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Social Bases of Changing Income Distributions

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## Abstract

On the backdrop of very little sociological concern with rising income inequality, this paper examines how key changes in sociodemographic behaviour may help shed additional light on changes in household income distribution and, especially on long-term income dynamics and inter-generational mobility. The paper argues that the joint effect of rising marital homogamy in terms of human capital and labour supply contributes generally to widen the income gap between households. Only under very restrictive conditions, namely when the labour supply of low educated women grows dis-proportionally fast, will women's earnings contribute to more equality. Finally, the paper suggests that women's rising employment commitments contribute positively to equalizing the opportunity structure both via the income effect and if quality care is available, also via a more homogenous cultural and cognitive stimulation of children. Mothers' work does not generally have adverse effects for children's development.

## Keywords

Marital homogamy, female employment, earnings, income distribution

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## Introduction

Sociologists have been oddly silent throughout the recent boom in inequality research.<sup>1</sup> Most economists agree that rising inequality is *endogenously* driven by technological change and rising skills premia. There are a number of more sociological factors – equally endogenous and certainly not ignored by economists -- that may add to our understanding of the great ‘U-turn’ in income distribution. I shall highlight two that both have their mainsprings in what Goldin (2004) terms the revolution in women’s behaviour. I stress the effects of demographic change, in particular related to household structure and marital selection and, most importantly, the impact of women’s employment behaviour.

Most inequality research relies on cross-sectional snapshots comparing, say, Gini coefficients across select years. This is problematic because year-based snapshots lump together people at very different phases of their life course, from students to retirees, and because they bundle together people with transient (and thus trivial) low or high incomes and those with persistent (and thus ‘real’) low or high incomes. It is well established that year-to-year changes in income are uncorrelated with changes in consumption (Bowlus and Robin, 2003). And the lion’s share of deprivation is usually short-lived (Whelan et.al., 2004).

Most importantly, snapshots do not capture what is sociologically important about inequality, namely citizens’ life chances and the opportunity structure. There is *a priori* no reason to be preoccupied with more cross-sectional inequality if, firstly, it is predominantly due to transitory factors (such as more students) and if, secondly, greater income dispersion coincides with enhanced inter-generational mobility.

Most economists and sociologists posit a direct causal connection between income inequalities and opportunities. The standard *money->investment->money* theory of inter-generational mobility argues that children’s destinies are a function of how much parents invest in their human capital (Becker and Tomes, 1986). Their school attainment, careers and income in adulthood will accordingly correlate with factors related to social origins.<sup>2</sup> It follows that the degree of inequality of opportunity in any generation depends on how much inequality there was in the previous parental generation.

The logic is illustrated in Figure 1 where I compare Gini coefficients and parent-child income correlations across countries.<sup>3</sup> With the sole exception of

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<sup>1</sup> It is not that sociologists do not study inequality but rather that they have contributed very little to our understanding of what drives the new surge in income inequality (Morris and Western, 1999; Myles, 2003). Symptomatically, the reader will find that most references in this paper are to economists.

<sup>2</sup> For an overview, see Solon (1999) and Corak (2005).

<sup>3</sup> The elasticity measures how much of the variance in offsprings’ income is explained by the variance of parents’ income. A value of .5 (as for the UK) implies that 50 percent of the differences in parental incomes were inherited by the children’s generation.

Canada, greater income inequality is accompanied by more social inheritance. We can, of course, say nothing about the causal direction between the two. In what follows I first present a synthesis of trends in income distribution and then turn to the key theme, namely how demographics and female employment jointly influence income distributions *and* mobility.

**Figure 1. Income Inequality and Intergenerational Income Elasticities\*)**



\*) Income inequality is the Gini coefficient for disposable household income in the mid-1990s. Intergenerational mobility is the elasticity of parental income on children's income. Source: Ginis are from Luxemburg Income Study, Key Figures; Parent-child income correlations, from Corak (2005)

### ***Three Decades of Rising Income Inequality***

The great U-turn is best understood on the backdrop of post-war income compression (Levy, 1998; Davies and Shorrocks, 2003). As Karoly and Burtless (1995) show, 40 percent of the reduction in income inequality in the 1960s was due to declining earnings inequality among male heads of families. The tide lifted all boats but gave the little boats an extra lift.

A perusal of trends since the 1970s invites gloom. At first the rise in inequality appeared restricted to the U.K. and the U.S. (Gottschalk and Smeeding, 1997; Atkinson, 1999). Hence, the phenomenon appeared idiosyncratic rather than global, a consequence of these countries' unregulated labour markets (Katz and Autor, 1999). But now we see that most countries are following suit – including traditional bastions of equality such as Scandinavia.

The advanced countries experienced a major rise in market income Ginis from 1980 to 2000, ranging from a 6-7 percentage rise in Denmark and Italy, to a 20-plus increase in the UK, the US, Germany and, most surprisingly, in Sweden. The UK tops the list with a 36-percentage change (Esping-Andersen, 2005). As

one would expect, the trend is far less dramatic when we turn to disposable incomes. Kenworthy and Pontusson (2005) argue that welfare states intensified redistribution in response to widening inequalities. This is, however, not true for Sweden, the UK, and the US.

The U-turn is very much driven by the top pulling ahead of the rest (Katz and Autor, 1999; Gottschalk and Smeeding, 1997). The ratio between the top and middle decile rose from 1.8 to 2.2 in Britain; from 2.6 to 3.0 in the US; and from 1.5 to 1.7 in Sweden. The bottom is now losing ground in the US, Finland, Germany, Italy, Sweden and the UK, but anything that approximates *de facto* polarization is limited to the UK and US.<sup>4</sup>

One thing is clear, namely that young adults bear much of the brunt, facing an erosion of relative wages at all skill levels while being hugely over-represented among the unemployed and those with precarious, short term employment contracts (Wasmer, 2002; Polavieja, 2003). Juhn et.al. (1993) show that young American workers have suffered a 70 percent wage decline compared to mature workers. More broadly, the relative disposable income of young adults (18-25) has declined by 7 percentage points on average in the OECD (Forster and d'Ercole, 2005: Annex Table A6). Surprisingly, the young have suffered an especially steep decline in the Nordic countries.

The deteriorating position of young workers in combination with the rise in lone parenthood helps account for growing child poverty. The Nordic welfare states have succeeded in stemming the tide but elsewhere child poverty has risen sharply: by 4-7 percentage points in Germany, the Netherlands, Italy, and the U.K; and the US, starting at a very high level (19 percent in 1980), saw child poverty growing an additional 3 points.<sup>5</sup>

The new inequalities are, no doubt, driven by ongoing labour market transformation (OECD, 2000). On one hand, high unemployment contributes to inequality and helps in particular account for the eroding status of young adults. On the other hand, changing labour demand raises the wage premium to skills and punishes the less skilled (Katz and Autor, 1999).

The top earners are leaping ahead in many countries – although clearly more in unregulated labour markets like the British and American where the top-middle decile ratio rose by 15 and 21 percent, respectively. But major gains at the top occur also in Italy (with 13 percent), the Netherlands and Sweden (with 8 percent) and Germany (with 7 percent). Wage erosion at the bottom is less severe and also less common. The bottom decile has remained stable in France, Italy, Norway and Finland, but has lost ground in Germany and Sweden (a 6-7

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<sup>4</sup> Smeeding (2004: Table 1) shows that between 1979 and 2000, the lowest fifth in the US gained a total of \$1.100 (or 9 percent) in real terms while the top fifth gained a whopping \$576.400 (or 201 percent).

<sup>5</sup> Estimated from LIS data.

percent decline relative to the middle) and, more substantially so, in the Netherlands, the U.K. and the U.S. (a 9-11 percent decline).<sup>6</sup>

Such international variation tells us that a purely skills-based explanation will not suffice. Many stress the importance of industrial relations systems and minimum wages in accounting for the less dramatic trend in Europe (OECD, 2003). Acemoglu (2002) adds a supply-side dimension, arguing that the strong growth of highly educated workers in Europe over the past decades has dampened wage growth at the top of the skill pyramid. Nonetheless, there is a clear over-representation of young workers within the low-wage population. Lucifora et.al. (2005) show that about 60 percent of youth (under 25) are low wage in the Netherlands, UK, and the US, and about 40 percent in France and Germany. These are very large numbers, however interpreted.

But not all news is gloomy. Although the female wage distribution follows the male trend, the gender wage gap is closing at all skill levels. Wage erosion at the bottom is far worse among low skilled males while highly skilled women enjoy major earnings gains relative to similar men (Blau and Kahn, 2002; Waldvogel and Mayer, 1999). And the ‘youth-penalty’, too, is biased against males. In the U.S. the earnings of 25-34 year old males declined by 23 percent compared to only 4.5 percent among women during the 1980s and 1990s (Schrammel, 1998). Trends in the gender pay gap vary substantially across countries (Blau and Kahn, 2002: Table 7.2; OECD, 2002: Tables 2.15 and 2.16). The latest Eurostat data show that the gender wage gap is narrowing substantially in the U.K., the Netherlands, Ireland and Italy. It has remained basically stable in Denmark, France and Germany, but it has also widened – and appreciably so – in Spain and even Sweden.<sup>7</sup> If women enjoy relative pay gains and simultaneously increase their labour supply, their contribution to total household income will rise. In France, the Netherlands and Spain their relative income contribution rose by a full 5 percentage points. The result is that the gender composition of total household income is becoming less asymmetric, in Denmark approaching parity (women’s share is 42 percent). In countries with lower female labour supply, like the Netherlands and Spain, their share hovers around 25 percent.<sup>8</sup>

It is accordingly evident that not *all* trends move in the same inegalitarian direction. But whether women’s gains can offset the general trend depends, firstly, on the pattern of female labour supply and, secondly, on demographic behaviour.

### *Demographic Change and Household Structure*

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<sup>6</sup> Calculated from OECD’s Labour Market Statistics Data (updated 15.07.2003)

<sup>7</sup> Eurostat data from *NewCronos*.

<sup>8</sup> The only exceptions are Germany and the UK. Calculations are based on the European Community Household Panel (ECHP), waves 1994-2001.

There are three great demographic transformations that may have serious repercussions for income distributions. Firstly, rising marital instability implies more vulnerable units – lone parent families in particular. The share of children in single mother households now ranges from a low of 5 percent in Southern Europe to a high of 15-20 percent in Scandinavia and North America.<sup>9</sup>

Secondly, we see a rise in marital selection, in particularly at the high end. When partnerships increasingly reflect similarities in educational attainment this will spill over to their earnings power and most likely accentuate inequalities (Blossfeld and Drobnic, 2001; Burtless, 1999).<sup>10</sup> But the effect of marital selection depends on the third transformation, namely on patterns of female labour supply.

Women's employment can have a powerful influence on household income distributions, but the direction of the effect depends on its composition. If labour supply is positively correlated with education, female employment is likely to enhance inequalities. To put it simply, the high-skilled double earner couple will race ahead of the rest, especially if joblessness is more widespread at the bottom. In contrast, if female labour supply grows dis-proportionally at the 'bottom', the net effect should be declining income inequality. In most affluent countries, the participation rate of less educated women is far below their more educated sisters, but the gap is far greater in Southern Europe than in Scandinavia, the UK, or the US.

Since unemployment tends to come in couples, marital homogamy will contribute to polarization (Gregg and Wadsworth, 2001). The share of working age *couples* with no employed adult varies between 6-8 percent in Scandinavia, Germany and the US to 13-15 percent in the UK and the Netherlands.<sup>11</sup> The income gap between work-poor and work-rich households will be especially large in countries – like the Southern European -- where dual career couples are mainly found at the top, or in countries like the US where welfare state support is ungenerous.

But even if less educated women increase their participation, an equalizing effect may still fail to materialize if there are major asymmetries in the intensity of labour supply. To illustrate, a two-career couple may potentially supply 80 or perhaps even 100 hours per week; the single earner half that; and the lone mother, realistically far less. Evidence suggests that such asymmetries are widening (Juhn and Murphy, 1997; Aaronson, 2002; Karoly and Burtless, 1995). Smeeding's (2004) data for Europe and North America show that couples in the top quintile work roughly 2-3 times as many annual hours as do the lowest, and about 20-30 percent more hours than does the middle quintile.

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<sup>9</sup> Estimates from LIS Key Figures ([www.lisproject.org/keyfigures](http://www.lisproject.org/keyfigures))

<sup>10</sup> The correlation for couples' education ranges from .5 in Denmark, Germany, and the U.K., to .6+ in Italy, Sweden and the U.S. (estimated from Canada Statistics IALS micro-data files).

<sup>11</sup> The figures would be far higher were we to include also single person and lone parent households (see OECD, 1998: Table 1.7).

**Table 1. Homogamy of Labour Supply and Earnings. Couple correlations for 1993 and 2001.**

	1993 $\rho$ Labour Supply	1993 $\rho$ Earnings	2001 $\rho$ Labour Supply	2001 $\rho$ Earnings
Denmark	.39	.20	.41	.16
France	.26	.19	.22	.17
Germany	.19	-.13	.20	-.12
Italy	.17	.15	.17	.18
Spain	.12	.18	.18	.20
Sweden	n.a.	n.a.	.52	.17
U.K.	.31	.16	.32	.07
U.S.	.27	.10	.29	.07

Source: ECHP, panels 1994 and 2001 and, for the U.S., PSID panels for same years.

Hyslop (2001) shows that assortative mating accounts for 23 percent of the rise in US household income inequality.

A key empirical question, therefore, is whether educational homogamy spills over to labour supply and earnings. We can estimate this by simple couple-correlations of (weekly) hours worked and of (annual) work income.<sup>12</sup> See Table 1.

Labour supply homogamy is, unsurprisingly, stronger in high female-participation countries, such as Denmark and Sweden, and correspondingly weaker in Italy and Spain. Yet, similarities of work intensity may not produce high (annual based) earnings correlations simply because women are more likely to interrupt their careers. But the discrepancy is surely also due to compositional factors. Even if female employment is low, the Spanish earnings correlations are high because women in top-level occupations are married to men in similar high status jobs (Smith, 2005). Germany's negative earnings correlations suggest that wives of very high-income men work very little.

Table 2 presents one simple way to examine how women's employment and earnings affect household inequality. I decompose total household income variance into that attributable to the two partner's respective earnings. The difference between total household and the male partner's earnings (in the last column) indicates whether women's earnings augment or abate intra-household inequality (Lam, 1997). Where the sign is *negative*, women's earnings have an egalitarian impact. Columns 1-3 present, respectively, the coefficient of variance for total household earnings, for husbands' and for wives' earnings.

<sup>12</sup> The correlations refer to couple households and include zero earnings and/or zero hours worked.

**Table 2. Decomposition of Household Income Inequality by Husbands' and Wives' Earnings Contribution. Couple Households Only.)\***

	I	II	III	IV
	Cv T	Cv H	Cv W	% $\Delta$ CvT-CvH (x100)
<b>Denmark</b>				
1993	0.364	0.327	0.374	0.1
2001	0.261	0.313	0.316	-0.2
<b>Sweden</b>				
1997	0.65	0.933	1.093	-0.43
2001	0.736	1.127	1.129	-0.48
<b>France</b>				
1993	0.685	0.612	1.242	0.19
2001	0.464	0.348	0.702	0.16
<b>Germany</b>				
1993	0.373	0.349	0.684	0.06
2001	0.402	0.351	0.796	0.13
<b>Italy</b>				
1994	0.455	0.29	0.533	0.36
2001	0.427	0.3	0.472	0.3
<b>Spain</b>				
1994	0.669	0.594	1.075	0.11
2001	0.526	0.404	0.866	0.23
<b>U.K.</b>				
1993	0.65	0.455	0.763	0.3
2001	0.459	0.358	0.639	0.22
<b>U.S.</b>				
1993	0.741	0.933	1.221	-0.26
2001	0.554	0.626	1.006	-0.13

Source: estimated from ECHP, all waves. US estimates are based on PSID.

\*)  $Cov T/CovH/CovW$  are the coefficients of variance for, respectively total, husbands' and wives' earnings.  $\rho_{hw}$  is the correlation between husbands and wives earnings, and  $\% \Delta in CovT-CovH$  is the percentage difference between total household and husbands' earnings.

Note that we include also cohabiting couples.

The estimates cover the 1990s, a decade of substantial growth in female labour supply, especially in countries with traditionally low levels of participation. For reasons of space I present only estimates for the first and last year of the panels.

The years capture important business cycle effects: the early 1990s were bad economic times while 2001 represents the tail end of a long boom. From the final column we see that an *equalizing* effect of ‘wives’ work (negative signs) is limited to Denmark, Sweden and the U.S., and in Denmark it obtains only for the end of the 1990s. This is almost certainly a consequence of greater female unemployment in recession years.<sup>13</sup> Elsewhere, women’s employment creates inequality. In the UK, the effect has abated during the 1990s while in Germany and especially in Spain it increased, an indication that female employment growth was predominantly concentrated at the ‘top’.

The U.S. figures contradict earlier research that finds an increasingly inegalitarian effect of wives’ participation, primarily due to a leap in hours worked among women with high-income partners (Karoly and Burtless; 1995; Juhn and Murphy, 1997). During the 1990s, women appear to compensate for the low earnings of their partners by augmenting labour supply (Cancian and Reed, 1999).

So far we have ignored the impact of lone parent households, the majority of which are female-headed and concentrated at the low end of the income distribution. This is evident in comparative poverty data. With the exception of Scandinavia, where virtually all lone mothers work (typically part-time), single mother earnings tend to be low. In Continental Europe lone mother poverty rates hover around 30 percent; in the UK and the US, it is substantially higher (about 50 percent in the latter).<sup>14</sup> In dynamic terms, the *rise* of female-headed households explains about half of the total increase in the US Gini during the 1970s and 1980s (Karoly and Burtless, 1995: 398).

All told, even if women’s wages improve relative to males’, the profile of female labour supply is such that it is more likely to heighten than to abate inequality. The conditions required for an equalizing effect are quite steep: namely maximum, Nordic-type female participation with a fairly symmetric distribution of work intensity across households. Pasqua (2002) presents counterfactual income distributions that illustrate the point very well. If all women did indeed work like in Denmark, Spain’s inequality would decrease by 15 percent. Or, if the Spanish female earnings distribution were identical to the Danish, yet again Spain’s inequality would drop by 16 percent.

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<sup>13</sup> Similarly, the Danish labour supply correlation rose between 1993 and 2001 – yet another indication that unemployment was disproportionately higher among women in 1993. Estimating the US (PSID) data for the longer period, 1980-2001, suggests that in the US, too, the equalizing effect of wives’ earnings fluctuates across the business cycle, diminishing in periods of higher unemployment.

<sup>14</sup> These rates derive from LIS, *Key Figures*.

### *Life Course Dynamics and the Opportunity Structure*

If our real concern is with life chances, we need to study lifetime incomes. These combine a permanent and transitory component. If the burst in inequality mainly reflects transitory factors, say more students living independently, then we would regard it as fairly trivial. If, in contrast, it reflects a widening of permanent incomes we would consider it 'real'. In the end, if there is *more* mobility a worsening income distribution may not influence life chances adversely.

Lifetime-based income distributions routinely present *less* inequality because, indeed, a large component is transitory. US research shows that lifetime income Ginis are about 50 percent lower than in cross-sections (Haider, 2001; Bowlus and Robin, 2003). The difference is far greater in Scandinavia (Bjorklund and Palme, 2002; Okonomisk Raad, 2001). In the Danish case (very comparable to the Swedish), the lifetime Gini is only .124 compared to the cross-section Gini of .239 (Okonomisk Raad, 2001: Table II, 10). This suggests that a quarter of total US inequality is transitory and, in the Nordic countries, it is a half.

There is evidently more mobility in Scandinavia than in the US, but we also need to know whether *changes* in inequality coincide with *changes* in mobility. A number of U.S. studies have examined this using more truncated 'lifetime' income distributions (Gittleman and Joyce, 1999; Haider, 2001; Aaronson, 2002; and Bowlus and Robin, 2003). In a similar vein, Lucifora et.al. (2005) use age-wage data across decades in the UK. Their results suggest that, in fact, the permanent component of inequality becomes more unequal with rising overall inequality.

We can compare far more countries if we study income mobility over shorter periods. Examining low-wage persistency in the U.K., Lucifora et.al. (2005) conclude that mobility has fallen sharply from the 1970s to the 1990s. Aaberge et.al. (2002) show that five and ten year based wage mobility is generally greater in Scandinavia. Their data also suggest that mobility declined somewhat in the latter half of the 1980s. Moving to the 1990s, my analyses of the ECHP and the PSID panel data (data not shown) suggest that persistency (3 years+) in low wage employment is far greater in the US than in Scandinavia, results that are consistent with those of Aaberge et al (2002) and OECD (2001).

Since the big leap in American inequality occurred in the 1980s and then stabilized in the 1990s, a comparison of mobility across these two decades would be informative. Using the PSID data I find that the hazard of remaining in low pay for 3+ years drops from .56 to .42, which can, no doubt, be ascribed to the booming full employment economy. In this sense, Sweden provides an alternative test since both unemployment and income inequalities rose sharply during the 1990s. Yet, Fritzell and Henz' (2001) study concludes that mobility

did not decline even in bad times. Hill's (2004) examination of the British evidence suggests, however, that rising income inequality has brought about a significant reduction in income mobility and a rise in poverty persistency since the 1980s.

The contradictory nature of the findings is certainly due to lack of robust data for enough countries over enough time, and no doubt also to nation-specific conditions. Most studies of income dynamics, however, agree that increasing returns to skills are key also to lifetime income opportunities (Gittleman and Joyce, 1999; Bowlus and Robin, 2003). If so, it is important to sort out the net lifetime income effect of overall widening earnings differentials combined with the narrowing gender wage gap. Are women's gains in *cross-sectional* earnings paralleled in cumulative lifetime earnings?

We would expect this to be the case because women have fewer children, postpone fertility, and interrupt their careers far less than earlier. This means not just less foregone income during maternity but also far less long-term depreciation due to eroded human capital and loss of experience. In other words, the revolution in women's behaviour ought to help narrow also the lifetime-based gender earnings gap. Early studies of the lifetime income loss due to childbearing presented rather dramatic effects, basically because interruptions were very long. Applying the standard Mincer-Polacheck benchmark estimator, the lifetime income loss due to the 'missing 10 years' would have been about 5 percent while the additional loss due to human capital depreciation would be another 20 percent (Polacheck, 2003).

Considering changes in fertility behaviour we would anticipate fewer and shorter interruptions around births, in particular among educated women and in countries with ample provision of day care. This is certainly the case in the U.S. where the share of mothers that returned to work within 9 months of birth doubled in the 1970s-1980s, reaching 46 percent in 1987 (Browning, 1992).<sup>15</sup> And, as Calhoun and Espenshade (1988) show, this has substantially reduced the lifetime income penalty of motherhood. Sigle-Rushton and Waldvogel (2004) provide a more recent international comparison that also suggests a decline in the lifetime income loss – but only for some countries. For medium-educated mothers with two children, the gross income loss up to age 45 ranges from 23-25 percent in Scandinavia and the U.S. to 40 percent in Germany and the Netherlands. Extending the estimate up to age 60 suggests that an important part of the child-penalty is eventually recuperated *if*, that is, women remain in uninterrupted employment until retirement. In this latter scenario, the Danish mother will have lost only 8 percent of her potential income, and the German and British about 25 percent.

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<sup>15</sup> It is also the case for the Netherlands and the U.K., but in Germany interruptions have actually become longer (Gustafsson et.al, 2002). In the 1990s, the average number of interrupted months ranges from 32 in Germany to 9 in the Netherlands (13 in Sweden). The UK has undergone a dramatic change in just one decade since the average declined from 25 in the 1980s to 14 in the 1990s (Gustafsson et.al., 2002).

Britain and Scandinavia provide a fruitful contrast considering that the Nordic countries boast practically universal participation in day care while this is scarce in Britain. A study of lifetime incomes for the 1958 British birth cohort shows that a typical woman will forego about half of her potential lifetime income if she has two children (Joshi et.al., 1996). This estimate is very consistent with recent German and Dutch findings -- but not with Danish or Swedish (Datta Gupta and Smith, 2000). The great difference lies in the duration of interruptions and in subsequent work histories. Whereas British, Dutch and German women have long interruptions and then resume with reduced working hours, Scandinavian women return relatively quickly and are less likely to opt for prolonged part-time work. In a later British study, Rake (2000) identifies a polarizing trend because higher educated women now emulate the Nordic pattern while low educated women reduce even further their post-birth labour supply.

This translates directly into substantial household income effects. Rake estimates that a childless, low-skilled woman will contribute 41 percent to the couple's lifetime income. But her contribution drops to only 24 percent if she has two children. For the high-skilled woman the difference is trivial (49 and 47 percent, respectively). When, as in Britain, interruptions are highly correlated with education then we will witness heightened inegalitarian effects also in terms of lifetime *household* incomes. If, in contrast, the behavioural differences narrow, as is the case in Denmark, the lifetime based inegalitarian impulse will be weaker.

Since female employment has been accelerating in the 1990s, in particular in Southern Europe, one would expect some convergence towards the Nordic pattern among younger women. Data on birth-related interruptions can be used to make rough predictions of what will come to pass among those who are mothers today. Using the ECHP panels, 1994-2001, Table 3 compares two European extremes, Denmark and Spain. The simulated lifetime income penalty applies the Mincer-Polacheck coefficients to the empirically observed birth-related interruptions of all women (averaged) and of low educated women (less than upper secondary).

**Table 3. Simulated Lifetime Income Penalties for Women with Two Children in the 1990s.**

	Average birth Interruption (months)	Total percent lifetime income penalty
<b>Denmark</b>		
All women	9.0	5.0
Low educated	20.0	9.0
<b>Spain</b>		
All women	46.0	20.0
Low educated	50.0	21.0

The interruption gap between low educated and average women is wider in Denmark than in Spain. But even low educated Danes interrupts only briefly and hence lifetime income losses are modest. In contrast, Spanish interruptions are uniformly longer and this produces far greater lifetime income penalties across the board. Thus we would expect that women will help equalize household lifetime income only if less educated women were to emulate the life course behaviour of high educated British, or of most Scandinavian, women. In other words, the way that women influence lifetime inequalities is essentially identical to that for cross-sectional inequalities.

### ***Inter-generational Inheritance***

Life chances are powerfully governed by inter-generational mobility and, accordingly by parents' investment in their children. Economists highlight the importance of monetary investments while sociologists also emphasise the importance of cultural capital (Bourdieu, 1983). The argument actually dates back to Plato who advocated that gifted children of uncultured parents be removed from their family.

According to the monetary model inter-generational mobility should decrease with rising income inequality – especially if the poorest families lose ground. But this effect can be offset if human capital acquisition is publicly financed. There is evidence that parental expenditure on children becomes more unequal as a result of rising income inequality. Bianchi et.al. (2003: Table 2.2) show an 8-percentage point increase in the Gini of household child expenditure in the US over the past decade. And Harding et.al. (2002) show that inter-generational income mobility rose in the U.S. during the years of equalization only to decline

again in the recent decades of more inequality. For Sweden, Erikson and Jonsson (1996) argue that the diminishing importance of social origins for educational attainment is related to concerted political efforts to minimize the importance of parental income. But generally speaking, research shows that education reforms do little to equalize the opportunity structure (Shavit and Blossfeld, 1993).

That differences in education systems matter little emerges from the PISA study which distinguishes school effects from family effects on youth's literacy skills. As a rule of thumb the relative weight of the two factors is in the order of 1:5 (OECD, 2001) It also emerges from a huge body of evaluation research that shows that the preconditions for learning and skill acquisition lie very early in childhood (Haveman and Wolfe, 1995; Heckman and Lochner, 2000).

Since it is in early childhood that the family effect is most intense and also of greatest potential consequence, this is where we should focus our analytical lens. The main family effects boil down to parental incomes and cultural-cognitive stimulation. But there is very little clarity regarding the relative importance of the two and, in any case, income and culture are very likely to covary.

It is well established that economic insecurity in childhood has severely adverse consequences. American research shows that poor children will have two years less schooling than the non-poor (Mayer, 1997; Duncan and Brooks-Gunn, 1997). European studies provide similar, if less dramatic, results (Vleminckx and Smeeding, 2001; Maurin, 2002; CERC, 2004). But why does poverty have such negative effects? There are essentially two, non-rival, explanations. Firstly, deprivation means that parents lack resources to invest in their children's schooling. Secondly, low-income families are more risk-averse and will therefore shun the risks of school failure (Breen, 2001). In both cases the end-result is similar: poor children are likely to curtail education at an earlier date.

It follows that any measure that effectively combats child poverty will pay off in terms of improved equality of opportunities. Social transfers to families are crucial, but the strongest antidote to poverty lies in mothers' employment (Esping-Andersen, 2002). Child poverty drops by a factor of 3 or 4 when mothers work.

But if 'cultural capital' is even more important for children's life chances, then the positive income effect of mothers' employment may be undone due to diminished time commitment and possibly inferior cognitive stimulus associated with maternal employment. For lone mothers this effect should be especially severe (McLanahan and Sandefur, 1994). Overview studies suggest that, generally speaking, maternal employment does not have harmful effects (Duncan and Brooks-Gunn, 1997; Haveman and Wolfe, 1995; Gregg et.al., 2005; James-Burdun, 2005). But this depends very much on the quality of the mother's job and of external child-care. Ermisch and Francesconi's (2002) study

**TABLE 4. FAMILY CHARACTERISTICS AND LITERACY SCORES  
AMONG 15-YEAR OLDS. OLS regressions**

	USA	U.K.	Germany	Spain	Denmark	Norway	Sweden
Constant	425.11***	444.87***	375.85***	452.77***	388.89***	405.21***	433.43***
Gender	18.96***	15.53***	25.58***	15.49***	20.24***	29.69***	27.53***
Immigrant	- 16.26*	- 14.01**	-40.87***	-19.04**	-25.48***	-35.50***	-35.81***
Father Education	3.50	.76	7.54***	2.32**	8.19***	3.02*	- .26
Mother educ: Secondary	13.80*	10.31	43.58***	19.44***	37.88***	30.62***	20.63*
Mother educ: Tertiary	14.58*	15.42*	49.93***	14.12***	52.73***	20.48**	17.16*
Socio-economic status	1.06***	1.17***	.90***	.60***	.50***	1.01***	1.06***
Cultural Capital	33.26***	40.65***	36.40***	39.74***	34.18***	38.78***	30.87***
Mother part-time	16.51**	12.92***	4.96	-17.75***	8.21	4.99	5.21
Mother full-time	- 8.15	5.99**	- 3.22	- 6.03***	- .78	3.04	7.48
Lone mother	-17.82***	- .10	1.72	.36	- .59	8.57	3.92
R <sup>2</sup>	.189	.201	.249	.227	.201	.173	.172
N	2571	7458	3933	4780	3933	3470	3836

Data Source: OECD PISA study

Notes: reference for mothers' education is less than secondary (ISCED 0-2). Reference for mothers' part-time/full-time employment is not employed. Note: To improve upon comparability of education systems, for the United States we include 'some college' (usually two years) with upper secondary education.

of Britain concludes more pessimistically that full-time employment is decidedly negative for children's learning while part-time employment has no clear effects. This, however, is not confirmed in Gregg et.al.'s study.

The PISA data provide an opportunity to sort out these effects on children's cognitive performance. Using the literacy test scores for 15-16 year olds, we can examine the relative impact of parental education, socioeconomic status, 'cultural capital', and of mothers' employment intensity on child outcomes. The results are shown in Table 4. Since native-born children are naturally advantaged, and since girls outshine boys in reading comprehension, the model

includes a dummy for gender and immigrant status. To avoid mulit-colinearity, fathers' education is measured in years and mothers' education with dummies (the reference is less than secondary level). Socioeconomic status is the standard SEI-score that weights the occupational status and income of the head of household. Cultural capital is a composite of three items, two of which (number of books and frequency of discussing cultural issues in the family) measure 'everyday' cultural activities, and one (theatre attendance and the like) that taps elite culture. Finally, the regressions include dummies for mother's employment status (reference is not employed) and a dummy for single mother families.

As theory suggests, both income and cultural capital are strong predictors of child outcomes, but the latter matters far more. The standardized Beta coefficients (not shown) indicate that cultural capital is two-three times as strong as socioeconomic status in predicting child literacy. Not surprisingly, mothers' education matters more than fathers' - the Betas for mothers' education are about twice as large as for fathers. This is good news since, everywhere, women are surpassing men in terms of educational attainment. It is also bad news because intensified marital educational homogamy implies potential polarization across families.

What matters is that mothers have at least upper secondary level schooling.<sup>16</sup> The additional 'child-returns' to tertiary education are generally modest. Considering the centrality of mothers' education for child outcomes, their embrace of paid employment may imply reduced child stimulation. But Table 4 suggests that this is not the case. With the one notable exception of Spain, maternal employment is generally *positive* for children's literacy skills. Our findings do not confirm Ermisch and Francesconi's (op.cit) pessimistic results for Britain.<sup>17</sup>

One reason why maternal employment does not harm children's development may be that fathers devote more time to children. There is evidence from the U.S. and Scandinavia that *total* parental time is actually increasing because fathers – especially the higher educated -- have doubled their caring hours over the past decade (Bianchi et.al., 2003; Esping-Andersen et.al., 2005). As Breen and Cooke (2005) argue, men's domestic contribution rises in tandem with the increased economic independence of women. If so, we would predict a convergence, even if slow, towards the Nordic pattern.

The second and surely more important alternative lies in external care. There is a large literature that shows that participation in day care contributes very positively to children's school attainment (Currie, 2001; Waldvogel, 2002). But

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<sup>16</sup> The coefficient for secondary educated women is twice as large as for low educated women in Denmark and Germany, and 45 percent larger in Spain. This implies a gain in children's literacy test score equivalent to 21 (a 5 percent gain) in Germany, 38 (a 10 percent gain) in Denmark, and 14 (a 4 percent gain) in Spain.

<sup>17</sup> Here we must remember that Ermisch and Francesconi's data are old while the PISA data refer to the late 1990s. Re-estimating the model with education-employment interactions suggests that the impact of maternal employment is not more negative for highly educated mothers.

this depends on quality. If, as in most of Europe, the main solution is grandmotherly care, then childhood stimulus will mirror inequalities in families' cultural capital. If, as in the United States and Britain, care is mainly purchased in the market, then quality will be related to family income. Not surprisingly, the Beta coefficients from the analyses above show that parental socioeconomic status matters far more in the UK and US than elsewhere (with Beta values twice as large as in Denmark or Germany).

Due to near-universal enrolment in quality care, the Nordic countries represent the only setting where, theoretically, the impact of family income and culture should abate. The PISA data suggest that this is the case. The percent variance explained by the combined cultural and socioeconomic status variables is substantially lower in Denmark, Finland and Sweden than in most other OECD countries.<sup>18</sup> Since almost all children, *irrespective of social background*, are enrolled very early, one would expect an important levelling effect in terms of cognitive stimulus.

If there is a levelling effect of maternal employment *cum* quality day care, this should help enhance inter-generational mobility. In an earlier study I examined the impact of parental social background on children's educational attainment across 5 post-war cohorts (Esping-Andersen, 2004). For most countries the results are consistent with the *constant flux* thesis. In Germany, Italy, the U.K. and the U.S. there has been no significant increase in educational mobility from the earliest cohort, born in the 1940s, to the latest, born in the 1970s. But in Denmark, Norway and Sweden the impact of social origins begins to fall noticeably for the youngest cohorts. To illustrate, the odds of attaining upper secondary education for children of low educated parents doubled in Denmark (from .213 to .450) and tripled in Sweden (from .100 to .320). The historical timing of the declining parental effect coincides almost perfectly with the expansion of child-care.

### *Conclusions*

My 'sociological' analysis has concentrated on socio-demographic changes. Marital instability and more vulnerable family types lead to greater risks of poverty, especially among single mothers. And this may affect mobility since economic hardship in childhood has problematic effects for life chances. The lone mother effect is, however, limited to the US, perhaps because European lone mothers are better protected by the welfare state and, in Scandinavia, also have access to quality day care. Increased marital selection is a second source of heightened inequalities. It will reinforce the impact of wage inequality, especially when educational homogamy is matched by similarities in partners'

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<sup>18</sup> The two variables explain 15 percent of the variance in Denmark, 9 percent in Finland and 11 percent in Sweden compared to an OECD average of 20 percent

labour supply. Since similarities in education and labour supply are most pronounced ‘at the top’, we may expect some polarization.

Young and low skilled men are the primary losers in the evolving wage distribution and this means that women’s behaviour becomes more important for household inequalities. But the outcome depends on *which women* increase their supply most. In most of Europe the burst in participation concentrated among higher educated women married to high earning men and this helps reinforce inequalities. To nurture more equality the labour supply of women ‘at the bottom’ must grow faster than ‘at the top’. This is what we saw happening in Scandinavia and in the United States during the 1990s. Yet, this is a fragile scenario because women ‘at the bottom’ are dis-proportionally at risk of unemployment – as are their husbands. Hence, gains made in good economic times can easily be undone during recessions.

The sociological pieces in the inequality puzzle line up in favour of more, not less, inequality in cross-sectional terms. This may not translate into inferior life chances if offset by heightened mobility. Alas, the evidence suggests that mobility remains rather stable and may even be declining in the most unequal countries. If inequalities are mounting while mobility remains stable the long-run outcome will still be greater lifetime inequalities. And if inter-generational mobility does not increase it is less likely that lifetime mobility will.

The key, then, lies in the mechanisms that drive social inheritance. The news on this front is mixed. There is evidence that the *constant flux* is giving way to more mobility in recent decades (Breen, 2004). As shown in this paper, this is certainly clear for Scandinavia. It is far more likely that this has to do with mechanisms within families than with differences in education systems. The decline in social inheritance may be due to income or culture effects, and the latter probably matter more. The virtual eradication of child poverty in the Nordic countries is partly due to welfare state generosity but primarily a consequence of maternal employment. Here we may encounter a serious trade-off if mothers’ employment has negative consequences for children’s development.

The data suggest that maternal employment, if full-time, can have adverse effects but in the Nordic countries its impact is positive. We can only speculate as to why. The greater propensity of fathers to share in child rearing certainly matters and, most importantly, near-universal participation in good quality childcare from year zero onwards will produce a major levelling in terms of children’s preparedness for school. The prevalence of either grandmotherly or purchased care elsewhere will not produce any levelling, to the contrary.

If there is one variable that connects across all the facets of inequality here examined it is the class-specific asymmetry of women’s labour supply. Extending the ‘revolution in women’s behaviour’ to those women that still remain wedded to the traditional female role is, all considered, a potentially

very powerful antidote to the new inequalities – in particular if the universality of female employment goes hand-in-hand with universal quality child care.

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