



GINI

Social Impacts of Inequalities

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(along with all contributing DP authors)*

INTERMEDIATE WORK PACKAGE 4 REPORT
OCTOBER 2012

GROWING INEQUALITIES' IMPACTS

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Bibliographic Information

McKnight, A., Nolan, B. (2012). Social Impacts of Inequality Report. AIAS, GINI Intermediate Work Package 4 Report.

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Social Impacts of Inequality Report

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GINI seventh framework programme
Cooperation, theme 8
Socio-economic sciences and humanities
SSH-2009 – 2.2.1 Social inequalities,
their implications and policy options

October 2012
Intermediate Work Package 4 Report





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1. INTRODUCTION

Rising inequalities in earnings and household incomes and an fracturing of employment into “good” versus “bad” jobs may have deep-seated social impacts, at the individual, household and societal level. These include increases in poverty and deprivation, in stress and unhappiness, in gender inequalities, in family breakdown and teenage pregnancy, in childhood disadvantage and educational failure, in health inequalities, in crime and disorder, in social immobility, and in polarisation and increasing fragmentation between communities, ethnic groups, regions and social classes. All of these feature, for example, in *The Spirit Level* by Wilkinson and Pickett (2009) which has been particularly influential in fuelling debate.

The relevant research literature at the start of the GINI project covered a very broad field, drawing on a variety of disciplinary perspectives, as summarised at the outset in the State of the Art Review. The project has sought to build on this research, to deepen understanding of key channels of influence and the causal relationships via which such social impacts could potentially arise, and to assess empirically the extent to which they could actually be identified. Here we bring together the key findings of the research on these topics carried out under the project, drawing on the Discussion Papers (DPs) by participants and related publications.

We focus in turn on the impact of increasing inequalities on:

- Poverty, deprivation and social “risks”;
- Gender, the family and fertility;
- Health and health inequalities;
- Wealth, inter-generational transmission and housing;
- Social cohesion and wellbeing.





2. Poverty, deprivation and social “risks”

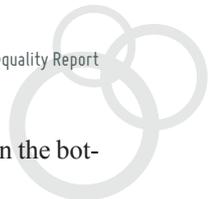
The impact of increasing inequality on poverty, deprivation and social risks is at the core of concern about its potential social impacts, sharpened by the effects of the economic crisis, already and into the future. The relationship one observes between income inequality and poverty depends in the first instance on the way poverty is conceptualised and measured. The most common practice in comparative European research is to identify ‘the poor’ or those ‘at risk of poverty’ as persons in households falling below income thresholds set as 50% or 60% of the median income in the country in question, but alternative or complementary approaches are being more widely adopted, as analysed in a variety of recent studies including Marlier, Atkinson, Cantillon and Nolan (2006), the OECD’s (2008) *Growing Unequal* and more recent (2011) follow-up, Ward, Lelkes, Sutherland and Toth 2009, and European Commission (2010, 2011).

Focusing first on poverty measured in income terms vis-a-vis country-specific relative thresholds, one might expect a strong relationship but higher or increasing income inequality need not necessarily be associated with more poverty even on this basis – the top of the distribution could be doing better at the expense of the middle, with the relative incomes of those towards the bottom unaffected. In practice, there is a reasonably high cross-sectional correlation among EU or OECD countries between the level of income inequality and such measures of relative income poverty, although the poverty rates of countries with a similar level of income inequality still vary significantly, as brought out in for example Nolan and Marx (2009). In terms of trends over time, the extent to which increasing income inequality has been driven by greater concentration towards the top means that median income has often lagged behind the mean, but median-based poverty measures have none the less often been observed to rise as overall inequality rises. OECD (2008) shows that from the mid-1980s to the mid-2000s the poverty headcount using a 50% of median threshold increased in two-thirds of the OECD countries, in most of which inequality was also rising. Increasing market-income poverty was the key driver from the mid-1980s to the mid-1990s, whereas from the mid-1990s to the mid-2000s the declining effect of household taxes and public transfers was key.

Focusing specifically on Ireland, a particularly interesting case study with remarkable macroeconomic fluctuations – deep recession in the 1980s followed by exceptionally rapid economic growth but then one of the countries most seriously affected by the recent crisis - the DP *Inequality and Poverty in Boom and Bust: Ireland as a Case Study* by Nolan, Maitre and Voitchovsky (2012) shows that income inequality was relatively stable during the Celtic tiger boom, though with some increase in the share going towards the top towards the latter part of that period, while deprivation levels fell very markedly and relative income poverty fluctuated. Changes in employment rates,

including a sharp increase in women's labour force participation, ensured that the effects the boom were widely dispersed throughout the distribution. The recession initially hit the better-off proportionately more than those on low incomes, with income from capital and self-employment falling, so summary indicators of income inequality declined in 2009. A sharp increase in inequality was then registered in 2010, for reasons that are not yet clear. Levels of deprivation rose each year from the onset of the crisis, as did the numbers falling below poverty thresholds indexed to prices rather than median incomes. This reflected a substantial fall in aggregate income which impacted throughout the income distribution, with a very considerable rise in unemployment hitting the households affected particularly hard but most earners and social welfare recipients also seeing their incomes decline. Pensioners were relatively protected, however, with rates of support through the social protection system remaining unchanged at a time when prices fell and income support for those of working age and children were cut. Overall the impact of welfare and direct tax changes implemented during the crisis were seen to be highly progressive, with higher-income households losing considerably more than lower-income ones. This contrasted with the first half of the high growth period, during which budgetary policy boosted the incomes of the upper half of the income distribution, although over the latter part of the boom tax and transfer changes taken together were highly progressive as cash transfer rates made up ground lost vis-à-vis average income in the earlier period.

Unemployment is clearly a key determinant of poverty risk at individual and household level, with poverty rates among jobless individuals and families much higher than those among working persons/families. The DP and publication on *Household Joblessness and Its Impact on Poverty and Deprivation in Europe* by De Graaf Ziji and Nolan (2011) brings out that household-level joblessness substantially increases the likelihood of a working-age person being below country-specific relative income poverty thresholds, using data from EU-SILC for most of the EU member states. Models controlling for the age and education level of the individual and the composition of the household, and looking separately at households with only one adult and those containing more than one, were estimated. The results showed that the impact of being in a jobless household on income poverty was very much greater in some countries than in others, and this variation was not seen to be related to the prevalence of jobless households in the country. The greatest impact for single-adult households was seen in Belgium and Ireland, whereas for multiple adult households very substantial impacts were found for Belgium, the Czech Republic, Denmark, Estonia, Ireland, the Netherlands, Slovakia, Slovenia and the UK. Spain, Greece, Iceland, Italy, Luxembourg, Poland and Portugal on the other hand had particularly low estimated impacts for both household types.



Increasing unemployment may clearly underpin increasing inequality, as households predominantly in the bottom half of the income distribution are the main losers. Even in the recent economic crisis, where much attention has been paid to unemployment among professionals such as architects and engineers in countries experiencing property and construction crashes, the risk of becoming unemployed has continued to be highly socially structured. This is brought out in the DP *Inequality, Job Loss and the Recession* by Voitchovsky and Nolan (2012) examining which employees were most likely to lose their jobs in Ireland's dramatic crash, when aggregate unemployment went from 4% to 14.5%. Using data on labour force status over the previous 12 months obtained in the Irish SILC survey, and comparing data from 2005-6 with 2008-9, they found that the increase in the likelihood of moving from employment a year ago to unemployment or inactivity at the time of the survey was much greater for those towards the lower reaches of the earnings distribution than those higher up. That increase was also more pronounced for those with higher rather than lower levels of education. This lends some support to the notion that, despite distinctive features of the economic crisis, where it has resulted in substantially increased unemployment this has been in itself a driver of increased inequality.

While joblessness substantially increases the likelihood of being income-poor, employment is not a guarantee of avoiding it: a substantial proportion of income-poor persons are in households which earned some income from employment in the year. The DP *In-Work Poverty* by Marx and Nolan (2012) focuses on patterns and trends in in-work poverty across the EU, and highlights that there is not a universal pattern of increase over time as one might assume from some commentary. Trends over time in in-work poverty vary across countries, with marked increases in the decade preceding the crisis in some EU countries (notably Germany) but stability in others. In-work poverty is shown to be strongly associated not so much with low pay *per se* as with single-earnership and low work intensity at the household level. These link in turn to institutional settings and structures in the labour market, tax and benefit system and broader welfare state. This focuses policy-makers attention on a wide variety of potential policies that can help households to increase their work intensity, discussed in the policy section below, with employment-oriented policies already centre stage even before the economic crisis but even more so given its impact on employment levels in many countries.

While these findings relate to relative income poverty, measures of that sort are increasingly complemented by others that offer a different perspective on how an income threshold is derived, or incorporate non-income information into the assessment of patterns and trends in poverty and deprivation. "Anchored" poverty measures, using an income threshold held constant in real terms over time, are included among the EU's set of social inclusion indicators. OECD (2008) documents that even countries where relative income poverty increased between

the mid-1990s and mid-2000s saw significant reductions in such an anchored poverty measure. Nolan, Maitre and Voitchovsky (2012, forthcoming) and Jenkins *et al* (2011, 2012) show that in the first two or three years of the economic crisis, such anchored poverty measures went up even in some countries where relative income poverty rates declined. Whereas the original motivation for including the anchored indicators had been that purely relative measures failed to register progress in raising living standards among the poor in good times, the fact that such measures also fail to reflect real declines in those living standards when a severe negative ‘shock’ to average income occurs is at least as significant.

Income has limitations as a sole measure of poverty, and employing only country-specific relative thresholds when assessing progress in promoting social inclusion across the EU is also increasingly questioned since the accession of the new member states and subsequently the onset of the crisis (European Commission, 2011). This has helped fuel interest in incorporating non-monetary indicators of deprivation and developing multi-dimensional approaches to capturing poverty and social exclusion (Nolan and Whelan 2007, 2010, OECD 2008). An indicator of material deprivation was added to the EU’s social inclusion portfolio in 2009 (see Nolan and Whelan 2010; Whelan and Maître 2010, Guio *et al* 2009). Such measures of deprivation have been the subject of a good deal of GINI project research, including the volume *Poverty and Deprivation in Europe* by Nolan and Whelan (2011) which brings out the key role such indicators can play in applying a multidimensional approach. This provides a critical analysis of the notion of multidimensionality and how it is best captured empirically, and assesses the value and limitations of current national and EU-level approaches and indicators. It adopts a comparative focus throughout, exploiting data from EU-SILC, and incorporates a dynamic perspective on deprivation and vulnerability. The most satisfactory dimensional structure for the analysis of material deprivation – that is, the grouping of items into different sets that reflect distinct aspects of living standards and deprivation – is analysed in some depth. The limitations of relative income poverty measures in an enlarged Europe and the potential of complementing them with indicators of deprivation are also teased out.

The DP *Understanding Material Deprivation in Europe: A Multilevel Analysis* by Whelan and Maître (2012) pursues this line of investigation further. It exploits the data from a special module on material deprivation in EU-SILC 2009 to provide a comparative analysis of patterns of deprivation across 28 European countries. The analysis identifies six relatively distinct dimensions of deprivation with generally satisfactory overall levels of reliability. Multi-level analysis reveals systematic variation across countries in the relative importance of within and between country variation. The dimension termed ‘basic deprivation’ is seen to be the only dimension to display a graduated pattern of variation across countries, and also has the highest correlations with income, and is judged to come clos-

est to capturing an underlying dimension of generalized deprivation that can provide the basis for a comparative European analysis of exclusion from customary standards of living. Multilevel analysis shows that basic deprivation is related to a range of household and household reference person socio-economic factors, and controlling for contextual differences in such factors accounted for substantial proportions of both within and between country variance in deprivation. The addition of macro-economic factors relating to average levels of disposable income and income inequality contributed relatively little further in the way of explanatory power, a particular important finding from a GINI project perspective. It is also noteworthy that the impact of socio-economic differentiation was significantly greater in countries with relatively low average income levels.

This type of analysis has been given added weight by the EU's adoption of a poverty reduction target in 2010, as part of the broader Europe 2020 Strategy, and in particular by the way to identify the target population involved is identified. Those "at risk of poverty and social inclusion" are identified as either "at risk of poverty" in relative income terms (i.e. below 60% of median income in their own country), above a threshold on the material deprivation index, or in a household that is jobless or below a threshold level in terms of work intensity over the year. The DP *The EU 2020 Poverty Target* by Nolan and Whelan (2011) presents an in-depth analysis and critique of the way that target is formulated on both conceptual and empirical grounds, and documents the consequence for the understanding of both cross-national patterns of poverty and socio-economic profiles of poverty within countries. The inclusion of the household joblessness element in identifying the target population is seen as inappropriate, with supporting evidence presented on the relatively low levels of subjective economic stress reported by those in jobless households who are neither below the income threshold nor above the deprivation one. This paper also has a discussion of more satisfactory approaches to combining low income and material deprivation to identify those most in need from a poverty reduction perspective. The subsequent DP *Reassessing the EU 2020 Poverty Target an Analysis of EU-SILC 2009* by Maître, Nolan and Whelan (2012) provides a further development of this analysis drawing on the larger set of non-monetary deprivation indicators included in the special module attached to EU-SILC in 2009. It sees advantages in the combination of an income component framed vis-à-vis a nationally defined threshold with a deprivation element framed in terms of a common threshold across countries. However, those meeting both these conditions – i.e. income poor *and* deprived – are seen as the priority group for policy. The best way to employ the broader set of indicators for this purpose is analysed in detail, although the paper makes clear that in seeking to grasp the complexity of poverty and social exclusion in the EU no one indicator or set of indicators can be considered ideal.

Deprivation indicators have also been used in a variety of other ways in GINI project research. The DP *Deprivation, Income and Inequality in the EU* by Calvert and Nolan (2012) takes advantage of the fact that aggregate deprivation indicators from EU-SILC are now available for the period 2004-2010. These data were used to investigate the key drivers of material deprivation across countries and over time, with a particular focus on the role of growth (or decline) in average income and the relationship, if any, between material deprivation and income inequality. Over the period between 2004 and 2007, when economic growth was generally strong, many of the countries joining the EU from 2004, with high rates of material deprivation compared to the rest of the EU, saw quite significant decreases in their material deprivation rates. From 2007-2010, when the economic crisis impacted so markedly (though unevenly) on economic activity across the Union, the picture was much more mixed. A considerable number of countries saw their material deprivation rate increase, most notably Ireland where the rate doubled. Some of the new member states, Estonia and Lithuania, also saw a significant increase in deprivation over those years. However, in some other new member states there were substantial declines in deprivation between 2007 and 2010 despite the changed economic climate, including Bulgaria, Poland, Slovakia and Romania. Multi-variate analysis of the pooled cross-sectional and time-series data via fixed effects regression models showed that median income has a substantial role to play in explaining variation in the rate of material deprivation, as might be expected. However, the Gini summary measure of income inequality was also seen to be statistically significant and positively associated with material deprivation, in a model that includes it with median income as explanatory variables, and in an expanded model that also includes the ‘at risk of poverty’ and household joblessness rates. Thus, controlling for median income, an increase in the level of income inequality is seen to be associated with an increase in material deprivation. After taking account of median income, income inequality, the “at risk of poverty” rate and joblessness, countries with higher rates of material deprivation than the model would predict include Cyprus and Bulgaria, and to a lesser extent, Luxembourg; on the other hand, Estonia, the Czech Republic and Portugal have lower levels of material deprivation than would be expected on the basis of their values on those explanatory variables. When an interaction between median income and income inequality is added to the model it is significant and negative, suggesting that the impact of inequality on deprivation decreases as median income increases. With some evidence that inequality may have an impact on deprivation even over such a short period with a limited number of observations to analyse, this suggests that further investigation of this relationship and the channels of influence through which it might work, on a country-by-country basis, is warranted.

The DP by *Household Joblessness and Its Impact on Poverty and Deprivation in Europe* by De Graaf Ziji and Nolan (2011) looked at the impact of joblessness on the likelihood of being deprived, as well as its relationship to income poverty as described above. Being in a jobless household was found to be strongly associated with the level of material deprivation reported by the household, displaying a different pattern to relative income poverty not least because the deprivation indicator is based on a common threshold and set of deprivation items across countries rather than a country-specific standard. A very wide degree of variation across countries was seen in the strength of the association between deprivation and household joblessness, with the greatest impact for single-adult households being in Belgium, the Czech Republic, Denmark, Estonia, Ireland, the Netherlands, Slovenia, Slovakia and the UK, while for multiple adult households it was in Denmark, Ireland, Luxembourg and Sweden.

Another promising approach has investigated the notion of ‘vulnerability’, conceptualised as insecurity and exposure to risk and shocks. Nolan and Whelan’s *Poverty and Deprivation in Europe*, together with Whelan and Maître (2012a), apply the statistical techniques of latent class analysis to indicators of household low income, life-style deprivation and subjective economic stress, in order to identify underlying groups with distinctive multidimensional profiles. The extent of vulnerability and its patterning are examined at national, welfare regime and European levels. For vulnerability captured this way, patterns of differentiation by social class are seen to be a great deal more striking than for income-based poverty measures. While economic vulnerability is consistently related to higher levels of deprivation relating to housing, health and neighbourhood environment, the vulnerable are not generally seen to be experiencing multiple deprivation on a substantial scale

A recurrent theme in both research and policy debate on the impact of increasing inequality is the extent to which poverty, deprivation and social risks are linked not only to characteristics and factors currently affecting individuals and their households, but also with their socio-economic background. The DP by Whelan, Maitre and Nolan, *Analyzing Intergenerational Influences on Income Poverty and Economic Vulnerability with EU-SILC*, makes use of the data gathered with the EU-SILC 2005 wave in a special module on inter-generational transmission of poverty. In addition to the standard data relating to income and material deprivation, information relating to parental background and childhood circumstances was collected for all household members aged over 24 and less than 66 at the end of the income reference period. In principle, the module provides an unprecedented opportunity to apply a welfare regime perspective to a comparative European analysis of the relationship between poverty and social exclusion and parental characteristics and childhood economic circumstances. However, significant limitations with the data were identified, so attention was restricted to a sub-set of countries where these were less serious. Findings from unidimensional and multidimensional approaches to poverty and social exclusion are com-

pared in order to provide an assessment of the extent to which our analysis of welfare regime variation provides a coherent account of the intergenerational transmission of disadvantage.

Another important theme in recent literature and debates has been the extent to which exposure to risk and uncertainty is becoming individualised, and the related issue of “new” versus “old” social risks (Taylor-Gooby 2004; D’Addio and Whiteford 2007, Whelan and Maitre 2008), whereby globalisation and European economic integration are seen to present fresh challenges to long-standing welfare state. Social policy interventions traditionally covered well-defined risks relating to short-term unemployment, active age disability and insufficiency of resources in childhood and old age. “New” risks, it is argued, are less structured but tend to affect specific subgroups at particular life stages most keenly, in particular younger people entering the labour market and at the stage of family building; they involve both work and family and extend demand for state intervention into areas of life that had been seen as private. The DP *The Social Stratification of Social Risks: Class and Responsibility in the New Welfare State*, by Pintelon, Cantillon, van den Bosch and Whelan (2011), directly addresses this notion, setting out to ascertain whether social class, i.e. intergenerational background, (still) affects the occurrence of a variety of ‘social risks’, again using data from the intergenerational module accompanying EU-SILC 2005. Specifically, it considers the impact of social class of origin on the following social risks: unemployment, ill-health, living in a jobless household, single parenthood, temporary employment, and low-paid employment. The results provide clear evidence of a continuing influence of social class. On this basis, the authors argue that a one-sided focus on individual responsibility could open the door to new forms of marginalisation.

Finally, the DP by Whelan and Maître (2012), *Material Deprivation, Economic Stress and Reference Groups in Europe: An Analysis of EU-SILC 2009* also takes advantage of the recent availability of data from the special module on material deprivation in the 2009 EU-SILC. It seeks to develop a more comprehensive understanding of the relationship between material deprivation and economic stress, the mediating role played by cross-national differences in levels of income and income inequality and the implications for competing perspectives on the nature of reference groups in Europe. Key dimensions of deprivation are identified and the importance of basic deprivation relating to inability to enjoy customary standards of living in raising economic stress levels and in mediating the impact of socio-economic conditions. Eighty-five per cent of the variation in economic stress was shown to be within countries. National income levels and inequality had no direct influence on economic stress. However, the impact of basic deprivation was higher in countries with higher levels of income indicating the crucial role of national reference groups. An interaction between basic deprivation and income inequality was also observed. However, contrary to the expectation that experiencing basic deprivation in a national context of high



income inequality is likely to be particularly stressful, the consequences of such deprivation were most negative in low inequality counties. Experiencing basic deprivation where high income levels and lower inequality would lead to the expectation that such deprivation is eminently avoidable exacerbates its impact. At a time when issues relating to European versus national solidarity are central to policy debate this finding points to the importance of ensuring the scale of country differences relating to economic stress do not blind us to the continuing importance of national reference groups.





3. Gender, the Family and Fertility

There has been considerable research in recent years on the impact of changing family structures on socio-economic inequality and vice versa. Patterns of family formation and breakdown may respond not only to the general economic climate but also to increasing earnings and job inequalities. Changes in household structures may themselves impact directly on income inequality, notably the rise in lone parenthood which in the majority of rich countries is associated with a particularly high risk of poverty. The implications of increasing women's labour force participation for household incomes have also received a good deal of attention, since it has the potential to increase or reduce household income inequality depending on the household situation of the women in question. Fertility is another element in the picture, with a substantial literature on the role of institutions and policies in influencing fertility (see for example Björklund 2005) but much less research on the relationship with income inequality. Fertility rates have become remarkably uniform across social class and educational categories in developed societies but there has been little attention to consequences of this equalisation for social inequalities in general. While large families are much less common than heretofore, there remain national cases where the large family is still an issue from a poverty point of view. Family size could have significant implications not only for disadvantage or vulnerability at a point in time but also for transmission of disadvantage across the generations.

The DP *Income Inequality and the Family* by Calvert and Fahey addresses three important questions in this broad research area:

1. On a point-in-time cross-country basis, is there a correlation between income inequality as measured by Gini and variations in family behaviour? This can be regarded as a test of an expanded version of *The Spirit Level* hypothesis as applied to the family.
2. Are there consistent cross-country socio-economic status (SES) gradients in family behaviour and if so, do gradients correlate with level of income inequality?
3. Over time, is change in income inequality an important influence on change in family behaviour?

The first of these questions is investigated using aggregate data drawn mainly from OECD Family Database plus some other sources (e.g. Eurostat database, European Social Survey), for 2006 or the closest year for which data are available, for OECD countries. It focuses on 16 aggregate indicators, half relating to partnership (e.g. divorce rate, percentage of children living with lone parents, percentage of births outside marriage ...) and the other half relating to fertility (e.g. teenage birth rate, abortion rate, incidence of large families, total fertility rate ...). Bivariate correlations between each of these indicators and the Gini summary measure of income inequality

are examined for 30-35 countries (depending on the indicator). These family behaviours generally do not correlate with income inequality: for 15 of the 16 indicators examined, there is no significant cross-country correlation with the Gini coefficient. Only the teenage birth rate shows a significant correlation – teenage birth rates are higher in more unequal countries ($r=0.74$), but when four outlier cases are removed that link weakens ($r=0.45$).

The second question, relating to socio-economic gradients, was investigated using microdata for 2006, mainly from the European Social Survey plus some indicators from EU SILC, covering 23 European countries. Social gradients based on a three-category educational attainment variable (lower secondary, secondary and tertiary) could be derived for ten of the indicators, and a summary gradient score calculated for each as the ratio of the indicator score between lower secondary and tertiary. SES gradients in family behaviours were not consistently present across countries or across indicators, and where present, the direction of the gradient differs between countries. The cross-country correlations between these summary scores and the Gini coefficient were calculated, revealing that the extent of the gradient does not correlate with this summary income inequality measure.

The third question, focused on trends over time, was addressed via drawing together the findings of available national studies, mainly in regard to social inequalities in non-marital childbearing and lone parenthood. These relate mainly to the USA but include some European studies, in particular national studies for individual European countries (including Britain and Sweden) and a comparative study which examines changing social gradients in non-marital childbearing in eight European countries from the early 1970s to the mid-2000s. The evidence for a link between widening income inequality and widening SES differentials in family behaviour is strongest for the US, with the causality involved being complex and probably running in both directions. Evidence for a similar linkage in European societies is weak, though the data are as yet too limited to conduct robust cross-time and cross-country analysis.

The overall conclusion, having addressed each of the three broad questions set out, is that a link between income inequality and family behaviour can sometimes be found and sometimes not. Patterns vary between countries and are strongly mediated by national context. In general, trends in income inequality explain little of the dramatic change in family life which has occurred across all countries in recent decades.



4. Health and health inequalities

Health and health inequalities is an area where some see the impact of increasing inequalities in earnings and household incomes and an increasing fracturing into “good” versus “bad” jobs is likely to be particularly marked. There has been an enormous body of research on health inequalities (see for example Wilkinson and Pickett, 2006; Wagstaff and Van Doorslaer, 2000; Subramanian and Kawachi, 2004; Gravelle, 1998; Fritzell and Lundberg 1995) making strong claims and disputing them in relation to the role of economic inequality. Understanding health inequalities in relation to income inequality requires analysis of income inequality and average health outcomes, cross-nationally and/or over time.

The curvilinear relationship between income and health is well documented but like many of the social impacts we are interested in explaining the causal relationship between income and health could also run from health to income. To this end we complete this section summarising the findings from a DP that explores the relationship between parental health and child schooling.

Marmot (2002) outlines ways in which income can really matter for health or simply appear to matter (causal relationship versus simply a statistical correlation). He also explains why poverty may be more important than income differences above an income threshold if a certain level of income is required to secure adequate material conditions. The relationship between income and health may not be direct but may result from the indirect effect on social participation and the opportunity to exercise control over one’s life. He argues that the problem for rich countries today is inequality in health rather than absolute poverty and health and demonstrates this by showing that a gradient is clear across the income distribution rather than up to a threshold. However he also argues that social factors, particularly social position and social environment are likely to have an important determining role in health outcomes.

There are many existing studies that demonstrate a relationship between absolute income and health outcomes (see for example Subramanian and Kawachi, 2006). This has been defined in the literature as the “absolute income hypothesis”. This may not be a smooth linear relationship, but a non-linear one, steepest among low-income groups (see for example Backlund et al., 1996). Two further hypotheses have been put forward. The relative-income hypothesis, where an individual’s position in the income distribution has a direct effect on that individual’s health, and the income-inequality hypothesis, where aggregate levels of inequality affect average levels of health. In an innovative study Blazquez, Cottini and Herrate in their DP *Socioeconomic gradient in health: how important is material deprivation?* investigate whether there is a socioeconomic gradient in health when alternative meas-

ures of socioeconomic status, apart from income, are considered. Their study is motivated, in part, by the work of Sen (1985) in understanding the multi-dimensional aspects of social disadvantage in terms of the failure to attain adequate levels of various functionings that are deemed valuable in society.

Their measure of material deprivation comprises of 14 indicators grouped according to four domain of quality of life (financial difficulties, basic necessities, housing conditions, durables). They estimate the effect of material deprivation on self-assessed health. In addition to estimating the direct effect of indicators of material deprivation, they assess the extent to which material deprivation affects health depending on individuals' relative position; ie individuals' material deprivation in relation to that of their societal peers (408 references groups are identified based on year, region and age). In a similar way they assess the direct relationship between income and health and the relationship between relative income and health.

They estimate three models. Model (1) includes a measure of equivalised household income and the full set of material deprivation indicators. Model (2) includes controls for household income level, relative income and relative material deprivation for each of the four domains. Model (3) includes household income level, relative income, relative material deprivation and the full set of material deprivation indicators. Random effects models are estimated separately for men and women with a correction term to account for endogeneity bias and a set of control variables (including age, education and labour market status). The estimates from model (1) show that many of the material deprivation items have a significant and negative effect on self-assessed health over and above the positive relationship between income and health (income is not significant in the model for women). In model (2) which includes relative income and relative material deprivation, they find that the level of income is not significant but relative income and relative material deprivation have a negative and significant estimated effects on self-assessed health. In the saturated model (model (3)) which includes the relative terms and the 14 material deprivation items, the results are less clear. Income continues to only operate through comparison information with respect to societal peers. In terms of material deprivation the relative position of women in terms of financial difficulties has a significant and negative estimated effect on self-assessed health but it is the direct effects of material deprivation in basic necessities, financial difficulties and housing conditions that have a direct effect on health.

Fritzell, Kangas, Hertzman, Blomgren and Hiilamo in their DP *Cross-temporal and cross-national poverty and mortality rates among developed countries* note that poverty has been seen as a key social risk factor for health and mortality. While Wilkinson and Pickett (2006) state that income inequality is a major threat to population health in modern societies they summarise that the relation between relative poverty rates and population health indicators is less self evident. While much of the debate has centred around the relationship between income

inequality and health they argue that if inequality matters then this should be evident in terms of a relationship between poverty (lack of resources and relative deprivation) and health. They set out to explore the relationship between cross-national variations in relative poverty rates and cross-national variations in survival probabilities within relatively rich countries. Using data from the Luxembourg Income Study for 26 countries covering the period 1980 to 2005 supplemented by data from the Human Mortality Database they undertake a comparative analysis to estimate the effect of relative poverty upon mortality rates among three age groups, namely infants, children and working aged adults. They use a severe measure of relative poverty prevalence (40% of median). They find support for the importance of poverty prevalence with some interesting mediating factors. The poverty estimate for children is reduced by one-third after controlling for social spending and conclude from this “The welfare state matters for poverty and poverty matters for child mortality”. They also find that welfare regime type (Nordic model, Central European model, Liberal model, South-European model, Post-Socialist model, Other) has a clear influence on child mortality even after controlling for GDP and social spending. The results for adults are less clear but do show that the poverty effect estimate is stronger after controlling for welfare state regime type.

They also find that the welfare state regime effect varies across age-groups. The Nordic welfare model was found to be good for infants and children (to the extent that mortality rates were lower) but some Central and Southern European countries outperformed Nordic countries for adults. Post-Socialist countries were found to have exceptionally high mortality rates among adult males. They conclude that although the welfare state regime plays an important role in determining mortality rates and poverty, other factors are at play like drinking and eating habits and the way healthy and unhealthy behaviour is distributed between socio-economic groups, according to income and education attainment levels. However, it seems clear that national governments should invest to reduce child poverty.

While the debate on the causal relationship between income inequality and health rages an under-researched area is the relationship between pay, particularly low pay, adverse working conditions and individual health status. While there exists some evidence that stressful and insecure jobs are associated with poor mental health and lower satisfaction (Bardasi and Francesconi, 2004; OECD, 2008) not all studies agree and evidence on physical health is mixed (Apouey and Clark, 2009). The extent to which poor health leads to limited employment options, and therefore individuals with poor health are observed in poor quality jobs, or low quality jobs negatively affect health is currently unknown. The DP of Cottini and Lucifora *Inequalities at work: low pay, working conditions and health in European workplaces* (forthcoming) provides cross-country evidence for 15 European countries, on the links between working conditions, workplace attributes, low pay and health (both physical and mental) using

the 2005 and 2010 waves of the European Working Conditions Survey (EWCS). To capture working conditions they construct indicators to cover psychosocial aspects of work: intensity of work, complexity of tasks, low job autonomy in performing tasks and working long hours. Exposure to physical hazards is captured by a set of indicators that recorded if the worker was exposed to half or all of working time: vibrations from hand tools; noise so loud that he/she has to raise his/her voice to talk; high temperature or coldness. They also identify workers who are low paid (earning below two-thirds of the level of median earnings).

To construct variables indicating poor work-related health they use responses to a question that asks workers to indicate if they suffer from a series of health problems as a result of their work. The health problems identified were: (1) skin problems, (2) respiratory difficulties, (3) stomach-ache, (4) heart disease, (5) stress, (6) sleeping problems, (7) anxiety, and (8) irritability. These were divided into mental and physical health problems to construct two indicator variables.

The results from their statistical modelling show that after controlling for a wide range of personal and job attributes, (adverse) working conditions are associated with lower health status (physical and mental). In particular they find higher marginal effects of working conditions on the mental health of workers. They also find that low paid work has a significant effect on the physical health of individuals, most likely capturing the relationship between low income and poor health. These effects were not uniform across socioeconomic groups or countries.

What about the effects of health on inequality? Bratti and Mendola in their DP *Parental Health and Child Schooling* assess the extent to which poor parental health has a direct effect on child schooling. There can be direct monetary costs to poor parental health (loss of employment income and potential costs of treatment) which may result in children leaving school earlier. Parental illness may have non-pecuniary costs, such as psychological costs which can have a negative impact on children's school achievement. In addition poor parental health may reduce quantity and quality of parents' time contribution to children's educational success. They seek to identify the causal impact of parental health on child school enrolment (15-24) through the use of longitudinal data and a child fixed effects estimator. They also account for potential health misreporting bias by employing several, more objective, health indicators. The analysis is based on household panel data (2001-2004) from Bosnia-Herzegovina, a country whose health and educational systems underwent extensive destruction during the 1992-1995 war. While it might be expected that a health shock to the primary household earner would have a greater negative effect on children's education, they find that it is especially poor maternal health that makes a difference as far as child schooling is concerned. This supports the hypothesis that the maternal non-financial support to children is a key input for their school achievement. All children are not found to be affected to the same degree with greater negative consequences of mothers' health shocks on younger children and sons.



5. Wealth, Inter-generational Mobility and Housing

In the GINI project household wealth is not just considered as a driver, where the distribution of wealth is considered to have an impact on a range of social, political and cultural indicators, but also it is characterised as an impact, where the distribution of wealth is determined, inter alia, by changes in education, employment and income inequalities both contemporaneously and historically. Wealth represents an aspect of inequality that can be self-reinforcing and this aspect of inequality perpetuation is characteristic of many of the impact variables we consider in the social impacts component of the GINI project. That is to say that inequality and poverty can have negative effects on people's prospects to generate income and this can be passed from one generation to the next. Wealth is a particularly interesting variable to consider because on the one hand wealth holdings encapsulate historical differences between people, to the extent that the accumulation of wealth represents the excess of income over expenditure or inheritance and inter vivo transfers. And on the other hand it portrays important information on both current financial health and prospects for the future; to the extent that wealth represents a future income stream, the ability to finance investments (such as children's education), to pass to the next generation, etc.

The quality and comparability of information on household wealth across countries and even within countries over time still lags behind income data series but this situation is changing and has been assisted greatly by the work of the Luxembourg Wealth Study. Cross country comparisons reveal some interesting differences between income inequality and wealth inequality. In many instances the wealth inequality ranking of countries is very different from their respective ranking in terms of income inequality (Jäntti et al., 2008). Probably the most striking example is Sweden. As is widely known Sweden is one of the most equal countries in terms of income distribution, yet in terms of wealth inequality it is ranked as one of the most unequal countries, even more so than the US – which is one of the most unequal countries in terms of income distribution.

There are two aspects of the relationship between income and wealth that we have explored in the GINI project. Firstly, the importance of income from wealth (interest, dividends, rental income, etc.) in shaping the distribution of income and, secondly, the relationship between income inequality and wealth inequality. The first touches on wealth as a driver of income inequality and is covered in the WP3 report, here we focus on the second relationship.

Cowell, Karagiannaki and McKnight in their DP *Mapping and measuring the distribution household wealth: a cross-country analysis* use LWS data to compare the distributions of income and wealth in five countries: the UK, the US, Italy, Finland and Sweden. In line with other studies they find that while Finland and Sweden have rela-

tively low income inequality (measured by the Gini coefficient), wealth inequality is highest in Sweden, followed by the US and then Finland. They show that while there are some data quality issues and coverage, definitions and survey design differences, these do not explain away the relatively high inequality in household wealth holdings in relation to income inequality. Detailed analysis which compares the distribution of net worth (net financial assets plus net housing assets) by income percentiles in the UK with those observed in the US, Italy, Finland and Sweden shows that while median and P90 wealth holdings generally increase with income percentiles, there is a group of households in the UK at the bottom of the income distribution who have relatively high median and P90 net worth (termed income-poor/asset-rich). Superimposing the UK income distribution on to the other four countries by defining percentiles in terms of the level of income at UK percentile breakpoints shows that: (1) lower values of median wealth in Finland within income percentiles of higher income households (above 75th percentile) can largely be explained by lower income, but does not explain observed differences at the lower end of the income distribution; (2) income differences between the UK and Italy do not explain differences in wealth holdings; (3) UK households hold higher median values of net worth when percentiles are mapped onto the UK distribution but P90 values are very similar below the top 5%; (4) lower wealth holdings among Swedish households can partly be explained by lower income values among higher income households.

Obviously there are several reasons why country rankings in terms of wealth inequality may differ from those in terms of income inequality. Differences in institutional settings and the economic environment will affect saving motives and by extension saving propensities and will all have a distinct effect on household wealth accumulation over and above the impact of income inequalities. Cross-country differences in the importance of past inheritances will exacerbate the impact of all the above-mentioned factors. Aside from these influences cross country differences in the distribution of household wealth may (at least to some extent) represent cross-country differences in demographic composition of households. Given the hump-shaped age profiles in household wealth accumulation – which is established by theoretical models and empirical results (see e.g. Davies and Shorrocks, 2000) – wealth inequality in a given country would be affected by the age distribution of its population. To the extent that there are differences in age distributions across countries, the wealth inequality ranking of countries may purely reflect transitory variations in wealth attributable to pure lifecycle factors. The distribution of family types, such as cultural differences in the extent multi-generational families live together, the incidence of single parent families and the age at which young people leave the parental home, may also have idiosyncratic effects on the distribution of household wealth and on the assessment of cross-country differences in the distribution of household wealth.



Cowell, Karagiannaki and McKnight in their DP *Accounting for Cross-country Differences in Wealth Inequality* examine the contribution of cross-country differences in the distribution of a number of economic and demographic characteristics in accounting for cross country differences in the distribution of household wealth using a decomposition analysis. The factors they consider include age, household structure (i.e. the distribution of different household types), labour market status, educational attainment and income. In addition to investigating the overall effect of all these factors they also investigate the contribution of each factor separately. This analysis allows the identification of the importance of different factors in explaining cross-country differences in wealth at different parts of the distribution and therefore their contribution to explaining the differences in wealth inequality across countries. The unexplained component (which will vary across the distribution and across countries) will capture the effect of all unobserved cross-country differences (including the effect of past inheritances, differences in income distributions, saving propensities which will be affected by preferences, motives and institutional setting). In addition to estimating overall wealth differences they investigate cross-country differences in the level and the distribution of different wealth components. It is known from previous cross-national analyses that there is substantial cross-country variation in portfolio composition and in the levels of different asset and debt holdings. Also within countries there is a substantial variation in portfolio composition across different socio-economic groups. In the analysis they attempt to understand the extent to which cross-country differences in the distribution of wealth arise from differences in the prevalence of households with certain characteristics which tend to hold particular types of assets. This allows for a better understanding of the factors that shape the composition and size of households' holdings across countries.

The data set used in this paper is drawn from the Luxemburg Wealth Study database (LWS), a cross-national database which provides harmonised wealth data for 12 industrialised countries. Counterfactual decomposition techniques are applied to analyse the relative importance of different factors in explaining cross-country differences in the distribution of net worth and levels of net worth inequality across five industrialised countries: the UK, Finland, Italy, US and Sweden.

In most countries the largest share of the compositional effect is accounted for by differences in age, income and educational attainment distributions of the populations. Conversely, a much smaller part of the compositional effect is attributable to differences in household types and working status distributions. In most countries the factor with the largest contribution in the compositional effect is household income. It accounts for a significant share of the lower wealth holdings of Finnish households (relative to the UK), especially at the lower tail of the distributions and is the dominant factor in explaining the high wealth holdings of US households in the upper tail of

the distribution. In Italy the effect of income differences has been to reduce the observed differences in net worth with the UK (this means that if Italian households had the same income distribution as the UK income distribution, wealth holdings would have been even higher). Differences in the age distributions have some important effects, especially in explaining the lower wealth holdings of Finnish households (with the relative effect being stronger in the lower tail of the distribution) and the higher wealth holdings of Italian households (with stronger effects in the upper tail of the distributions). Differences in educational attainment explained a significant part of the higher wealth holdings of the US and Italian households in the upper tail of the distribution.

The empirical findings from this paper show that the relationship between contemporaneous income inequality and contemporaneous wealth inequality is not straightforward. There is a natural tendency to expect to observe higher wealth inequality in countries marked by higher income inequality but no such systematic relationship is observed. Income does have the greatest compositional effect in terms of explaining cross country differences in the distribution of wealth but while no doubt unequal income is related to unequal ability to save and accumulate assets, a range of other factors, many of which can be historical, prove to be more important in shaping the distribution of wealth. Overall this suggests that changes in contemporaneous income inequality won't necessarily lead to changes to contemporaneous wealth inequality.

Two further papers seek to establish the relationship between asset-holdings and a range of social outcomes. Karagiannaki in her DP *The effect of parental wealth on children's outcomes in early adulthood* and McKnight in her DP *Estimating the impact of assets on future employment and health outcomes* (forthcoming) use longitudinal data to explore this under-researched area. Karagiannaki shows that parental wealth holdings when children were teenagers are associated with a range of outcomes at age 25. She explores four outcomes: higher educational attainment, labour force participation, earnings and homeownership. For all outcomes she finds positive associations with parental wealth, which operate over and above the influence of parental education and income. The strength of estimated associations varies across outcomes with education exhibiting the strongest association. For earnings the association is mainly driven by the indirect effect of parental wealth on children's educational attainment while for homeownership through the direct effect of parental wealth transfers. Further analysis that examines the relationship with financial wealth and housing wealth separately shows that housing wealth is more strongly associated with higher educational attainment than financial wealth. However, important effects are also estimated for financial wealth (especially at low wealth levels) pointing to the importance of financial constraints for low wealth/financial indebted households. McKnight's DP looks at individuals' own asset-holdings in their early 20s and early 30s and estimates the impact of these holdings on outcomes 10 and 20 years later. She assesses

the impact of asset-holdings on employment (labour market status and earnings) and health (self-assessed general health and psychological well-being). Overall, her results suggest that assets appear to play a direct positive role in improved labour market and health outcomes stretching some way into individuals' later lives. Taken together the findings from these two DPs suggest that the distribution of wealth plays a key role in shaping the distribution of future social outcomes both where the assets are held by individuals themselves and where assets are held by individuals' parents, leading to a cycle of advantage and disadvantage.

The DP *Home-ownership, housing regimes and income inequalities in Western Europe* by Norris and Winston examines the relationship between income inequality and home-ownership access, risks and quality. Using data from the 2007 European Quality of Life Survey (EQLS) it reveals significant inter-country cleavages between Northern and Southern Europe. In Southern Europe, home-ownership rates were found to be very high, access to the tenure was evenly distributed between income groups, and residential debt per capita and mortgages holding rates were below the EU average. Despite the fact that most housing in these countries is provided by the private rather than the non-profit sector, a decommodified home-ownership regime has emerged, enabled by a mix of non-monetised, familialist supports and generous government subsidies. Rather unexpectedly, therefore, low-income households in these countries also have relatively burdensome housing costs and poor housing standards. In terms of size and housing outcomes, owner-occupied sectors in the Northern EU15 countries are less uniform than their Southern European counterparts. As expected, home-ownership rates were higher in dual regimes than in unitary countries. But patterns of inequality in home-ownership outcomes in Northern Europe generally did not conform to expectations. For instance, access to this tenure was evenly distributed among income groups in some unitary countries (Sweden and Denmark) but not in others (Austria and Germany); burdensome housing debt was not common among low-income home-owners in some dual countries (Ireland and the UK) but more common in others (Belgium), and low-income home-owners in both dual and unitary regimes enjoyed good housing and neighbourhood standards (e.g., UK, Ireland, Finland, Sweden and Denmark). At the same time, the analysis indicated that home-ownership sectors in Northern Europe share some crucial structural features and housing outcomes in common. Government supports for home-ownership were generally lower than in Southern Europe (Ireland is an exception), and mortgage debt and mortgage holding rates were higher. Thus, Northern European home-ownership systems are strongly commodified and, as a result, low-income households in these countries are less likely to live in this tenure.

The related DP *Home Ownership and Income Inequalities in Western Europe: Access, Affordability and Quality*, also by Norris and Winston, investigated levels and changes in housing tenure patterns in Western Europe, using data for 1997 and 2007 from the European Quality of Life Survey and European Community Household Panel (ECHP) survey. Over this decade home ownership rates rose in more equal countries with low home ownership rates at the outset, such as France, Sweden, Austria, Germany and the Netherlands, and so (at least to some extent) did income inequality. By contrast, home ownership rates stagnated or declined in countries with high home ownership and higher income inequality at the outset, such as Spain, Greece, Italy, the UK and Ireland, and income inequality also declined in most of them. Broadly speaking then, home ownership was higher in more unequal countries and rose with rising income inequality over this period. The stagnation in home ownership rates in the more unequal countries where this tenure was traditionally dominant was driven in large part by a decline in the proportion of low income households in the tenure. By contrast, a marked rise in low income home owners drove the rise in the total home ownership rates in the more equal and traditionally rental-dominated countries such as the Netherlands, Sweden, Denmark and Germany. Affordability for low income home owners increased in line with improvements in income equality and vice versa. While the data on housing quality is somewhat patchier, it points to a similar but much weaker relationship between the quality of dwellings occupied by home owners and income inequality. Between 1997 and 2007, the proportion of low income home owners reporting high housing quality declined in the majority of European countries for which data are available. However, this decline was stronger in the more equal countries such as Denmark and Austria, where housing quality among low income homeowners was particularly high in 1997, while the decline was weaker in more unequal countries such as Greece, Ireland, Belgium and Italy. Thus, during the decade under examination, the relatively modest differences between these two groups of countries lessened further. There were significant inter-country differences in home ownership inequalities evident in 1997, particularly between the countries of southern and western Europe on the one hand and central and northern Europe on the other, but these differences had significantly diminished by 2007. This evening up of home ownership inequalities reflected the wider equalisation of home ownership rates and decline in inter-country variations in income inequality. By 2007 home ownership played a less significant role in counterbalancing income inequality in southern Europe than it had a decade earlier, due to rising rates of mortgage holding and a decline in low income ownership rates. In the other relatively unequal countries under examination – the United Kingdom and Ireland - home ownership was enabled by more widespread mortgage indebtedness and, therefore, played less of a role in counterbalancing income inequality in those countries.



Dewilde and Lancee in their DP *Income inequality and access to housing in Europe* analyse the relationship between income inequality and access to housing for low-income households. They set out and test three hypotheses using multilevel models for 28 countries and data from the Statistics on Income and Living Conditions survey (EU-SILC) for 2009. They focus on housing affordability, quality and quantity. Their findings suggest that there is no relationship between income inequality and housing affordability (where housing costs account for more than 40% of disposable income) but the absolute level of resources matters. They find a positive relationship between inequality and crowding and higher levels and income inequality were found to be associated with lower housing quality for owners and renters. The authors rightfully point out that the underlying mechanisms that link inequality to housing outcomes are manifold and complex and there are a number of explanations for the relationships they find (status competition from rising aspirations, price exclusion, absolute incomes) but this study makes an important contribution to the assessment of the impact of rising inequality.

In the DP *The Interplay between Economic Inequality Trends and Housing Regime Changes in Advanced Welfare Democracies* Dewilde takes a different tack and once again confronts the interdependency that exists between inequality and social impacts. She does this by exploring whether changes in housing regimes, and more specifically the increase in owner-occupation and concomitant changes, have contributed to the upswing in household economic inequality, or vice versa. She begins by noting that while a number of potential ‘driving forces’ of the upswing in economic inequality in advanced welfare states have been put forward there is no consensus on a common cause or convincing empirical evidence supporting a common cause. This is followed by an explanation of how changing housing regimes could be a ‘driving force’ or how alternative causal mechanisms might work differently under different housing regimes. The two hypotheses she puts forward are: (1) owner occupation leads to a range of economic benefits and this benefits better off households, driving increases in income and wealth inequality; (2) income inequality can lead to house price inflation making it harder for low income households to become owner occupiers. Furthermore higher house prices could motivate landlords to sell their property reducing the size of the private rental sector and thereby leading to increases in housing costs. At this stage no empirical evidence is offered but a number of testable hypotheses are derived leading to what could be a fruitful area for further research.

Maestri in her DP *Economic well-being and distributional effects of housing-related policies in three European countries* uses the Euromod microsimulation model to simulate the impact of housing-related policies in Estonia, Italy and the United Kingdom. These three countries provide interesting case studies. Italy has comparatively high rates of outright home ownership (63%) relative to the UK (25%), while Estonia (like many central and eastern European countries) has experienced wide-scale privatisation of originally state owned housing stock

leading to the highest outright ownership rate (79%) out of these three countries. In addition, understandably they also vary in terms of housing-related policies. Maestri begins by outlining how a variety of housing-related policies can have behavioural and redistributive effects, such as the regressive nature of mortgage interest tax deductions despite the fact that the introduction and defence of this policy is most often that the improved incentive for homeownership strengthens the stake people have in society. Other tax policies favouring home owners such as the partial or full exemption of housing related capital gains and imputed rent from taxation are also regressive due to the fact that they favour home-owners and particularly those with high value housing assets. The effect of housing related policies is assessed by taking into account the housing advantage of households, measured with imputed rent. The inclusion of imputed rent proves to be important as it is shown to have clear redistributive effects by reducing inequality (market income and to a lesser extent disposable income) in all three countries. In Estonia and particularly the UK housing benefits have a progressive effect as do social imputed rents in the UK. Although it is not possible to consider behavioural responses to changes in tax and benefit structure of housing-related policies her analysis does reveal some interesting findings in relation to the effectiveness of housing-related policies on inequality-reducing and poverty-reducing in different country contexts and housing regimes. She finds that housing-related policies are most important in the UK both for inequality and poverty, relevant in Estonia only for poverty and irrelevant in Italy.

Much of the literature on intergenerational mobility provides estimates of intergenerational correlations in, say, income or earnings without regard for how correlations may vary according to the parents' relative position in the origin distribution. Björklund, Roine and Waldenström in their DP *Intergenerational top income mobility in Sweden: Capitalist dynasties in the land of equal opportunity?* present new evidence on intergenerational mobility in the top of the income and earnings distributions. Using a large dataset of matched father-son pairs in Sweden, they find that intergenerational transmission is very strong in the top of the distributions, more so for income than for earnings. In the extreme top (top 0.1 per cent) income transmission is remarkable with an intergenerational elasticity above 0.9. They also study potential transmission mechanisms and find that sons' IQ, non-cognitive skills and education are all unlikely channels in explaining this strong transmission. Within the top percentile, increases in fathers' income are, if anything, negatively associated with these variables. Wealth, on the other hand, has a significantly positive association. Their results suggest that Sweden, known for having relatively high intergenerational mobility in general, is a society where transmission remains strong in the very top of the distribution and that wealth is the most likely channel.



An alternative way of approaching intergenerational relationships is in the analysis of generational equity. In *The Pinch* David Willetts (2010) attracted attention by asking whether “the boomers have been guilty of a monumental failure to protect the interest of future generation” p xv. This was just the latest contribution to a long running concern of social policy analysts about horizontal equity or generational fairness. Using OECD data 1980-2007 Bradshaw and Holmes in their DP *An analysis of generational equity over recent decades in the OECD and UK* show that there is no evidence that social expenditure has been shifting in favour of the elderly at the expense of children except perhaps recently in Nordic countries. For the UK they created a time-series using the published articles since 1988 and the raw data sets since 1996 for the annual Office for National Statistics analyses of the Effect of Taxes and Benefits on Household Incomes and used it to analyse trends in the redistributive impact of cash benefits, direct and indirect taxes and services on the retired and households with children and across the income distribution. The analysis shows how the relative support for the retired versus children has changed over time, which elements have contributed to the changes and for which part of the income distribution. They found that there has been a small shift in final income in favour of the elderly but it was not the result of changes in taxes, benefits or services in kind but rather a change in the original income distribution in favour of the elderly.

Financial transfers from parents to children may be an important channel of inter-generational transmission of wealth and socio-economic advantage. The DP on *The Division of Parental Transfers in Europe* by Olivera Angulo explores the patterns of the division of inter-vivos financial transfers from parents to adult children in a sample of 12 European countries, exploiting two waves of the Survey of Health, Aging, and Retirement in Europe (SHARE) for those aged 50+. Contrary to previous studies, it finds a higher frequency of parents dividing these transfers equally. It is argued that altruistic parents are also concerned with norms of equal division, and hence do not fully seek to offset income differences between their children, but start to give larger transfers to poorer children when the income inequality between the children becomes unbearable from the parent’s view. Econometric evidence is presented suggesting this behaviour under different specifications and strategies. Furthermore, contextual variables like the Gini coefficient and pension expenditures help to explain country differences with respect to the division of inter-vivos transfers. The lower frequency of equal division found in studies with American data may respond to the higher inequality and relatively lower pension expenditures in US.

In his DP *Analysing intergenerational influences on income poverty and economic vulnerability with EU-SILC* Nolan sets out to exploit the information contained in the EU-SILC Intergenerational Module to conduct a comparative analysis of the relationship between current poverty and social exclusion outcomes and parental characteristics and childhood economic circumstances. Unfortunately he uncovered serious problems relating to

the scale of missing values and comparability of key variables which led him to issue a note of caution regarding the findings to his study. However, this paper makes an interesting contribution to the GINI project as it is one of the few papers that has attempted to assess the manner in which welfare regimes mediate the impact of parental social class and childhood economic circumstances on poverty and economic vulnerability. He finds that intergenerational factors tended to have their weakest influence on income poverty in social democratic countries and their greatest consequences in liberal southern European welfare regimes. When the analysis is extended to consider the joint impact of parents' social class and childhood economic circumstances on income poverty and economic vulnerability he finds that the impact of parental social class on income poverty was weak in the social democratic and corporatist countries and strongest for the liberal and Southern European countries. For economic vulnerability the net impact of social class is generally higher. This was also found to be true in relation to economic circumstances. Despite data difficulties he is able to uncover fairly systematic variation across welfare regimes in the strength of intergenerational influences (particularly in relation to economic vulnerability) and his research plays a useful role in motivating future research in this area but also flags up real issues in the quality of comparative data available, even in surveys with this objective in mind.



6. Social Cohesion and Wellbeing

A significant source of concern about increasing inequality in earnings and jobs has been that it may drive, or at least be associated with, polarisation and increasing fragmentation between communities, ethnic groups, regions and social classes within countries (e.g. Wilkinson 1996). Related questions of legitimacy particularly in an EU context have also been considered (Beck 2002; Heidenreich and Wunder 2008; Diamond 2006; Ferrera 2006). The relationship between inequality and crime and disorder, which may be seen as an aspect of social cohesion, has also received some attention (e.g. Blau and Blau 1982; Freeman 1996; Kawachi, Kennedy and Wilkinson 1999; Kelly 2000). Finally, the relationship between increasing inequality and subjective wellbeing is of concern and the impact on social cohesion one among a variety of potential channels of influence, with increasing insecurity, widening gaps in income and wealth, and fragmentation all having the capacity to negatively impact on wellbeing.

A range of indicators of political behaviours and attitudes widely analysed in the political science and sociology literatures and included in the GINI project primarily in the thematic workpackage focused on political and cultural impacts of increasing inequality can also be seen as indicators of social cohesion, and a number have also been examined in that context in the social impacts work programme reported on here. Focusing on attitudes and preferences in relation to redistribution, for example, the DP on *Preferences for Redistribution in Europe* by Olivera Angulo analyses the determinants of preferences for redistribution in a pool of 33 European countries over the period 2002-2010 using ESS data. It finds that the extent of income inequality positively affects the individual demand for redistribution and that the actual level of redistribution implemented in the country reduces support for more redistribution. A fixed effect model applied to pseudo panels constructed over the period confirms that increases in income inequality over time raise the demand for redistribution. This result is predicted by standard political economy models but has found little empirical support to date. However, the results of this paper suggest that that (at least in Europe) growing income inequality leads to more individual support for redistribution. Similar methodological approaches are being applied to investigate the potential role of income inequality in influencing other potential indicators related to social cohesion and available in the same dataset, such as indicators of generalised trust, attitudes towards migrants and minority groups, fear and insecurity in relation to violence and crime, and social contact/isolation.

An important issue related to social cohesion within the EU is the extent to which people frame their assessments of their own well-being with reference to their fellow country-men and women or with a broader span including those in other EU countries. This is particularly salient since the enlargement of the EU, which greatly

increased the variation in average income across the member states. The DP by Whelan and Maître (2012), *Material Deprivation, Economic Stress and Reference Groups in Europe: An Analysis of EU-SILC 2009* (already mentioned above) has findings of relevance here, based on its analysis of a measure of self-assessed economic strain – how much difficulty respondents say they are having ‘making ends meet’ – and how that varies across and within countries. Eighty-five per cent of the variation in economic stress was seen to be within countries, and national average income levels and inequality in the distribution of income at national level had no direct influence on economic stress. However, the impact of basic deprivation on stress was higher in countries with higher levels of income, indicating the crucial role of national reference groups, and the consequences of basic deprivation for stress were most negative in low rather than high inequality countries. The paper concludes that its findings highlight the continuing importance of national reference groups in EU countries.

Focusing on crime, the GINI DP *Crime, Punishment and Inequality in Ireland* by Healy, Mulcahy and O’Donnell (2012) highlights that, in many countries, charting long-term trends in recorded crime is problematic, not least because of changes in the way the data have been gathered and reported. It is also clear that such police statistics provide only a partial image of crime, being shaped by multiple factors including actual crime rates, demographic trends, reporting patterns, police practices and legislative changes. This makes comparative analysis or analysis over time, for example in seeking to test whether a relationship with income inequality can be established, difficult. Victimization surveys provide an alternative perspective, revealing for example that reporting rates for individual crimes vary widely and that disclosure to police may depend on perceptions of police willingness or capacity to provide a remedy. Focusing on Ireland as a case-study, the overall burden of reported crime is high in a European context, and the International Criminal Victimization Survey in 2005 found victimisation rates that were the highest in Europe, at 22 per 100,000 of population. Ireland’s rate of imprisonment remains low by international standards but the gap is closing in recent years, and by 2010 there were 96 prisoners per 100,000 population. Sentenced committals to Irish prisons rose from 3,060 per year in 1980 to 12,487 in 2010, and the probation population is now five times larger than it was thirty years ago.

Due to changes in data collection practices, it is difficult to draw any concrete conclusions about the relationship between trends in inequality and patterns in crime and punishment over time. Homicide rates increased steadily between 1994 and 2007, then stabilised. Sexual offences followed an upward trajectory between 1994 and 2005 but then declined sharply, while the numbers of burglaries stabilised during this period. While Irish crime rates have experienced ebbs and flows over the past thirty years, adult prison and probation populations have increased steadily. The apparent upward trend in prisoner numbers prior to 2005 is largely explained by an increase in the

use of remand and a reduction in the use of temporary release to relieve overcrowding. Since 2005, the upsurge in prisoners appears to represent a substantial increase in the population under sentence. In particular, recent years have seen an unprecedented rise in the number of fine defaulters being jailed - from 38% of sentenced commit-tals in 1994 to 54% in 2010 – a reflection of the changing economic situation. The numbers under community supervision also expanded during this period but growth has been gradual and stable. There are signs of a tentative reversal in government policy towards greater use of non-custodial sanctions but it is too soon to say what impact, if any, these policies will have on the prison population or the balance between imprisonment and alternative sanc-tions and measures.

Increasing income inequality may impact on subjective wellbeing or ‘happiness’ in a variety of ways; via weakening social cohesion it could increase a sense of insecurity and threat, widening gaps in income and wealth could themselves impact on satisfaction via reference group effects, people may have a value-based preference for less inequality, or increased inequality may be perceived as an increase in the risk of worse outcomes in terms of income for themselves. The GINI DP *Inequality and Happiness: A Survey* by Ferrer-i-Carbonell and Ramos (2012) investigates the main channels of potential influence and surveys the limited available empirical evidence. This shows that income inequality, usually measured by the Gini coefficient in the region or country where the individual lives, has a negative effect on self-reported well-being or life satisfaction of most western countries, but not for all. Importantly, Alesina, Di Tella and MacCulloch (2004) find that while European respondents’ life satis-faction is negatively affected by inequality, the effect does not hold for American respondents in general – which they interpret as consistent with the belief in the USA that it is a high mobile society in which effort is an important determinant of income. In Germany, Schwarze and Harpfer (2007) and Ferrer-i-Carbonell and Ramos (2009) find a clear negative impact of inequality on reported life satisfaction using various waves of the German SOEP. Some other studies are less robust in that they do not have repeated observations and therefore they cannot use panel data techniques to control for individual time persistent effects. The only paper that uses panel data in a transi-tion country (Russia) finds no effect of inequality on Russian’s happiness (Eggers, Gaddy and Graham, 2006). By contrast, Sanfey and Teksoz (2007) use cross-section data from the World Values survey (1999-2002) and find that individuals in higher inequality transition countries report lower levels of satisfaction, consistent with the findings of Grosfeld and Senik (2010) for Poland.





7. Summary

In assessing the potential social impacts of inequality and changing inequality the GINI project has sought not to replicate previous research in this field but to fill some of the gaps and widen our understanding of how inequality, cross country variations in inequality and changes in inequality over time impact on individuals' lives. This has been framed under five main headings: Poverty, deprivation and social "risks"; Gender, the family and fertility; Health and health inequalities; Wealth, inter-generational transmission and housing; Social cohesion and well-being. This short report provides a summary of the main findings from the wealth of discussion papers that have been produced in relation to the GINI project. We are mindful throughout of the potential nature of the perpetual character of many forms of social disadvantage whereby the impact of past inequalities can themselves lead to future inequalities both for the individuals concerned but also for their children.





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Information on the GINI project

Aims

The core objective of GINI is to deliver important new answers to questions of great interest to European societies: What are the social, cultural and political impacts that increasing inequalities in income, wealth and education may have? For the answers, GINI combines an interdisciplinary analysis that draws on economics, sociology, political science and health studies, with improved methodologies, uniform measurement, wide country coverage, a clear policy dimension and broad dissemination.

Methodologically, GINI aims to:

- exploit differences between and within 29 countries in inequality levels and trends for understanding the impacts and teasing out implications for policy and institutions,
- elaborate on the effects of both individual distributional positions and aggregate inequalities, and
- allow for feedback from impacts to inequality in a two-way causality approach.

The project operates in a framework of policy-oriented debate and international comparisons across all EU countries (except Cyprus and Malta), the USA, Japan, Canada and Australia.

Inequality Impacts and Analysis

Social impacts of inequality include educational access and achievement, individual employment opportunities and labour market behaviour, household joblessness, living standards and deprivation, family and household formation/breakdown, housing and intergenerational social mobility, individual health and life expectancy, and social cohesion versus polarisation. Underlying long-term trends, the economic cycle and the current financial and economic crisis will be incorporated. Politico-cultural impacts investigated are: Do increasing income/educational inequalities widen cultural and political ‘distances’, alienating people from politics, globalisation and European integration? Do they affect individuals’ participation and general social trust? Is acceptance of inequality and policies of redistribution affected by inequality itself? What effects do political systems (coalitions/winner-takes-all) have? Finally, it focuses on costs and benefits of policies limiting income inequality and its efficiency for mitigating other inequalities (health, housing, education and opportunity), and addresses the question what contributions policy making itself may have made to the growth of inequalities.

Support and Activities

The project receives EU research support to the amount of Euro 2.7 million. The work will result in four main reports and a final report, some 70 discussion papers and 29 country reports. The start of the project is 1 February 2010 for a three-year period. Detailed information can be found on the website.

www.gini-research.org





GINI GROWING INEQUALITIES' IMPACTS

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Project funded under the
Socio-Economic sciences
and Humanities theme.