case, the result is pretty much the same. Hence, if child poverty and parental economic insecurity rises we should expect adverse consequences for educational attainment and, further along, for employment and earnings in adulthood .

Poverty is particularly prevalent in lone mother families. The problematic effects of growing up in lone mother families have been widely documented for the United States (McLanahan and Sandefur, 1994) and the UK (Gregg et.al., 1999). Coleman (1988) reports that US school drop out rates are 30 percent higher in these families. While the effects are clear, it is less easy to sort out the precise mechanisms. Biblarz and Raftery (1999) argue that the adverse effects are mainly related to poor socioeconomic conditions rather than to solo parenthood *per se*. Gregg et.al. (1999) conclude similarly that the negative lone parent effect disappears when controlling for financial distress. Bernal and Keane (2005), in turn, emphasize negative nurturing and socialization effects.

Most research on lone mother effects refers to the US and we should be cautious about generalizing to Europe. For one, in the US there is a large over-representation of teen-age and minority (Black) mothers; for another, divorce in the US is more skewed towards low-income couples than in Europe. We should also not forget the very high incarceration rate among young American males. In fact, from my own analyses of the PISA data, the strong negative effect of lone motherhood (controlling for immigrant status, socioeconomic status, and mother's education) on children's test scores in the US does not extend to most EU countries. Indeed, the results for countries as different as Denmark, the Netherlands, and the UK suggest that children of lone mothers score comparatively better *if* the mother is employed. I will argue below that positive effects of lone motherhood (when she works) depend crucially on the quality of external child-care.

If income matters one would expect welfare state redistribution to have a major effect on opportunities. Government income support to families with children varies tremendously across countries both in scope and generosity. The poverty reduction effect is relatively minor in the US (about 4 percentage points) and very substantial in the Nordic countries (a 13 point reduction in Sweden) and in France (almost 20 points). The pre-redistribution poverty rate is of course exceptionally high in the US, and this means that there remain, post-transfer, 22 percent child families in poverty. In comparison, post-transfer child poverty in the Nordic countries is, in all cases, below 5 percent.<sup>7</sup>

The merits of redistribution are evident if the aim is to minimize poverty, but will it also equalize opportunities? This depends on the degree to which income distribution genuinely influences educational attainment. And even so, a redistribution strategy may incur second-order effects such as reduced parental labour supply. As I shall discuss in the final section, the macro economic cost of lifting all child families above the poverty line is surprisingly modest, and the impact on labour supply is probably not major. But in terms of cost and poverty-reduction effectiveness there is a

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<sup>6</sup> Unfortunately the French estimates do not control for children's abilities (via, for example, cognitive test scores)

<sup>7</sup> Calculations from Luxemburg Income Study data (see also UNICEF, 2005). Here and throughout I measure poverty as less than 50% of adjusted median household income.

much stronger argument in favour of, alternatively, supporting mothers' employment, especially at the low end of the income distribution. The incidence of child poverty falls by a factor of 3-4 when mothers work – in particular in the case of lone mothers (Esping-Andersen, 2002).

The case for anti-poverty redistribution to improve education outcomes is quite strong. Erikson and Jonsson's (1996) examination of the international evidence concludes that the Scandinavian countries' success in diminishing social inheritance over the past decades must be, at least partially, be ascribed to their success in curtailing child poverty and ensuring broad economic security within families. If this is so, we arrive at a very important conclusion regarding the welfare state and equality debate, namely that equality of opportunities require at least some degree of equality of outcomes. The argument that 'here-and-now' equality is irrelevant and that we need only be concerned about opportunities is clearly mistaken.

Still, as I explore below, the efficacy of a redistribution strategy – at least if not accompanied by other measures – is doubtful. Indeed, family income may not be the *most* decisive mechanism that drives child outcomes. A formidable rival lies in the familial learning milieu and also in parents' time dedication.

### *The importance of parental time investment*

The income advantage that employed parents produce may be cancelled out by a nurturing loss due to less time dedicated to the children. If that were so, children at the bottom end of the social pyramid should be relatively advantaged since labour supply among less educated mothers tends to be far lower. This, however, depends on three other factors. One, on sibling size. With the exception of the Nordic countries, low educated women have more children. It depends, secondly, on differences in the quality of parent-child interaction and, thirdly, on the quality of external care. There is no doubt that the quality of parental stimulus is powerfully related to their level of education – and of course to their 'unobserved' talents. The trend towards increased educational homogamy at the top and bottom may, accordingly, widen the 'quality-gap' of nurturing.

This seems, in fact, to be the case. The patterns and intensity of parental time investment are undergoing rather profound – and surprising – changes. Data from several countries show that, on average, total *parental* time devoted exclusively to children has actually risen since the 1960s. Averages are, however, misleading since they obscure effective polarization (Bianchi et.al., 2004) Among the high educated – where mothers typically work – we find that fathers' time investment has risen spectacularly in the past decades. In the US and Denmark, it has doubled, and in the UK almost tripled (Hook, 2006). We even see an, albeit smaller, increase in high educated mothers' time dedication (bought mainly at the expense of leisure). Additionally, the time increase is especially centred on 'developmental' type activities with the children. This suggests that highly educated parents are discounting the value of income or leisure in order to maximize investments in their children. Yet, this does not appear to be the case among lower educated parents and, accordingly, we witness a growing social gap on one crucial dimension of children's cognitive and non-cognitive stimulation. And the gap is surely non-trivial. The high educated parents devote 20% more to developmental time than those with less education (Bonke and Esping-Andersen, 2007).

The impact of mothers' employment on child outcomes is a controversial issue, in particular with regard to the trend towards minimizing career interruptions around births. There is considerable evidence that external care during the child's first year can be harmful. The good news, however, is that motherly employment *after* the first year has no harmful effects *if*, that is, external care is of good quality and *if* her job conditions are stable and not stressful (Waldfogel, 2002; Mayers et.al., 2004). Also from the PISA data we see that mothers' employment (including full-time jobs) have positive rather than negative consequences in most countries.<sup>8</sup>

### *The influence of the family learning culture*

The quality of parental investment in their children is related to the 'cultural capital' or learning milieu in the family, and this has been shown to have a powerful influence on children's school success (OECD, 2003). The learning culture is not simply a bi-product of either parents' education or income (school teachers earn little), and it operates through various channels. One is the transmission of a proper 'middle class' cultural baggage – such as self-presentation or language skills -- to the children. A second has to do with parents' knowledge and appreciation of education and how this helps them make the best school choices for their offspring. Low educated parents may have difficulties in navigating their children through the complexities of an education system, especially if they were early school leavers (Erikson and Jonsson, 1996). A third refers to the quality of parental stimulation and, more generally, to parents' ability to actively support the children's learning process. The international PISA data, once again, help shed light on such effects since they include three measures of 'culture', among which 'number of books in the home' is by far the strongest in terms of explanatory power.<sup>9</sup>

My analyses of the PISA data show, for all countries, that 'cultural capital' overpowers socioeconomic status in accounting for cognitive differences among 15-year olds. Statistically speaking, the 'culture' effect is always highly significant and generally far stronger than income related effects. To illustrate, I find that children from a family with less than 10 books would enjoy a 9% improvement in their reading comprehension if parents were to arrive at the national average in terms of books in the home.

The magnitude of the 'culture' problem is related to the size of the parental generation that lacks the resources to adequately stimulate their children's learning abilities. In some EU countries – like Spain and Italy – there remain a very large number of adults with only minimal education. Within the typical parenthood age bracket (35-44), 54 percent of Spanish mothers have no more than compulsory education – compared to only 12 percent in Sweden (OECD, 2003). The leap in female educational attainment will diminish this gap in the decades to come. In Spain, for example, the percent of women 10 years younger with only obligatory schooling is 13 points lower. But we also face counter-tendencies that emanate from the large waves of generally low educated immigrants that, in addition, face multiple cultural and educational disadvantages that can seriously jeopardize their children's chances.

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<sup>8</sup> A rider on these findings is needed since it turns out that the mother-employment effect is mainly positive for girls. In a few countries, in fact, her employment appears to affect boys negatively. This may, nonetheless, be countered by the fact that fathers are more likely to care for male children.

<sup>9</sup> One measure taps elite culture such as attending theatres and concerts, but this has virtually no effect on cognitive skills.

If, as I claim, these are the key mechanisms that explain inter-generational social inheritance, we can also see more clearly why ongoing societal trends are worrisome and potentially a source of polarization. We know that income inequalities are widening and that child poverty is rising. The gap in parental time investment is, likewise, growing between the high and less educated. Worst of all, there appears to be a strong coincidence between the two, suggesting the possibility of compounding effects.

### **Rethinking The Welfare State**

The individual returns to early childhood investments are fairly easy to identify. It is far more difficult to assess the social returns. The accounting method that Carneiro and Heckman (2003) propose is persuasive since it incorporates the positive synergy effects (learning begets learning) of early investments on the cost of later ones. The rate of return rises exponentially the younger is the child, suggesting that pre-school and early-school investments yield disproportionately high net returns. If the standard rate of return to schooling hovers around 10 percent (Card, 1999), we could anticipate returns to pre-school investments that are possibly more than twice this magnitude. And if, as Card suggests, the marginal returns are much greater for those who are most likely to fail in school, then early investments should produce a homogenization pay-off, an equal opportunities gain.

How may policy influence the process of skill acquisition? There are two major insights from contemporary research that must guide us. One comes from extensive evaluation research on early intervention and later remedial learning programmes.<sup>10</sup> The gist of this research is that a strong start in *early* childhood is *sine qua non* not only for successful schooling but also beyond. If children in the early years suffer from inadequate stimulus, they are likely to fall behind as the school experience progresses. This is, for at least three reasons, a crucial insight. First, it helps explain why even the best-intentioned education reforms generally fail to rectify performance inequalities. The influence of school milieu and 'neighborhood' factors pales in comparison to the family effect (Brooks-Gunn et.al., 1997). Second, it alerts us to the fact that the key mechanisms lie buried in the very early stage of life, that is when children depend primarily on parental stimulus. Moreover, the cost of later remedial measures is likely to rise in proportion to the initial learning deficit. Vice versa, the effectiveness of later learning is a function of how strong a start the child received – Heckman's learning-begets-learning dictum. And, thirdly, it provides a very important corrective to the narrow monetary approach to human capital investment. As noted, the correlation between income and 'cultural capital' in the parental home is everywhere modest.

Here we come to the second major insight. A policy based exclusively on income redistribution will probably fail if parental time dedication and cognitive stimulus also are key mechanisms behind social inheritance and unequal outcomes. Income support may usefully be regarded as a necessary but insufficient strategy.

### *Reducing the income effect*

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<sup>10</sup> For comprehensive overviews, see Karoly. (1998;2005), Heckman and Lochner (2000), Currie (2001), Waldfogel (2002) and Mayers et.al. (2004).

The link between low income and children's life chances suggests the relevance of an income redistribution policy. There are both social and individual costs associated with child poverty. The former are clearly very difficult to assess since the mechanisms are very indirect. The Urban Institute provides a recent and quite comprehensive estimate for the US, focusing on three major macro-level effects: productivity, the costs of crime, and the impact on health. The study estimates a total cost equivalent to 4% of GDP, of which 1.3% is attributable to reduced economic output, another 1.3% to crime, and 1.2% to health effects.<sup>11</sup>

Redistribution can be an effective tool for combatting child poverty. Yet, we should not forget that family transfers are motivated by other concerns, such as collectively recognizing the positive externalities of parenthood. The seemingly effective poverty reduction we find in France and the Nordic countries comes, of course, at a price. Public spending in favour of families is 3-4% of GDP in the Nordic countries and 2.8% in France, compared to 0.4% in the US and 1.1% in the Netherlands (calculated from OECD's SOC-X data).

At first glance, heavy redistribution does not appear a sufficient instrument. France ends up with a post-transfer poverty rate around 8% despite dedicating resources of Nordic magnitudes. This is to be expected considering that French pre-transfer poverty is about 10 percentage points higher. As I will explore below, the greater tenacity of French poverty is traceable also to lower family labour supply.

An income redistribution strategy would seem attractive for a number of reasons. If the objective were to eradicate child poverty (defined as less than 50 percent of equivalent median income), the price tag is actually surprisingly small – for the US, with record child poverty, we have estimated it at 0.36% of GDP (Esping-Andersen, 2002). This would appear cheap when considering that the social cost approaches 4% of GDP. But such redistribution would have to be repeated year after year and the *net* benefit should be considered against possible second order effects (such as reduced labour supply). Also, a targeted transfer approach may fail to command broad citizen support, and it clashes with another basic equity principle: if (quality) children produce a sizable social externality while most of the cost of children is internalized to the parents, an equity calculus would conclude in favour of universal, non-income graduated, and fairly generous child and family allowances. If those without children are free-riders, they should be asked to pay.<sup>12</sup>

Child benefits should therefore not be confused with anti-poverty redistribution. If our aim is to minimize or, indeed, eradicate child poverty we might introduce some form of a guaranteed minimum to families that supplements standard family benefits. If the cost were, say, 0.4% of GDP we would then need to match this against possible second-order effects. Would parents respond with less labour supply? Would it effectively narrow the US school attainment gap of poor kids, which is about 2 years? As to the latter, there is cause for skepticism since the 2-year schooling gap is surely not solely the effect of income but also of unobservables, some of which

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<sup>11</sup> Testimony by Harry Holzer (Urban Institute) before the US House Committee on Ways and Means, January 24, 2007

<sup>12</sup> Klevemarken (1998) has attempted to cash out the monetary equivalent of parental time investment in children. For Sweden he arrives at a value equivalent to US\$22,000-29,000 for an average family. In aggregate terms this corresponds to 20% of GDP.

need not be correlated with being poor, and some of which (say, poor health or teenage pregnancy) may provide the explanation of poverty to begin with.

The Dutch Central Plan Bureau (CPB) has simulated the effects of 3 different income guarantee designs (de Mooij, 2006: 72ff). One is a uniform 1.300 Euro transfer to all child families per year, financed by a 1% income tax hike; a second is targeted to low income families and is phased out linearly from 20.000 to 32.000 Euros, requiring a 0.6% tax increase; and a third is conditional on participation of both parents in the labour market, necessitating a 0.4% tax increase. Although these levels are insufficient to lift many families out of poverty, the lessons from the simulations are directly relevant. In terms of ex ante distribution effects, the third option would appear the least effective since it primarily benefits already well-off working couples and is less effective for low income parents. The first option would be especially beneficial for lone parents and the unskilled and amounts to a substantial redistribution towards child households.

As to labour market effects, the first option will reduce parental labour supply by 0.4%, and female participation by 0.5%. The cheaper second option has roughly similar labour supply effects. The third option has, unsurprisingly, the most positive labour supply effects – like the former, a 1.2% increase in female participation and a 1.0% increase in labour supply among second earners. But this is partly offset by reduced primary earner supply.

The second option would appear most relevant for the goal of eliminating child poverty, but due to targeting it produces more (albeit not especially strong) labour market distortions towards the middle of the income distribution. As an effective anti-poverty measure we would, however, need to contemplate benefit levels far higher than those used here.<sup>13</sup>

In any case, the burden on income redistribution would be lessened significantly if, through alternative means, maternal employment were to increase within low income households. As mentioned, the probability of child poverty drops by a factor of 3 or even 4 when mothers are employed. The effect is potentially strongest in lone parent families. It makes a big difference whether, as in Denmark, the lone mother activity rate is about 80% or, as in the UK, only 35%. Kangas and Ritakallo (1998) provide particularly suggestive evidence in this regard. They simulate what France's poverty rate would be with Scandinavia's transfer system and demographic structure. Considering, as we have seen, that France approximates the Nordic countries in terms of poverty-reduction – but not in terms of post-transfer child poverty – it is not surprising that any serious convergence with Scandinavia's low child poverty would have to come from increments in French mothers' employment rate. Let us therefore turn to the correlates of maternal employment.

### *Mothers' employment*

Eradicating financial hardship by raising female employment is clearly a superior strategy because it produces major simultaneous gains. Maximum female participation is, to begin with, a precondition for long-term financial sustainability in our aging societies.

But the gains may be offset by the potentially adverse consequences for 'nurturing'. If we take seriously the finding that external care during the child's first year can be harmful, policy would

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<sup>13</sup> Since the simulations are based on linear modelling a 13.000 Euro transfer would produce a 4% reduction in parents' labour supply, and 5% lower female participation.

need to ensure a combination of paid maternity and parental leave that approaches the one year duration. Sweden and Denmark occupy one extreme while the US represent the other with no paid leave whatsoever. Most EU countries grant about 4 months.<sup>14</sup> Table 3 below provides an overview.

Very brief leaves can be doubly problematic. They may push mothers back to work very early. To illustrate, 60% of new Dutch mothers return to work within 6 months of birth, while the vast majority of Danish mothers return within 10-14 months (Simonsen, 2005). Overly brief leaves may also provoke exit from employment. About 25% of Dutch mothers simply disappear from the labour market while the Danish percent is negligible (Gustafsson and Kenjoh, 2004). Research on the lifetime income penalty of interruptions for the 'median woman' shows that the one-year interruption norm in Denmark is not associated with any major opportunity cost – assuming continued employment until age 60. In contrast, the median German woman typically interrupts 5-6 years and suffers, as a consequence, a lifetime income penalty of almost 50% (Sigle-Rushton and Waldfogel, 2004; Esping-Andersen, 2007).

The cost of a Danish-style one-year child leave is relatively steep and rises of course with levels of female employment. Using the OECD's SOC-X data, the cost is about 0.6% of GDP (which is almost 10 times as much as in the Netherlands). To evaluate this we need, firstly, to recognize that it is also an investment in mothers' labor force attachment and hence in their career earnings capacity. According to Ruhm's (1998) estimations, paid leaves increase female employment rates by 3-4 percent. Waldfogel et.al (1999) show that mothers with paid leave have higher post-leave wages. In part, therefore, the cost of longer leaves is recuperated further on via enhanced career earnings and tax payments. Employment exit due to overly brief leave entitlements is also skewed towards less educated and low income mothers – precisely those whose added income is important to minimize child poverty.

Finally, we must evaluate the cost in terms of the positive child effects of parental presence during infancy. As discussed, motherly employment during the first year can be harmful for child health and cognitive development (Rhum, 2004). Waldfogel et.al. (2002) find persistent negative effects up to school age, in particular within white, low income families. These and other studies add one crucial modifier, namely that the quality of mothers' jobs matters. Long and irregular hours, as well as work-related stress, are especially harmful.

If we look beyond the first year, the major obstacle to mothers' employment lies in access to child-care. The cost of child-care can, in principle, be interpreted as a tax on mothers' labour supply. It becomes a *regressive tax* if fees are independent of mothers' (or household) earnings. If our aim is to stimulate motherly employment while ensuring equity some subsidy policy that tailors fees to earnings would be needed. Tax deductions are commonly used in many nations, but these are unlikely to eliminate the regressive incidence since they are of less relevance for low income families to begin with.

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<sup>14</sup> Here paid leave implies a replacement rate that is superior to 50% of earnings. This criterion is important since the opportunity cost of extended leaves would become very high for most mothers in case of replacement levels inferior to this level. If we were to include unpaid leave entitlements and policies that provide substantially lower income replacement, most countries (including the US) would appear more generous, some extremely so. France, for example, permits up to 33 months parental leave (but at low replacement rates). For an overview, see OECD (2006: Table 1.1).

Kindergarten (age 3+) attendance is quite high in many countries and is often defined as integral to the education system (and thus free of charge). The key question has to do with the under-3s. Here we can broadly discern three options: familialism, purchased private care, and public responsibility. In large parts of Europe, where public provision is marginal and the cost of quality private care is beyond the reach of most families, the conventional solution has been familial – the grandmother. This option is rapidly becoming obsolete because the reservoir of available family carers is in rapid decline. Private child-care markets can thrive – either, as in the US, because of high price and quality differentiation or, as in the UK, because of public subsidies towards private provision. But in most of the EU, the licenced child-care market is very limited due to high costs. A full-time, full-year place will typically be priced in the range of 5-9.000 euros. The level of market subsidies provided in UK (and the Netherlands) are, however, modest and the net parental cost is therefore steep. The *net* cost of one child, for an average income family, runs to 19% of total family income in the UK, 21% in the Netherlands, and 26% in the US (Immervol and Barber, 2005).

The Nordic countries pursue a policy of high-quality, full-day care with guaranteed access for all children. This requires, unsurprisingly, heavy subsidies: 85% of total costs in Sweden and 66% in Denmark. Since Denmark boasts practically universal attendance for the under-3s with a lower subsidy, it would appear to be a relevant benchmark. The norm is a parental co-payment equal to 1/3rd the cost, but it declines on a sliding scale and disappears for low income parents. The model requires, of course, large public outlays. Denmark dedicates 2 percent of GDP to all pre-school age institutions; for the under-3s, the cost is probably about half that.<sup>15</sup> See Table 3 for a comparative overview.

The full impact of child care costs on mothers' earnings depends on how they interact with the tax-benefit system. The OECD estimates the regressivity-incidence (or negative work incentive effect) by calculating at what earnings level a mother will have a minimum 25% net income gain from working. Sweden, predictably, has subsidized away the child penalty since the 25% minimum net earnings gain arrives already for wages that are only 40% of average. In contrast, the same 25% gain necessitates a wage level of 75% in the Netherlands and 90% in the UK (Immervold and Barber, 2005).

**Table 3. Public Support for Families and Employed Mothers. Ca. 2004**

<b>Duration of</b>	<b>Public Spending on</b>	<b>Cash benefits</b>
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<sup>15</sup> Precise spending breakdowns are not available

	<b>Paid Leave (weeks) *)</b>	<b>ECEC (ages 0-6) (%GDP)**)</b>	<b>to child families (%GDP)</b>
<b>Denmark</b>	<b>11</b>	<b>2.0</b>	<b>1.5</b>
<b>France</b>	<b>4</b>	<b>1.0</b>	<b>1.5</b>
<b>Germany</b>	<b>4</b>	<b>0.5</b>	<b>1.1</b>
<b>Netherlands</b>	<b>4</b>	<b>0.5</b>	<b>0.7</b>
<b>Italy</b>	<b>5</b>	<b>0.4</b>	<b>0.6</b>
<b>Sweden</b>	<b>16</b>	<b>1.7</b>	<b>1.8</b>
<b>UK</b>	<b>4</b>	<b>0.5</b>	<b>1.9</b>
<b>US</b>	<b>0</b>	<b>0.5</b>	<b>0.1</b>

\*) only leaves that provide replacement rates above 50% of earnings

\*\*\*) ECEC is early childhood education and care

Source: OECD (2006: Tables 1.1 and Annex C)

We need of course also to consider how child-care influences overall labour supply. Gustafsson and Stafford (1992) and Simonsen (2005) find positive employment effects for Sweden and Denmark, respectively. Simonsen's study finds a 0.08% decrease in employment for every one-Euro increase in price. Both studies emphasize the importance of homogenous product quality and suggest that the more ambiguous estimates based on US data may be due to the highly uneven quality within the US child-care market. The Danish model is arguably optimal for reconciliation in an environment where the vast majority of mothers insist on returning to work. And the initial high outlays will eventually be recuperated -- but primarily because Danish women do indeed work full-time for most of their lives.

If maternal employment is lower and/or if part-time work is more prevalent, both the expenditure and revenue side of the equation changes. It is of course impossible to forecast future employment behaviour but several factors suggest that a broader convergence towards the Scandinavian-cum-US norm of increasingly full time- based high employment levels may occur. In Germany, for example, spousal labour supply is suppressed due to joint taxation and one would expect substantial change if and when individual taxation is introduced. The surge in female educational attainment is a second important factor considering its strong impact on lifetime income potential. Thirdly, as the gender wage gap narrows we would, yet again, expect a positive labour supply response (Blau and Kahn, 2003). Finally, the extension of affordable child care provision should, in its own right, have a non-trivial employment dividend, in particular if provided on a full-day, full-year basis.

A strategy that prioritizes maternal employment via mother-friendly policy needs also to consider labour market regulation. Employment protection tends to favour those who already have stable jobs, but easily at the expense of those who have the loosest connection to employment and those with little experience – namely first-job seekers and, especially, women workers (Nickell, 1997; OECD, 1999; Esping-Andersen and Regini, eds. 2000). Job security is an important precondition not only for fertility but also for positive parenting. Mothers tend to be young and this means that they are particularly likely to be 'outsiders' or precariously employed in rigidly protected labour markets. Scandinavian research shows

that even high educated mothers are willing to trade off higher lifetime earnings for more job security (Jensen, 2002). But this assumes of course that such jobs are available.

This is precisely the Danish scenario, namely an unusually unregulated labour market accompanied by a large and far more mother-friendly public sector job hierarchy.<sup>16</sup> While welfare state jobs range across the entire skill distribution, their growth is very favourable for less skilled women since it is very much driven by demand for family care services. Hence, to a degree the policies that will boost female employment to begin with will also create a labour market.

### *Strengthening mothers' bargaining power*

A strategy of income redistribution combined with support for maternal employment will not come cheap. But it can produce one additional, non-trivial indirect effect that should be incorporated in any serious cost-benefit contemplation.

Two kinds of parental child investments are likely to be influenced by the relative bargaining power of the spouses. For both less developed and advanced countries it has been shown that family spending on children increases as a function of mothers' control over financial resources (Lundberg and Pollack, 1996). Exploiting a semi-experimental situation in which the British government changed its family support policy so that all transfers were paid into the mother's bank account, Lundberg and Pollack found a substantial intra-familial re-allocation effect in favour of child-related consumption. The large gaps in time dedication to children that exist between high and low educated fathers are arguably also related to wives' bargaining power. Using the ECHP panel data for two very contrasting cases, Denmark and Spain, I estimate the impact of wives' relative earnings rate on husbands' time dedication to caring for the children. The effect is substantial: in both countries, a one standard deviation increase in wives' earnings share is associated with a 50% increase in fathers' child caring time. The estimate remains robust when controls for the spouses' education, employment and marital status are introduced.<sup>17</sup>

The finding that mothers hold a stronger preference than fathers in favour of monetary investments in children seems, therefore, to extend also to *fathers'* time investments. But there is no clear evidence that wives' enhanced bargaining power will automatically translate into greater total dedication. Mothers may simply substitute with more leisure or market work. The data suggest that such substitution does occur but also that it is inferior to the father-effect.

All these findings, it should be stressed, are very preliminary. In fact, research on this topic is in its infancy. What we have suggests, nonetheless, that strengthening wives' bargaining position can yield a non-trivial child investment dividend. Perhaps the single most important effect will come less from augmented parental time dedication and more from the participation in (quality) day care among children from less educated households. On this count the policy implications are evident.

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<sup>16</sup> To this it is important to add that the Danish 'flexicurity' model works because flexibility is matched by strong income guarantees and generous activation measures.

<sup>17</sup> I also control for whether the child is less than one year old since this implies maternity leave in Denmark.

The most relevant source of bargaining power lies in the partner's degree of economic autonomy, in the extent to which he or she can exit without incurring a substantial welfare loss. We should accordingly expect that policy that supports mothers' employment and which, in particular, helps maximize their lifetime earnings capacity would be effective. The difference in women's contribution to household income is quite substantial across the income distribution. In countries like Denmark, their contribution in the top quintile is about 3 times as large as in the bottom. Where, as in Ireland and the Netherlands, low educated women are far less employed, top-quintile women contribute almost 7 times as much (Maitre et.al., 2003). Focusing solely on relative earnings shares, the bottom-quintile Dutch women contribute only 19% (calculated from the 1996 ECHP wave).<sup>18</sup> In contrast, women in the top quintile tend to account for a much larger share of total wage income (roughly 30% in countries like the Netherlands, the UK, or Germany). There is also an evident lesson to be learned in terms of the design of family income support policy, namely that family allowances and the like should as a rule be directed to the bank account of mothers.

Even if augmented bargaining power would have little effect on child investments, it should have other positive effects. Firstly, the promotion of employment among less educated women, can, for one, counteract rising inequalities in household incomes and thereby be positive for inter-generational mobility. Two, it might even stimulate more gender equality in time use.<sup>19</sup>

### *Homogenizing the learning milieu*

Standard theory of child investment stresses income effects as well as both the quantity and quality of parental dedication (Becker and Lewis, 1973). The theory holds that public financing of education should diminish the monetary effect. We now realize that this was an overly optimistic assumption, and that truly effective policy needs to be directed at the pre-school stage both with regard to the income and 'culture' effects. As to the latter, one might readily conclude that it lies entirely outside the competence of policy. How, we might ask, can policy induce parents to read with their children or censure television viewing?

One important clue comes, once again, from the large (especially US) early intervention literature. Evaluation research suggests that very early, high-quality intervention on behalf of at-risk children has substantial and lasting effects in terms of improved social integration, less delinquency, and more schooling (Karoly, 1998; Currie, 2001; Kamerman et.al., 2003; Karoly et.al., 2005). The Perry pre-school programme, which emphasizes early intervention with high quality services targeted to underprivileged children, appears particularly effective in terms of both child outcomes and cost effectiveness. Carneiro and Heckman (2003: 165) suggest that through age 27, it yields a \$5.70 return for every dollar spent – much of this due to less criminal behaviour.

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<sup>18</sup> The equivalent shares are 23% in France, 39% in the UK, 26% in Germany, and a low of 13% in Spain. The wage rate is a superior measure of bargaining power since it captures what a person *could* earn under varying labour supply assumptions.

<sup>19</sup> Alvarez and Miles (2003) question the positive impact of wives' earnings on husbands' contribution to home production for Spain concluding, instead, that traditionalist gender norms predominate over rational joint welfare maximization. One should assume that wives' bargaining power begins to be effective only beyond a minimum threshold. Considering the relatively low earnings of Spanish women and the virtual absence of mother-targeted family benefits, Spanish wives may fail to arrive much above such a threshold.

Such findings can perhaps not be uncritically generalized to Europe where inequalities in child conditions are less extreme. But the crucial point is that early intervention programmes that include strong behavioural and cognitive stimulus can be effective in equalizing outcomes, especially to the advantage of the most-at-risk.

Here again, the experience from the Nordic countries can be of relevance – for good and bad. Denmark and Sweden began in the late 1960s a massive – and very rapid – expansion of pre-school institutions aimed at securing universal access – a goal by and large achieved by the 1980s. The policy was actually not cast in terms of investing in child outcomes but rather as an instrument to reconcile motherhood and careers. But in order to cater to the tastes of middle class families, it ensured that standards were high. Denmark, for example, stipulates a 3:1 child-personnel ratio for the under-3s.

Nordic child-care policy learned many lessons along the way. Until the 1990s, for example, children were not eligible if the mother was on maternity leave or in receipt of unemployment compensation. This had the undesirable consequence that many of those children who might benefit the most were excluded, considering the selection effects behind unemployment, inactive status of mothers, and high fertility. In recent years, policy makers have tried to make it especially attractive for immigrant and unemployed parents to place their children in public centres.<sup>20</sup> A second lesson was that parental leaves and childcare needed to be better synchronized. Until the 1990s, the combined maternity-parental leave in Denmark covered little more than 6 months, which meant that a very large percentage of infants were placed in crèches very early.

For these countries we lack systematic impact studies of pre-school participation.<sup>21</sup> Indirectly, however, there is evidence to suggest that the arrival of universal pre-school attendance is associated with a significant equalization of school attainment and, one can argue, also with the comparably quite homogeneous performance on PISA (and similar) tests. In an earlier study I used the IALS data to compare social origin effects on school attainment across birth cohorts (Esping-Andersen, 2004). The study included three Nordic countries, Germany, the UK, and the US. For the latter three countries, I found persistent social inheritance effects across cohorts born in the post-war years through the 1970s. In other words, parent-child attainment correlations did not decline over the past half Century. In contrast, there is a very significant decline in the association in all three Scandinavian countries, and the drop occurs primarily in the youngest cohort – the first to enjoy near-universal participation in child-care. Most telling, perhaps, is the attainment profile of children of very low educated parents. Table 4 focuses on upper-secondary school attainment but the results are quite similar for tertiary level education. Similar to Gregg et.al.'s (1999) study, I estimate effects *net* of abilities (measured by cognitive test scores). This means that we are closer to capturing the 'real' impact of social inheritance. I also control for sex and immigrant status. The table presents logistic odds ratios of a child from a low educated background attaining upper-secondary schooling. To interpret the coefficients, the reference is having a father with ISCED 3 or above.

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<sup>20</sup> Denmark is currently experimenting with 'affirmative action' policies, such as bussing immigrant children out of high-immigrant concentrated neighbourhoods.

<sup>21</sup> Andersson (1992) provides a rare exception showing that, in Sweden, day care has positive consequences for child development, especially in case of less privileged families.

**Table 4. Low Educated Father Effects: Upper-secondary level attainment, controlling for cognitive test scores, sex and immigrant status (Log odds ratios)**

	USA	UK	Denmark	Norway	Sweden	Germany
Cohort 1	.115***	.185***	.449**	.661	.320**	.094***
Cohort 2	.097***	.153***	.248***	.447**	.164***	.067***
Cohort 3	.133***	.162***	.213***	.205***	.091***	.098***

Data source: IALS (International Adult Literacy Survey). Cohort 1 is born 1970-75; cohort 2, 1955-64; cohort 3, 1945-54. The cognitive test scores refer to reading comprehension. Reference group for estimations is fathers with ISCED 3 or more.

Significance levels: \*\* = 0.1; \*\*\* = 0.05 or better.

Comparing across the cohorts we see that the equalization of chances has been especially strong in Norway and Denmark. To illustrate, for the youngest cohort (1) the chance of a Danish kid (of low educated fathers) to attain upper level schooling is twice as high as for one from the oldest cohort, and 4 times greater than for a similar US or German child. These results do not, of course, tell us whether equalization was due to child care, income redistribution or, most likely, a combination of both. Unfortunately, the IALS data provide no income information. But the coincidence of timing is at least suggestive.

The PISA data provide some additional – suggestive – evidence. If early child-care were to compensate for unequal cultural capital, we would expect that the latter's explanatory weight would be systematically lower in the Nordic countries than elsewhere. The reasoning is that participation in child-centres that are of similar quality across-the-board should, so to speak, help cancel out the stimulus gap that children from low educated and culturally weak homes suffer. In Table 5, I again use the 2000 PISA math tests and rank countries according to the Beta coefficients for the parental cultural capital (books) effect obtained from OLS regressions. Including also SEI Betas allows us to make some assessment of the relative – and combined – impact of cultural capital and economic status.

**Table 5. The relative impact of parental 'money' and 'culture' on children's math performance. Beta coefficients from OLS regressions.**

	Cultural capital	SEI
Finland	.11	.10***
Denmark	.17***	.11***
Sweden	.19***	.21***
Belgium	.19***	.16***
France	.21***	.13***
Germany	.23***	.15***
UK	.23***	.19***
Netherlands	.24***	.13***
Ireland	.25***	.13***
Spain	.27***	.09***
US	.27***	.19***

Source: PISA 2003. Regressions include controls for sex, immigrant status, mother's education, and lone motherhood. Statistical significance notation as in Table 4.

The results, albeit somewhat ambiguous, do point in the anticipated direction. The Nordic 'cultural capital' Betas are uniformly low – but that is also the case in Belgium. In fact, the Finnish culture Beta is not even statistically significant – the only country in the PISA study where this is the case. Belgium (with France) we should note, boasts the EU child-care enrolment level that is closest to Scandinavia. With the surprising exception of Sweden, we also note that socioeconomic status plays an unusually small role. In other words, these data, too, are suggestive but not much more than that.

The PISA data permit yet another indirect measure of child-care effects since it includes information on whether children participated in pre-school education. For most countries such attendance is associated with a major improvement in math test scores (in Denmark, a 40 point – or 10 percent – gain).<sup>22</sup> Additionally it diminishes the explanatory importance of SEI and 'books' and also the adverse consequences of being immigrant child or having a low educated mother.

From a cost-benefit perspective, almost any non-trivial gain for child outcomes would merit the policy if, as I argue for Denmark, pre-school care practically pays its own way due to superior female lifetime earnings. Any positive learning or behavioural effect that it yields comes, so to speak, gratis. In such a context, the evaluation exercise need only examine the marginal learning effects of any improvement in the quality (say teacher-child ratios or pedagogical content) of the system, or of any outreach to needy children (such as those from immigrant origin).

For policy, a central question is whether to opt for targeting or universal provision. If our primary aim is to level the playing field, a targeted approach would appear the more cost-effective alternative. It is well-established that the gains to early childhood investment are especially large for the most underprivileged. The choice for or against targeting depends, firstly, on the value we place on equity in the broadest sense. Targeting services to the most under-privileged children can, as US experience shows, narrow the performance gap for those at the very bottom, but

<sup>22</sup> Pre-school enrolment does, however, have no statistically significant effect in the UK or the US, perhaps because child care in these countries is of more uneven quality or because of selection effects whereby attendance in quality programmes is biased in favour of already resourceful children.

unless targeting is very amply defined it will not necessarily result in overall greater homogeneity of life chances. The US Head Start programme reaches only about 7% of 3-year olds and thus falls far short of reaching the entire at-risk population (we recall that child poverty hovers above 20%, and that the share falling below the PISA minimum score is 18%). The remaining 93% of any child cohort will receive care options that to a large extent mirror parents' purchasing power. The huge unevenness of US early care is well documented (Blau, 2001).

More generally, the basic dilemma of targeted policy is how to ensure that it does reach the needy. Here a comparison of the US approach to Britain's Sure Start is of interest. While the former targets problem families, the latter targets high-risk communities. Neither approach can ensure that need is adequately addressed: identifying problem families is only easy in case of visible problems; and in the case of Sure Start it is far from certain that all the needy live in high-risk communities. The real obstacle to effective targeting lies in the multiple mechanisms that produce adverse child outcomes. While income poverty is easily identifiable, this is certainly not the case for parental nurturing practices.

The choice depends, secondly, also on our commitment to mothers' employment. If we aim to eliminate the regressive tax effect on mothers' labour supply, child care policy should more logically aim towards rather universal levels of coverage but with graduated subsidies.

Opting in favour of universal coverage has the great advantage of ensuring that all children, irrespective of origin, come to enjoy similar (high) standards. And if the system helps mix children from different backgrounds, so much the better. Yet, the obvious shortcoming of an across-the-board universal model of the Nordic variety is that the most under-privileged children might require additional resources and attention. One example of this problem is the low participation rate of children from immigrant families. Some form of affirmative action, including perhaps special incentives to target groups, might therefore be called for to accompany a universal approach.

### ***Conclusion: Helping Families to Invest in their Children***

Human capital investments have, over the past half Century, been almost exclusively directed at formal education. It is only quite recently that we have come to realize that the foundations of learning -- as well as the chief mainsprings of inequalities -- lie buried in the pre-school phase of childhood and that schools are generally ill-equipped to remedy a bad start. For policy-making, the learning-begets-learning model takes this insight one important step forward since it helps identify the relative rates of return to skill investments across the early life course of children. It is now evident that investments yield the highest returns in the pre-school stage, 0-6, and decline exponentially thereafter. The model is concomitantly relevant for an equal opportunities policy since the returns are especially high for underprivileged children.

All this suggests that we need to re-evaluate human capital policy. As a starter, educational spending in *all* advanced countries goes in exactly the opposite direction from what the learning-begets-learning perspective prescribes. Per student spending rises monotonically from pre-school

up to tertiary education.<sup>23</sup> We spend on average twice as much on tertiary level as on pre-primary education. Moreover, pre-primary spending is, in most countries, concentrated in the ages 3-6. Except for the Nordic countries and, at some distance, Belgium and France, investment in the under-3s is truly marginal.

Concerns about equality of opportunities and future productivity coincide in policies that aim to raise the homogeneity of our human capital reservoir. The share of youth that ends up with insufficient skills is very large in many countries, be it in terms of either formal qualifications or cognitive and non-cognitive abilities. Here is cause for alarm considering that skill requirements continuously grow. Since nation differences cannot be ascribed to genetics it is evident that policy and institutions matter greatly.

Departing from the dictum that the key mechanisms lie in very early childhood and are prevalently centred in the family, my aim was to identify how policy can aid families in the quest for strong skills. A core issue lies in the persistence of strong social (as distinct from biological) inheritance mechanisms. Conventional theory has emphasized monetary effects in general and poverty in particular. This is without any doubt a major contributor to differential school success and, more generally, to unequal life chances. But social scientists as well as policy makers have paid far less attention to non-economic factors in the inter-generational transmission of disadvantage. Although research is on less than firm ground in this regard, there is a credible case to be made that non-economic mechanisms may be of equal if not greater importance than income. To a degree, the two coincide: teen-age mothers, immigrants, and low educated parents are also more likely to be income poor. But we are almost certainly tapping two rather distinct dimensions, and this implies that a strategy based narrowly on income redistribution is unlikely to fully succeed.

The evidence suggests, instead, a two-pronged policy that would appear attractive both from the point of view of cost effectiveness and because it can produce a more equal start for all children. In a nutshell the strategy condenses into an early childhood care policy. The case for income redistribution towards families with children is certainly evident and requires little additional comment save to stress the point that the burden on redistribution would be eased considerably if mothers were employed. There are multiple reasons why especially less educated women's activity rates are low and access to affordable child care is only one. Nevertheless, if accompanied by adequate maternity leave provisions and with a neutral taxation of spousal earnings, such policy should produce a non-trivial employment gain. And any such gain can produce a double advantage because it helps reduce poverty and, if external child care is of high quality, it may have positive effects on child stimulus. And even if high quality child care were to have little effect on child outcomes, it is potentially cost efficient in the sense that more female employment together with higher lifetime earnings will enhance the revenue base.

Even if we were to agree that familial 'cultural capital' is crucial, it would appear difficult to conceive of a policy that corrects for differences in parenting quality and dedication. I have tried to pull together what is known about nurturing effects during early childhood. Two factors stand out. Firstly, outside care of infants during the first year can be harmful for later development. Secondly, if external care is of high quality its effect on children's school outcomes are clearly

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<sup>23</sup> See the OECD's Education Data Bases for detailed per student expenditure allocations. For tertiary level spending one should exclude investment in research and development. To be sure, there are needs (chemistry labs, libraries and the like) that inevitably require heavier spending at the higher levels of education.

positive, especially for the less privileged children. What is more, the positive effects persist beyond schooling into adulthood.

Ongoing trends in parental child investment point towards growing social asymmetries. Highly educated parents dedicate more time and effort to their children and the gap is rising. The nurturing gap is primarily due to differences in fathers' dedication which, in turn, has to do with the relative bargaining position of wives. Policy that augments mothers' bargaining power, via income transfers and/or by supporting their employment, should therefore help diminish social differences in child investment.

All told, policy that combines paid leave through the child's first year with affordable high quality external care should yield important dividends in terms of homogenizing children's school preparedness. A major policy dilemma presents itself with regard to design. Since we know that the returns are exceptionally high for less privileged children a simple cost-benefit calculus would suggest a targeted approach. What, then, would recommend a broad universal model?

In the first place, one should keep in mind the implicitly dual function of child care: supporting mothers' employment and child socialization. In lieu of the prevailing cost structure, the Danish policy of imposing a considerable but not prohibitive co-payment that diminishes linearly with income is clearly effective (full coverage) and equitable. It may incur dead-weight costs at the top of the income distribution, but to Danish policy makers this is regarded as acceptable since, in return, it guarantees broad social inclusion in (and electoral support for) the same comprehensive system. There is also another equity issue at stake. If the positive externality of parenting is substantial, there is a clear case for redistribution in favour of *all* parents alike, rather than redistribution from some parents to others.

This brings us to a second standard argument in favour of universalism, namely that broad citizen support for the policy is considered essential for adequate financing. A third important consideration lies in the high transaction costs and the difficulties of identifying need. Targeting low income families may be fairly simple to administer but here we must remember that learning deficits are also powerfully related to family 'culture' which is a dimension that is virtually impossible to identify by any public bureaucracy.

At the end of the day, the choice for or against a targeted approach will depend very much on our aspirations regarding skill homogenization. If our aim is limited to 'bringing up the rear' (which is how one might describe US policy in this regard) there is a better case for targeting than if we pursue a more general goal of minimizing, across-the-board, the impact of (non-biological) inequalities on children's opportunities. The clear shortcoming of a universal approach is that it may not succeed in 'bringing up the rear' fully. Truly disadvantaged children are likely to require an additional effort and this suggests that universal designs may need to be coupled with some form of 'affirmative action' interventions.

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