Is Child Welfare Converging in the European Union?

John Micklewright and Kitty Stewart

September 1998

UNICEF International Child Development Centre
Piazza SS. Annunziata 12, Florence, 50122 Italy
(email: jmicklewright@unicef-icdc.it and kstewart@unicef-icdc.it
Home page: www.unicef-icdc.org)

Preliminary draft – not for quotation. The final version of the paper will be completed by January 1999 and will be published as a UNICEF-ICDC Innocenti Occasional Paper. An Appendix will include the data used to calculate the summary measures in the graphs, together with their sources. The paper forms one part of the UNICEF-ICDC project on "EMU and Children"; the other part of the project is the forthcoming paper by Atkinson (1998).

Acknowledgements

This research has been financed by the core funding of the Italian Government to UNICEF-ICDC and through additional funding from the UNICEF Office for Europe. We are grateful to Bruce Bradbury and Markus Jantti for estimates of child poverty rates used in section 3 and to Vijay Verma for information on mean incomes from the ECHP, to Bruce Bradbury for comments, and to Nuala O'Donnell for assistance with the Eurobarometer data used in section 7.

1. Introduction

During the run-up to the introduction of a single currency in most of the European Union in January 1999 great attention has been paid to the process of convergence among member states in a handful of macroeconomic indicators: inflation, the government deficit, the national debt, and long-term interest rates. Interest in the convergence of these indicators in particular is easy to understand as it is required for participation in monetary union under the terms of the 1992 Maastricht Treaty; a requirement in turn based on the idea that the single currency will not survive if it is introduced across economies which do not resemble each other in fundamental ways.

However, an exclusive focus on these indicators means that we may lose sight of the wood for the trees. National performance in the EU risks being judged solely on whether or not a country has met the Maastricht criteria (hence criticisms of Greece, and praise for the last minute fiscal measures taken by Italy in order to qualify). Yet it should not be forgotten that monetary union is just a tool to reach a further end of increasing human welfare in Europe – as the Treaty on Union puts it, "the raising of the standard of living and quality of life" (Article 2). The Maastricht criteria should not blind us to the need to measure progress towards these goals directly. Is human welfare itself converging in the EU? This paper tries to answer this question for one important group within Europe's population, children. Is the welfare of children in the Union's member states becoming more or less similar over time?[1]

To some extent this sort of measurement of trends in human welfare in the EU does already take place. While it is the macroeconomic convergence criteria that have received the most attention, the Maastricht Treaty also called for the strengthening of "economic and social cohesion", so as to promote the Union's "overall harmonious development" (Article 130a). The Treaty established a Cohesion Fund to help those countries with relatively low GDP per capita: Greece, Ireland, Portugal and Spain – the so-called "Cohesion Four". And it gave the European Commission the task of preparing a report on economic and social cohesion every three years. The first of these reports has been published (European Commission, 1996). But it concentrates on a narrow concept of well being: the focus is firmly on income and employment.[2] Other analyses of cohesion in the Union, e.g. Sala-i-Martin (1996) and Quah (1997, 1997a) have had a similar focus. In this paper we take a wider view of development and of individual well-being, more similar, for example, to that taken by the UNDP's Human Development Reports.

Why children? Children not only represent nearly a quarter of the Union's population but, obviously, are tomorrow's adults on which Europe's future depends. There is however no direct mention of children in the Maastricht Treaty and only one mention in the 1997 Amsterdam Treaty (in the context of co-operation to safeguard

[1] Our focus is firmly on *outcomes* and not on *policies* (although naturally we do refer to the latter on occasion). There is a large separate strand of inquiry that considers trends in policies in the European Union, including policies with a direct bearing on children. See, for example, the work of the European Observatory on National Family Policies, co-ordinated from the University of York, UK (Ditch et al. 1998), and Ruxton (1996), both of which contain some analysis of outcomes.

[2] The Commission itself refers to the analysis being a "traditional analysis of the relative circumstances of Europe's population" (European Commission, 1996, p.46), although some discussion is devoted to other dimensions of cohesion.

children from crime).[3] The *First Report on Economic and Social Cohesion* does refer to a concern for "inter-generational cohesion" (p.46) in relation to the environmental consequences of economic growth and our work can be seen as helping emphasise the importance of children in the "harmonious development" of Europe.

Section 2 defines our concept of child welfare, relating this to the wider notion of human development. We define a vector of indicators but in contrast to the construction of the UNDP's Human Development Index we make no attempt to aggregate these into a summary measure. We also define our meaning of "convergence". Sections 3 to 7 then deal in turn with our different dimensions of child welfare, investigating whether different parts of the EU have become more or less similar over time. The period we consider typically covers the last 15-25 years. Partly for practical reasons, our analysis is at the level of the Member State rather than at the finer level of the region that has been the focus of much of the literature on covergence of incomes.[4] Section 8 concludes.

[3] By contrast, the Maastricht Treaty notes the need "to pay full regard to the welfare requirements of animals" when drafting and implementing Community legislation (Declaration 24).

[4] The *First Report on Economic and Social Cohesion* presents analyses at both country and regional level.

2. Concepts of child well-being and of convergence

How may child welfare be measured in the countries of the European Union, given that we wish to track its changes over time? We begin by discussing appropriate indicators, before turning to consider how differences between countries and convergence over time may be judged with the indicators selected.

2.1 Child well-being in industrialized countries

The view that human welfare cannot be adequately measured by traditional indicators of economic development such as GDP per capita became widely voiced in the 1970s and subsequently developed into first the "basic needs" and then the "capabilities" approaches (e.g. Streeten and Burki, 1978; Sen, 1985 and 1992). Both reject GDP as the sole indicator not just as an aggregate measure that is blind to the distribution of income, but also on the grounds that income itself is only one of the assets a person needs in order to lead what Sen has called "a good life". In the capabilities approach the good life is defined in terms of human "functioning": what is important is that an individual has the "capability to achieve functionings that he or she has reason to value" (Sen, 1992, p.5). These functionings might include "such elementary things as being adequately nourished, being in good health, avoiding escapable morbidity and premature mortality, etc." as well as "more complex achievements such as being happy, having self-respect, taking part in the life of the community, and so on" (Sen, 1992, p.39). The UNDP Human Development Reports from 1990 onwards represent the best known attempt to select specific indicators of these functionings with the aim of comparing human welfare across countries according to wider criteria than GDP. They illustrate that the correlation between national income and a broader concept of well-being is very far from being perfect.

However, for obvious reasons, the focus of most attempts to measure human well-being has been the developing world, and the indicators used naturally reflect this: UNDP's Human Development Index has helped make basic literacy and life expectancy widely accepted as key welfare indicators, for instance. Attempts to measure the well-being of children have tended to have the same focus: in UNICEF's *The State of the World's Children* the basic indicators are infant and under 5 mortality and primary school enrolment, measures on which there is little to separate European countries by the mid-1990s (eg UNICEF, 1998).

The fact that children in industrialized countries are now protected from many of the urgent problems affecting children in poorer parts of the world does not place these children beyond concern; rather, it means that additional measures of their welfare are needed. Other issues demand more attention once the basic problems of survival are overcome. And, at the same time, growing wealth brings with it new dangers as well as new opportunities.

A number of recent studies have identified this need to develop measures of well-being for children in richer countries. One on-going initiative, sometimes referred to as the 'Jerusalem project', has held two conferences aimed at coming up with a list of such indicators appropriate for cross-country comparison (see Ben-Arieh

and Wintersberger, 1997, for the output of the first).[1] Hauser et al. (1997) report on a similar initiative limited to the USA. Both these studies face the same two problems: the need to choose a limited number of indicators of the almost endless array of values and failings we would like to measure once survival is more or less assured; and the need to reconcile the choice with the hard truth about what data do exist. The latter is a particular restriction where international comparison is concerned: studies of a single country do not have to worry about cross-country differences in measurement or in the availability of data (although the situation may certainly change over time). Nor is the analysis disturbed by differences in cultural approach to a range of issues from education to institutional care. This point is well illustrated by the contrast between the very specific recommendations of the Hauser book on the USA, including concrete data sources, and the still inconclusive findings of the Jerusalem project.[2]

As yet, then, there is no consensus about the best set of indicators to use in an international comparison of child well-being in the industrialized world. Nor is a study of child well-being in Europe free of the constraints of data availability. Indeed, this turns out to be a perhaps surprisingly large obstacle. The EU has its own statistical agency, Eurostat, dedicated to providing comparative data for each of the Member States. However, while Eurostat provides extensive comparative information on many aspects of life in Europe, relatively little attention is paid to childhood.[3] The statistical agencies of the Member States of course produce a great deal of information on children through their various publications (e.g. CSO, 1994) but inevitably it is hard to gather consistent data from these on many topics.

Our task in this paper is further complicated by our interest in convergence, which demands a time-series for each indicator. Eurostat's concentration on current members of the Union means that publications and databases prior to 1994 focus on the EU-12 rather than the 15 and so on (although some important retrospective analyses are made). The need for a time-series also prevents us from exploiting a number of other interesting potential sources which so far provide only a snapshot portrait of the situation in different countries. (Examples are the recent WHO Health of Youth surveys (WHO, 1996), the OECD International Adult Literacy Survey (OECD, 1995 and 1997), and the IEA International Assessements of Maths and Science (Beaton et al., 1996a,b))

[1] For a discussion of the Jerusalem project, see also Adamson (1996) writing in the UNICEF publication *The Progress of Nations*, which has a section each year containing indicators of child well-being in industrialized coutnries.

[2] The USA has a rich stream of data on child well-being at the state level, for example the Kids Count analyses of the Annie E. Casey Foundation of child well-being. Collection of data and analysis at the state level has been spurred-on in recent years by reform of federal cash transfers to families ("welfare reform"). At the same time, the particular institutional setting of the USA results in use of indicators that would not necessarily be relevant in Europe. For example, an important indicator in the National Survey of America's Families which forms part of the Urban Institute's project on "Assessing the New Federalism" is the coverage of children by health insurance.

[3] For example, *A Social Portrait of Europe* (Eurostat 1996) provides an excellent overview of living and working conditions in the fifteen member states, but contains almost no information on the situation of children. Further data on specific issues is available in *Youth in the European Union* (1997), *Key data on education in the European Union* (1997), and *Eurostat Yearbook '97* (Eurostat 1997); and also in the annual *Demographic Statistics*.

The indicators of child well-being we look at in this paper thus represent a compromise between what we would like to measure and what we can. Drawing on a variety of data sources – Eurostat, Eurobarometer, WHO, OECD, UNESCO and the European Community Household Panel – we have put together a range of indicators which cover various aspects of child well-being, but not all the aspects we would have liked to look at.

We consider four domains of welfare, or four key functionings that we believe a child needs to lead a "good life" in Europe: material well-being, health and survival, education and personal development, and social inclusion/participation. These turn out to be – perhaps not surprisingly – the same domains as those covered by the Human Development Report's new index of deprivation in industrialized countries (UNDP 1998). But the precise indicators we choose to capture elements of them differ from the UNDP indicators in several respects, reflecting our different judgement of the suitable measures and the availability of time-series of data, as well as our focus on children. The four domains also reflect the concept of children's well-being and development in the UN Convention on the Rights of the Child.

The UN Convention defines a child as anyone under the age of 18. While this may correspond with the age of majority at which voting rights are acquired in most countries, the precise cut-off is not that important. The key point is that 'childhood' obviously covers several different stages of life and the choice of indicators of child welfare must reflect this. Some of our indicators refer to children of all ages taken together while others are specific to particular age-groups. Several relate to older children (including young people over the age of 18). While discussion of child welfare in less-developed countries often focuses on younger children, the various pressures faced by teenagers in industrialized societies have been the subject of much investigation (e.g. Rutter and Smith, 1995). However, we do not attempt to analyse indicators for each of our domains for every stage of childhood systematically, and our analysis is inevitably somewhat eclectic as a result.

Despite the industrialized country setting, several of our indicators turn out to be more traditional at the end of the day than we had envisaged. For example, our indicator of health is restricted to mortality: hence we ignore the topical issues of sexually transmitted diseases and drug and alcohol abuse, as well as new illnesses affecting younger children in industrialized countries, such as the growing incidence of asthma. Our analysis of education focuses on expenditure and enrolment data, rather then learning achievement (although we shed some light on the variation in the latter across Europe at one point in time, together with its relationship with enrolment). Another gap is the lack of any analysis of children in institutions, both in prisons and in institutions of public care.

All these restrictions are to be regretted, but they are forced on us by the lack of available data. To take but one example, despite the enormous interest in the spread of sexually transmitted diseases that has been generated by the rise of HIV/AIDS, no data are readily available from any international organization that gives prevalence in European countries among the standard demographic group of 15-24 year olds. Our conclusions at the end of the paper include recommendations for further data collection so as to give a more complete picture of the well-being of Europe's children and how it is developing over time.

The indicators we are able to consider are listed below. Our choice of each is discussed in greater detail in each section, but the domains in which indicators can be argued to fall are given in brackets (H=survival and health, E=education and development, M=material well-being; S=social inclusion).

Economic well-being

- GDP per capita (M)
- Child poverty rate – children living in households with income below 50 percent of the national median (M, S)
- Prevalence of worklessness among households with children (M, S)
- Unemployment among 20-24 year olds (M, S)

Mortality

- Under 5 and young persons' mortality (H)
- Death rate from motor vehicle accidents, 5-14 year olds (H, E)
- Suicide rate among young men 15-24 (H, S)

Education

- Percentage of 16 year olds in education (E)
- Expenditure on education as % GDP (E)
-

Teenage fertility

- Birth rate to 15-19 year olds (risk factor for H, E, M, S)

Finally, we include one subjective indicator of well-being:

Happiness

- Percentage of 15-19 year olds who classify themselves as 'satisfied' or 'very satisfied' with their life. (H, E, M, S)

To give an initial idea of where European countries stand on these indicators, Table 2.1 presents the data for each for the most recent year available, together with the extent of their variation across the Union (these measures are discussed below). The final line shows the correlations with GDP per capita, the focus of much earlier work on cohesion and the first of our indicators. While we would not necessarily expect to see any particular relationship between GDP per capita and some of the indicators (such as the child poverty rate, which is a relative measure), others seem likely to be broadly linked to GDP, such as the under 5 mortality rate and the education indicators. Others, such as traffic accidents, might even be inversely related to national income; while whether or not life satisfaction increases with income is an open question.

In fact, as the table shows, the link is not clear-cut in several cases, starting with the fact that the country with the second highest GDP in the EU, Belgium, has the highest under 5 mortality. The four worst traffic fatality rates are found in the countries with the highest GDP (Belgium and Luxembourg) and the lowest (Greece and Portugal). Only life satisfaction has a correlation with GDP per capita that exceeds 0.6 (we discuss in Section 7 whether there is any causal relationship). Most

indicators have a correlation in absolute value of 0.3 or less. Dividing countries on the level of overall child welfare is also difficult. The Netherlands, Denmark and Sweden stand out as having excellent records on most indicators and Portugal does badly on all but family worklessness, but most countries have mixed reports. For instance, the UK has a very good road safety record but the highest rates of child poverty and of teenage fertility in the EU. Spain has a high percentage of children living in poverty but a low teen suicide rate, while the opposite is true in France.

2.2 Measuring differences and convergence

While a static comparison of current national performance on these indicators is of interest, our focus in this paper is on trends over time, in particular whether countries are becoming more similar in different dimensions on child well-being. Today's disparities could represent a mid-point on the path of movement of countries towards each other – or they could represent divergent paths. Furthermore, all countries could be improving their performance in absolute terms, and yet still be not getting closer to eradicating cross-national differences: for this to occur the countries doing least well need to be improving *relative* to those doing best.

Of course, convergence need not necessarily mean a movement towards the best performance; it could equally well be achieved by a general deterioration towards the standards of the worst. But as the *First Report on Economic and Social Cohesion* puts it: "Cohesion is concerned with ... new opportunities in the poorer regions and for disadvantaged social groups" (p.14). Where cohesion is reached through a reduction of opportunities in areas initially better off, the Report talks of "negative convergence". Naturally in this paper we too are hoping to find "positive" convergence, not convergence at any price. Where convergence represents a movement to reduced disparities around a lower average level of welfare we make sure to point this out – in this situation it would have been better had the Member States remained as they were rather than converged.

How do we decide whether convergence has taken place? The literature on convergence in economic growth makes a distinction between two concepts: 'beta' convergence and 'sigma' convergence (see for example Sala-i-Martin, 1996). Beta convergence refers to the relationship between a country's initial performance and the change in its performance over time. If one country starts off with a poor record on a particular indicator but records good progress, while in another country that indicator starts off well but improves more slowly (or even declines), we have beta convergence between the two countries. Sigma convergence refers to the overall dispersion in the distribution, and is usually measured using the standard deviation of the log of income (e.g. DeLong, 1988; Sala-i-Martin, 1996) but sometimes using the coefficient of variation (e.g. Dowrick and Nguyen, 1989; Raiser, 1998). Occasional reference is also made to the ratio between maximum and minimum (e.g. Baumol, 1986). Beta convergence is a necessary condition for sigma convergence, but it is not a sufficient condition: countries which start off doing worst might surpass those initially doing better. In this paper we are largely concerned with sigma convergence, the overall dispersion in the distribution, but the beta concept is useful in isolating what is driving sigma, and it will also be referred to.

As our measure of sigma we take the coefficient of variation, which gives

much the same information as the standard deviation of the log. We also make reference to the ratio between the maximum and minimum. The virtue of all of these measures is that they are invariant to changes in the value of the mean; they describe the *relative* variation in the data and our conclusion about whether or not convergence is occuring will not depend on the absolute values in any year.

This property of 'scale invariance' is a standard one that is typically sought for in any measure of inequality used by economists. It may not, however, necessarily be how the lay person always thinks about inequality. If infant mortality in countries A and B in year 1 declines from 100 deaths and 25 deaths respectively (per 1,000 live births) to values of 20 and 4 deaths in year 30, should we conclude that infant mortality has become more unequal between these two countries, that the two countries have become more dissimilar over time? The scale invariant measures would indeed indicate more inequality in year 30. But the lay observer might consider the absolute distance between the two countries, and reason that a difference of 16 deaths per 1,000 children compared to one of 75 deaths implies that the two countries had moved closer together, that they were converging towards the goal or eradicating infant mortality (or at least reducing it to negligible levels). Measurement of economic and social cohesion in the European Union should take account of common perception of these concepts. For this reason we also include the standard deviation in our presentation of summary statistics in the Appendix precisely because it does not satisfy scale invariance. (In the example of infant mortality just given, the standard deviation falls sharply between the two years.)

An important issue that arises in calculating the degree of variation across Member States in any indicator is whether to take into account the greatly varying populations of the different countries. Germany has a population of 82 million people; Luxembourg has just 400,000. Three other countries have populations of over 55 million; eight others have 10 million or less. Should one let the figure for Luxembourg have equal weight in the calculations with that for Germany? Or should one let the German figure be 200 times more important?

The answer to this question depends on what one is trying to measure. Suppose that we are concerned with the full extent of the variation in an indicator across the entire population of the EU, e.g. poverty risk or satisfaction level. The total variance can be decomposed into the variation within Member States and that between them.[4] The latter may be calculated from the average values of the indicator concerned for each country – the average poverty rate, the proportion of persons satisfied with their lives, etc. The formula for this between-group element of the total variation does indeed weight the contribution of each country according to its population. Greece should get a weight that is twice that of Denmark and nearly three times that of Ireland. Luxembourg should not get an equal weight in the calculation to that of Germany. In this case our interest is in the variation across Member States because it is one part of the total variation across the European population. In general, a reduction over time in this between-group variation – "convergence" – is in fact neither a necessary nor a sufficient condition for a reduction in disparities across the European population as a whole, since changes in the differences within countries

[4] While our argument in this paragraph is couched in terms of the variance, which is not scale invariant, it would apply to several other measures which do have this property, e.g. the standard deviation of the logs.

have to be considered as well. Nevertheless, change in the between-group variation is certainly one influence on the total variation.[5]

On the other hand, we may not be concerned with variation across the EU population as a whole but rather with the variation across the countries themselves, viewed as separate entities. The principle of 'subsidiarity' implies that it is the Member States that will have the responsibility for policy within the Union whenever possible. Imagine we want a measure of variation in child welfare that shows when one country is out of line with the others, signalling the need for possible action by the Member State concerned. In this case the different sizes of the countries is irrelevant and we certainly would not want the calculation to be dominated by the large countries. For this reason we think that both unweighted as well as weighted calculations are of interest and we present both, pointing out when they tell a different story. [6]

Finally, there is the issue of the time-period in which we are interested. The paper has a dual-focus. On the one hand, we are interested in the issue of long-run cohesion in Europe; we consider whether or not child well-being has been converging in the last 25 years. We are able for some indicators to put this into the context of a longer period, while for others we are only able to cover a shorter period. On the other hand, we are also interested in the immediate term: has child welfare been converging in the 1990s, during the run up to monetary union itself, or have the patterns across countries been moving in a different way to those for the macroeconomic indicators? Unfortunately, insufficient data mean that for many indicators we cannot explore this fully. For instance, whether the tight terms of the Maastricht Treaty led to an increase in child poverty in countries working hard to meet the criteria for membership of the single currency is not a question we can answer with the 1993 data shown in Table 2.1. But where possible we ask whether the 1990s give us evidence of a different

[5] Suppose that the value of the indicator for any person in a given country is made up of a country-specific constant, equal for all persons in that country, plus an element that differs from person to person, the value of which is distributed randomly across the country's population. Suppose the variance of the latter is constant over time in each country – the within-group variation is unchanged – and that the relative populations of the countries are constant. In this case the changes in the total variation in the indicator over time across the EU population are driven entirely by the changes in the country-specific constants, summarized by the between-group variation.

[6] The weights used depend on the indicator in question, e.g. the child population in each country is taken for indicators relating to all children, the teenage populations for teenage indicators etc. The *First Report on Economic and Social Cohesion* does not explicitly discuss the issues of scale invariance or weighting. In general, scale invariant measures are used together with weighting by population size.

trend to that observed in the previous two decades.

Table 2.1
Child Welfare Indicators in the European Union

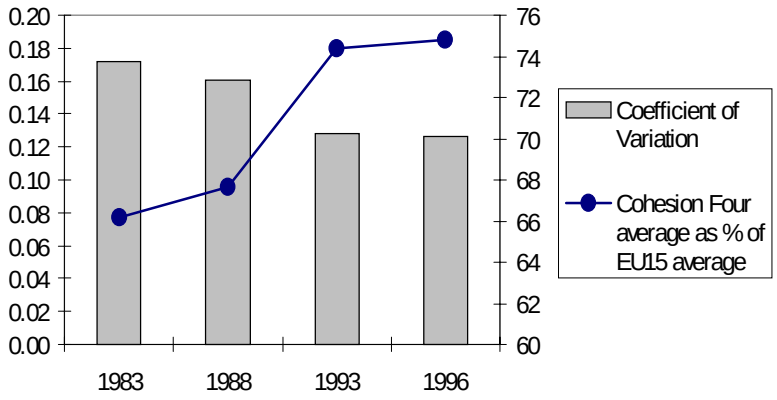
	Economic well-being				*Mortality*			*Education*		*Teen fertility*	*Happiness*
	GDP per capita (PPP) 1993	Children in poor households (%) 1993	Families with no working adult (%) 1996	Unemployment rate 20-24 yr-olds 1994	Under 5 Mortality (deaths per 1000) 1994	Traffic deaths all 5-14s (per 100,000) 1994	Male suicides 15-24 (per 100,000) 1994	Education expenditure as % of GNP 1994	16 year old enrolment in education (%) 1994	Teenage fertility (births per 1000) 1994	Life satisfaction, 15-19 yr olds (%) 1994
Austria	112.0		4.9		6.7	3.4	26.5	5.5	90	17.5	
Belgium	113.6	15	11.0	20.5	9.6	5.6	20.2	5.7	100	9.2	89.1
Denmark	112.0	5		12.7	6.3	4.4	15.9	8.3	92	8.7	97.9
Finland	91.4		11.8	30.0	5.0	4.7	50.5	7.6	92	9.8	
France	109.1	12	8.8	28.0	7.1	3.4	23.5	5.9	92	9.6	85.5
Germany	107.9	13	8.6	8.9	7.1	3.2	16.5	4.7	96	13.0	87.8
Greece	64.5	19	4.5	26.6	9.0	4.7	4.2	3.7	79	12.9	74.7
Ireland	80.2	28	15.4	22.2	7.3	3.5	23.4	6.3	91	15.1	90.0
Italy	103.5	24	7.6	31.2	8.5	3.4	7.6	4.9		7.0	87.4
Luxemb.	162.2	23	3.8	6.3	4.4	7.4	28		77	10.6	97.0
Netherl.	103.6	16	9.3	10.1	6.8	3.7	9.9	5.3	89	5.8	98.6
Portugal	68.2	27	3.3	13.8	9.6	7.4	15.8	5.4	78	20.2	86.7
Spain	77.8	25	10.1	41.9	7.6	4.6	7.1	5.0	89	8.3	85.0
Sweden	98.2			16.6	4.7	1.9	15.7	8.0	95	8.6	
UK	98.9	32	19.5	14.5	7.2	2.9	18.5	5	82	28.5	90.5
EU weighted average	100			22.6	7.3	3.6	15.2	5.2	89.5	10.7	87.7
Coeff of V	0.23	0.40	0.33	0.49	0.22	0.35	0.58	0.22	0.08	0.47	0.07
Coeff of V (weighted)	0.17		0.25	0.49	0.13	0.25	0.49	0.15	0.07	0.40	0.04
corr. with GDP p.c.	1.00	-0.29	-0.14	-0.49	-0.54	0.16	0.30	0.31	0.08	-0.21	0.65

3. Economic Well-Being

The argument that child welfare goes well beyond consideration of national income is not to deny the importance to children of the economic strength of the countries in which they live. We therefore start this section by looking briefly at the indicator that has been the focus of much earlier work on convergence of living standards in the EU, GDP per capita. If national incomes are converging sufficiently strongly, then differences among member states in at least some aspects of the economic well-being of children and their families should be narrowing.

Figure 3.1 summarises the change in disparities of GDP per capita since the early 1980s, measured in puchasing power standard (PPS) terms. (We follow the example of the *First Report on Economic and Social Cohesion* and do not consider earlier periods.) Substantial convergence in national incomes took place until the early 1990s, with the coefficient of variation falling by a quarter between 1983 and 1993. (The unweighted figure is unchanged on account of a sharp rise in income in what is the richest as well as the smallest country, Luxembourg.) This convergence was associated in part with faster growth by the Cohesion Four – Ireland, Greece, Portugal, Spain – although the situation varied substantially among them. Income per head among these countries relative to the EU average rose from 66 percent in 1983 to 74 percent in 1993.[1] The 1990s, however, has not seen little or no continuation of these trends. There has been no further convergence after 1993, and Greece, Portugal and Spain have not continued to improve their position relative to the EU average. Only in Ireland has catch-up growth continued – in fact here GDP per capita in 1996 was exactly at the Union average.

Figure 3.1
Disparities in National Income
(GDP per capita in PPS)



GDP per capita is of course a very crude proxy for average incomes of families with children. It does have the advantage of including government expenditure on basic social services, such as education and health, which provide important non-cash income to families. (We return in Section 5 to the issue of public expenditure on education.) But this aside, any serious analysis of trends in average

[1] The extremes are represented by Ireland and Greece. Irish income per head rose from 64 percent to 83 percent of the EU average while the Greek figure increased from 62 percent to only 65 percent.

incomes of families in the EU would need an indicator more directly related to the household sector, and, within that sector, to children.[2]

An analysis of average incomes of families would, however, refer to just that – *average* incomes. Our principal concern in this section is with children at the margins of society in each Member State. We first consider child poverty, on which the distribution of income within each country has a direct bearing. We then address a related issue, but one also important in its own right, that of children living in households with no adult in work. Finally, we look at disparities across the EU in the unemployment of young persons themselves.

3.1 Child Poverty

Much more information on poverty in Europe is now available than was the case in the mid-1980s (Atkinson, 1995). There are more national studies, and at the European level there have been important initiatives, including the work by Hagenaars et al. (1994) based on existing national data sets. The European Community Household Panel (ECHP), sponsored by EUROSTAT, is a major development in terms of data. The figures for child poverty in 1993 shown in Table 2.1 are taken from EUROSTAT's own analysis of Wave 1 of ECHP, and as further waves become available ECHP will provide considerable insight into how family incomes have changed in the 1990s during the run-up to monetary union.

The ECHP figures refer to the proportion of children living in households with incomes below 50 percent of the average income in their own countries. This is a measure of *relative* poverty, implementing the European Union's broad definition of poverty as persons with "resources (material, cultural and social) that are so limited as to exclude them from the minimum acceptable way of life in the Member States in which they live" (EUROSTAT, 1997, p.3). The figures, which refer to EU12, vary widely, with as few as 5 percent of children classsified in poverty in Denmark and as many as 32 percent in the UK. The overall degree of dispersion is substantial, with the coefficient of variation more than twice that for GDP per capita. It is notable that three of the worst performers are from the cohesion countries of Spain, Portugal and Ireland, countries where income inequality is comparatively high.

Has the degree of exclusion of children, as measured by relative poverty, become more or less equalized across the Union over time? Convergence of average income per head shown in Figure 3.1 has no direct bearing on this question – the answer depends on (i) changes in the distribution of income *within* each country and (ii) changes in the position of families with children in those national distributions.[3]

---

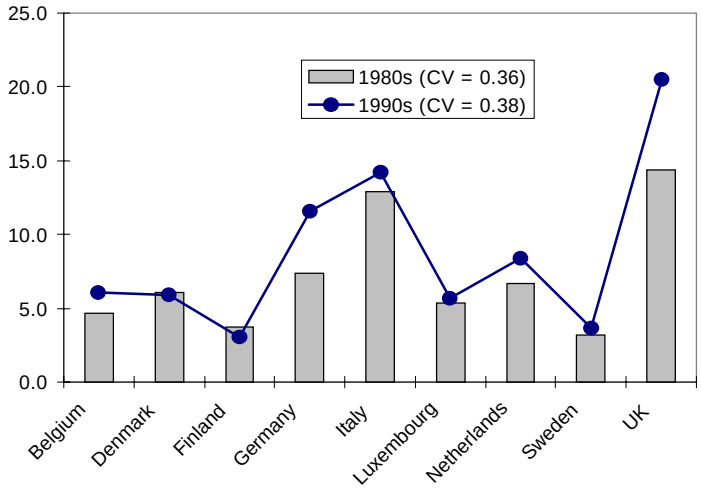
[2] Vijay Verma of the University of Essex kindly provided us with information on mean equivalised household cash income per child in ten EU countries in 1993 from the European Community Household Panel (see next section). (The countries are those for whom there are poverty rates in Table 2.1, excluding Germany.) After converting the means to PPS terms, the weighted coefficient of variation is 0.163, which may be compared to that for GDP per capita in 1993 of 0.143. The weighted correlation between the two is only 0.78 – the unweighted correlation is much higher, 0.96, due to the greater influence of the outlier, Luxembourg.

[3] A crude argument based on the Kuznets curve would provide a link between, on the one hand, convergence in average incomes as a result of catch-up growth by the poorer countries and, on the other, a reduction in income inequality within these countries leading to convergence in relative poverty rates. We do not enter into the merits of such an argument here.

Our ability to actually provide the answer is limited by the available data. While subsequent waves of ECHP will show the situation during the 1990s, the trends prior to the 1990s are harder to establish. The availability of data differs across countries and the data that are available are not always sufficiently comparable. The treatment applied to the data to calculate poverty rates often differs. And results do not always separately identify children.

Our results refer only to nine countries and cover the period between the mid 1980s and the early 1990. The source is the analysis of child poverty by Bradbury and Jantti (1998) using the household survey data sets held in the Luxembourg Income Study (LIS). The data sets available in the LIS certainly do differ but have been harmonized to make them sufficiently comparable at a broad level across country as well as across time. And the treatment of the data by the authors – the method used to calculate poverty – is the same in each case. Figure 3.2 shows child poverty rates based on a poverty line of 50 percent of the median national income. This contrasts with the figures from the ECHP in Table 2.1 in which the poverty line is based on the *mean*, which results in higher numbers in poverty, although other differences in the treatment of the data and in the nature of the data sets may also affect the comparison. Some notable differences between the LIS results for the early 1990s and the ECHP figures are indeed to be found.

Figure 3.1
Child Poverty in the 1980s and the 1990s



Note: a child defined as in poverty if equivalised household income less than 50% of national mean. (Equivalence scale is a modified OECD scale – see Bradbury and Jantti (1998). The years to which the data refer are shown in the Appendix Table X.

Source: Luxembourg Income Study (LIS) microdata analysed by Bradbury and Jantti (1998) and the basis for the results in their Table 2.4.

These data show a rise in child poverty in the nine member states concerned, taken together, from 10.4 percent to 13.5 percent. Only in Denmark and Finland, countries with below average poverty in the 1980s, is a fall recorded. Large rises occur in the two countries with the highest rates in the 1980s, Germany – four percentage points over a 10 year period – and Britain – six percentage points over a

five year period. Dispersion in poverty rates goes up very slightly (the unweighted figure increases rather more). If data for France for 1981 and 1989 and for Spain for 1980 and 1990 are also included (treating 1989 in the former case as "1990s"), the overall levels and hence the rise in poverty remains similar, but the coefficient of variation is smaller and falls somewhat over time – from 0.33 to 0.27. Several Member States are absent from this analysis, notably three of the Cohesion Four and it would be particularly interesting to see the trends in child poverty in these countries. Among countries for whom data are available, however, the conclusion seems to be that disparities among Member States are broadly stable between the mid 1980s and the early 1990s, or falling by only a modest amount, against a background of an increasing average level.[4] The picture is clearly rather different from that for GDP per capita in the EU as a whole.

This conclusion of course relates to a particular measure of poverty: one that takes no account of differences in average national incomes. A child in Spain is classified as poor solely on the basis of a comparison of his or her household's income with the average Spanish income. But it may be argued that poverty measurement within the EU *should* take account of living standards in the Union as a whole, reflecting the notion of social cohesion among member states.[5] Countries with lower average incomes would then record higher poverty rates for a given distribution of income. And catch-up with the rest of the EU by the Cohesion Four in terms of national income per head would have the effect of reducing poverty in those countries, other factors remaining unchanged.

Whether this in turn reduced dispersion in poverty rates across the Union would depend on each cohesion country's point of departure compared to those of other member states, which depends on the distribution of income as well as on average income, but the likelihood is that this reduction would occur. However, changes in the distribution of income within countries, and any alterations in the position of families with children within these distributions, would remain critical, something true of all members states and not just the Cohesion Four. These may greatly moderate the impact of economic growth on poverty when the latter is assessed using an absolute yardstick. Measuring poverty using the official US poverty line in price constant terms, child poverty in the UK is estimated to have fallen by only 3 percent points between 1986 and 1991, despite GDP per capita growing by 11 percent in real terms.[6]

3.2 Children in Workless Households

One dimension of children's economic well-being is the strength of their households' contact with the labour market. This may have an important effect on the risk of being poor. On the other hand, one feature of the rise in unemployment in Europe since the late 1970s has been the lack of a clear link in a number of countries between

[4] These results seems consistent with the conclusion of Atkinson, Rainwater and Smeeding (1995) that continuing progression towards reduced income inequality in Europe was the exception in the 1980s rather than the rule.

[5] Another possibility suggested by Atkinson (1995) is for a poverty line that is a weighted average of the EU and national averages. This would reflect both differences in the levels of development across the Union as well as the notion of social cohesion.

[6] We are grateful to Bruce Bradbury and Markus Jantti for this calculation made using LIS data.

the changes in unemployment and the changes in poverty (Atkinson, 1998). But it is not just the impact on poverty that is of concern. Households without work are more precarious than are other households, with a greater need for income support from the state. Other aspects of worklessness go beyond the economic dimension. The lack of work in a household may cause tension within the family and may limit a child's aspirations and contacts. For these different reasons, the proportion of children living in households without work may be taken as one measure of economic and social exclusion.[7]

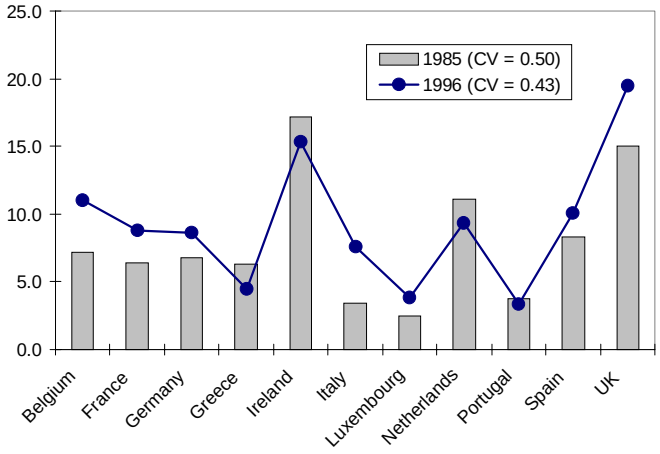
The analysis of workless households in Europe has been considerably advanced by Gregg and Wadsworth's investigation of whether there has been growing "polarization" in OECD countries – a simultaneous rise in the number of households with *all* adults present in employment and in the number with *no* adult employed (Gregg and Wadsworth, 1996). The picture appears to vary between countries, with some displaying polarization and some not. But the debate has not focused on the situation of children – on the changing proportion of children who live in workless households in different countries.[8] Nevertheless, recent work on workless households by the OECD provides an important source of information that we draw on here.

Figure 3.3 shows for eleven European Union countries the percentage of working-age households containing one or more children aged under 15 that had no working-age adult in employment. The data refer to 1985 and 1996, years in which the (uneweighted) average unemployment rate for the countries concerned was the same. The unit of analysis is the household and not the child; unfortunately the data do not show the percentage of children living in households where no adult is in work, which is the figure of more interest from the point of view of child welfare. Data for two further countries, Austria and Finland, are given for 1996 in Table 2.1. (The only countries for which no data are available are Denmark and Sweden.)

[7] This is not to say that lack of work should be viewed as a bad thing in every case, and the extra time that parents without work may spend with children may of course be beneficial. The quality of jobs is also important from the child's point of view, including the number of hours worked and the degree of mental and physical stress.

[8] In the case of the USA, the annual government publication *Trends in the Well-Being of America's Children and Youth* gives the proportion of children with both resident parents (or the only resident parent) in the work force, which rose from 53 percent in 1980 to 66 percent in 1994 (US Department and Health and Human Services, 1996, Table ES 3.1). But the numbers *without* any resident parent in the labour force are not given.

Figure 3.3
Households with Children with No Working Adult



Source; OECD (1998, Tables 1.6 and 1.7)

The incidence of worklessness among households with children clearly varies substantially across the EU. The figure in 1996 ranges from less than 4 percent in Portugal and Luxembourg to 15 percent in Ireland and almost 20 percent in the UK. The value of the coefficient of variation shows overall dispersion in 1996 to be higher than for several other indicators we use in the paper – see Table 2.1. However, disparities have fallen over time. Putting the UK aside, the graph shows that this is due partly to convergence by Ireland and the Netherlands to a lower level – a positive development – but also due to several other countries moving to a higher level – something less welcome. Indeed, convergence has taken place at a higher overall rate of joblessness. The level for the EU 11 as a whole rises from 8 percent in 1985 to well over 10 percent in 1996. The unweighted average rises by more than one percent point.

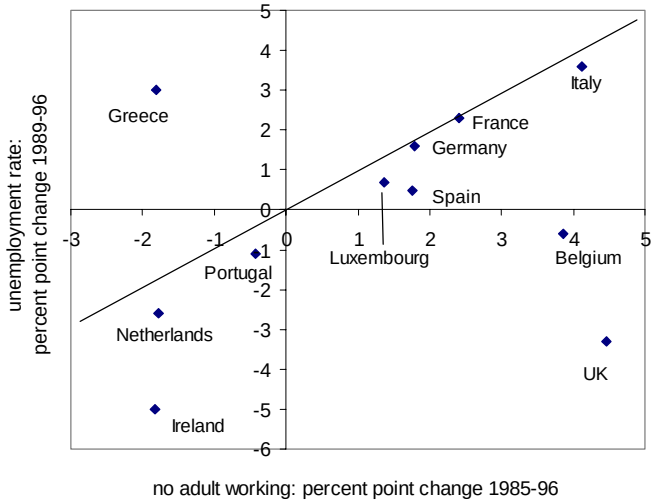
What lies behind the figures? Polarization of work along the lines suggested by Gregg and Wadsworth could result in higher worklessness among families even if overall conditions in the labour market are unchanged. Figure 3.4 plots the change in worklessness among households with children against changes in the unemployment rate. Although a number of countries lie close to the 45 degree line, in several the change in unemployment is a poor guide to the change in worklessness. In Greece, Belgium and the UK the changes have been in opposite directions.

The case of the UK stands out. The proportion of households with children where no adult works now exceeds the lowest figure recorded in the EU for *childless* households of working age, 18 percent, which is found in Portugal – and is not a long way short of the (unweighted) average for such households of 25 percent. Portugal and the UK had the same labour force participation rate in 1996 for 25-54 year olds (83 percent) and very similar unemployment rates (6.2 and 7.0 percent, respectively, for the same age group).[9] And yet there is a 16 percent point gap between these two countries in the proportion of households with children with an adult in work.

[9] These figures for unemployment and labour force participation are taken from (OECD, 1998, pp195-6).

The association across countries at any one point in time between labour market conditions and worklessness among families is, not surprisingly, in general quite strong. But this association is moderated by the big differences that exist in household structure, in particular in the *number* of working-age adults present in households with children. In Portugal less than five percent of households with children have only one working age adult – something true also of the other Southern European countries, Greece, Italy and Spain. By contrast, the figure is 10 percent or more in Austria, Finland, France and Germany, and as much as 18 percent in the UK. Single-adult households are far less likely to have work than are other households with children – averaging across all EU countries for which there are data, 40 percent and 6 percent respectively of these two types of household had no adult in work in 1996.[10] All the Southern European countries have a "workless family" rate below the unemployment rate for 25-54 year olds, while the opposite is true in Belgium, Germany, Ireland, Luxembourg, the Netherlands and the UK.

Figure 3.4
Change in worklessness among families and change in unemployment, 1985-96



Note: the unemployment rate is the economy-wide figure while the working adult rate refers to households with children.

The differences in household structure can be expected to affect the impact of the economic cycle on the overall level of worklessness among families, together with the dispersion in levels across Member States. But household structure itself changes over time. And in contrast to the economy, these changes represent trends rather than cycles, producing more lasting effects on worklessness. All countries featured in Figures 3.3 and 3.4 experienced an increase in the importance of one-adult households with children between 1985 and 1996, reflecting in part a rise in births to lone parents and in divorce. However, the extent of this increase varies markedly. In seven countries the rise in the share of single-adult households among all households with

[10] It should however be noted that there are large differences in the rate of worklessness even when holding this aspect of household structure constant. Over 60 percent of single-adult households with children have no work in Ireland and the UK, compared with only 25 percent in Spain, Portugal and Austria.

children was 2 percent points or less. In France it was 3 points, in Belgium and Ireland 4-5 points, while in the UK it was over 10 points. It is this large rise that drives the change in the overall worklessness rate for UK families.[11]

Patterns of worklessness for families in the EU, including the extent of differences among Member States, therefore depend on a variety of factors – the economic cycle, polarization in the labour market, and changing household structure. If household structure in Southern Europe moves towards that in Northern Europe then further convergence in household worklessness at a higher overall rate could be the outcome, although the future is of course hard to predict.

3.3 Unemployment among young people

For older children, concern about the impact of the labour market on well-being must include consideration of their own employment opportunities. Rather than looking at unemployment in the teenage years we focus on unemployment rates among those aged 20-24. The pool of teenagers at risk of unemployment varies substantially from country to country due to different enrolment rates in full-time education past the age of compulsory schooling. The figures are sensitive also to the treatment of those on active labour market schemes. Although data for those in their early 20s are also affected by these problems, it is to a lesser degree. And this age range is also of interest in its own right. Concern with child welfare extends beyond the years up to the age of 18. Seeing what happens to children when they pass over the age of majority is of considerable importance to any rounded picture of their current welfare.[12]

Figure 3.5 shows the unemployment rate for 20-24 year-olds for 1979 and 1994 and for two intervening years. The rates for just 8 countries are shown, but the weighted EU figure and the coefficients of variation reported beneath the years are for 14 counties (Austria is the country not included) except for 1979 when the figures refer only to the featured 8. Over the period as the whole, unemployment among the young moves up appreciably. The EU figure for 1994 is 22.6 percent, a depressingly high figure.

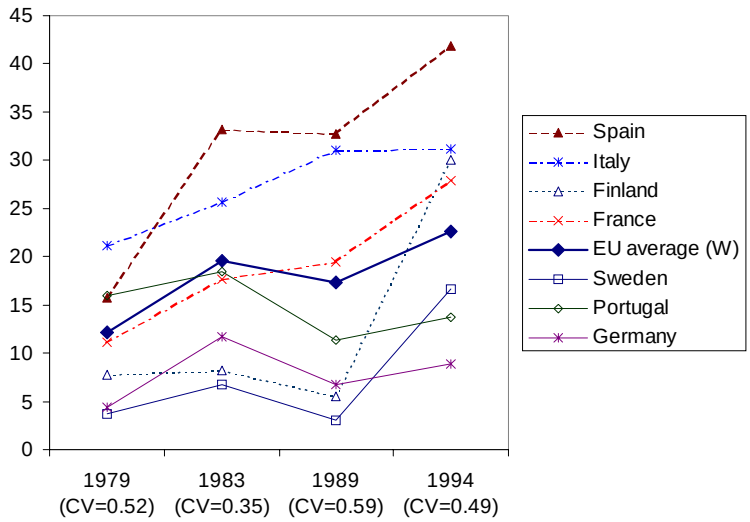
This general rise in unemployment is well known. Less well known is the change in the variation in the risk of unemployment among Member States. This has also has risen appreciably – the coefficient of variation goes up by 40 percent between 1983 and 1994, although it is notable that it fell substantially in the five years from its peak in 1989 when unemployment was at a cyclical low. The countries with the three highest rates in 1983 – Greece, Italy and Spain – all experienced significant increases by 1994. There were sharp rises in two countries with previously low rates, Sweden and, especially, Finland where the the early 1990s saw a notable shrinkage in the economy on account of fall-out from the break-up of the former Soviet Union. Germany and the UK, however, are among the countries where unemployment falls.

---

[11] The rate of worklessness in fact fell slightly in one-adult households in the UK – as for other household types – but the shift in the distribution towards this high risk group pushed up the overall rate.

[12] A more formal argument for looking beyond the age of 18 could clearly be given in terms of a life-cycle model.

Figure 3.5
Unemployment rate, 20-24 year olds:
1983-1994



Note: In 1979, the EU figure and the coefficient of variation refer only to the 8 countries illustrated. In subsequent years they refer to the EU15 with the exception of Austria.

Unemployment may reduce the welfare of young people in various ways, including a direct impact on incomes, wastage of their talents, and a feeling of exclusion from society. The impact on living standards will depend on the types of households in which young unemployed people live. Those that live in households where others are employed should be cushioned from part of the impact. But many young unemployed live in households where no other adult works. In 1996, the figure among the unemployed aged 15-24 was over 40 percent in 5 out of 12 Member States with an unweighted average of 32 percent (OECD, 1998). The lowest figures were found in Spain, Italy, Greece and Portugal (together with Austria), countries with high unemployment rates among the young – see Figure 3.5. The differences in household structure between Southern and Northern Europe even out disparities in one dimension of the impact of unemployment on the young.

3.4 Summary

(To be written)

4. Mortality

4.1 Traditional mortality indicators

Sen (1995, p.10) gives three reasons why indicators of mortality are important measures of a population's wellbeing. First, of course, we attach intrinsic importance to life itself. Second, many other capabilities that we value are contingent on our being alive; and third, mortality is correlated with and therefore a rough proxy for a number of other values for which data are less readily available – most obviously morbidity. Underlining all is the fact that mortality is not as easily explained by national wealth as might be expected. Although GDP is broadly correlated with both infant mortality (IMR) and life expectancy if all income levels are taken into account, over groups of countries with similar GDP wide disparities in mortality exist. This seems to be because traditional mortality indicators respond well to investment in basic public services and to the raising of the incomes of the poor, and because increasing national wealth is neither a necessary nor a sufficient condition for these improvements (see Anand and Ravallion, 1993).

At very high levels of national income, however, we would expect disparities in traditional mortality indicators to have been more or less eliminated. Indeed, in Europe today no country has an average IMR of higher than 9 deaths per 1000 live births, and while disparities do persist they are negligible in the light of those in the past: in the first half of the 1960s the IMR varied across Europe from 15 in Sweden to 76 in Portugal – the latter figure, for comparison, is higher than that for the Sudan in 1996 (Cornia and Danziger, 1997, p.26; State of the World's Children 1998, Table 1). Similar progress has been achieved in the wider measure of under-5 mortality, as illustrated in Figures 4.1 and 4.2.[1] The slight increase in some measures of disparity between 1990 and 1995 is due to significant progress made over this period by two of the best-performing countries, Sweden (as illustrated in Figure 4.1) and Luxembourg.

As the bulk of child mortality in any one year is made up of the under 5s, this progress has in turn meant similar convergence in the mortality of all those under 18.[2] Death rates for boys and girls under 20 are about one third of what they were in 1973, with most of the decline having occurred in children under 5.

[1] Persistent disparities in child and infant mortality across Europe seem to be partly explained by persistent differences in GDP: there is a negative correlation of –0.45 between IMR and per capita GDP in 1993. But this is driven entirely by the extremes – the performances of Luxembourg at the top and Greece and Portugal at the bottom. Remaining differences may owe something to the degree of disparity in child health *inside* certain countries, between social or regional groups. For instance, in Italy in 1991 infant mortality varied from 5.2 in the North-West to 11.8 in the South (Saraceno, 1997, Table 10.1); while in England and Wales the rate varied from around 7 for social class 1 to 11 for social class 6, with the children of lone mothers recording a rate of around 14 (Commission on Social Justice, 1994, Figure 1.11). In Sweden, in contrast, the rates for the top and bottom classes were similar at about 5, with the children born to lone mothers closer to 7 (ibid.).

[2] Under 5 mortality accounted for over 75% of deaths of under 20 year olds in 1970 and roughly 65% in 1995.

Figure 4.1
Under 5 mortality rates in selected EU countries 1970-95
(probability of dying before reaching age 5/1000)

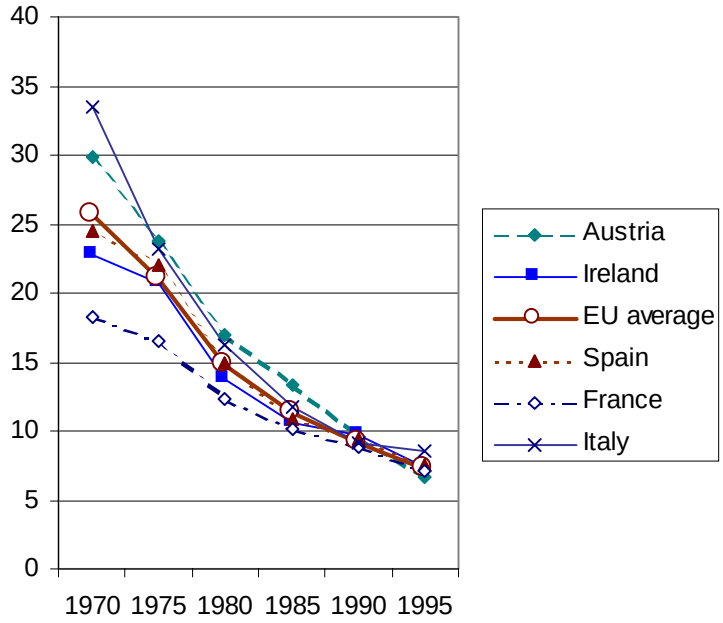
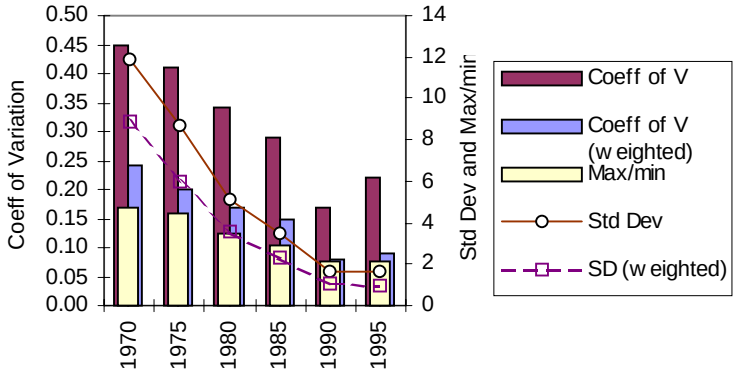


Figure 4.2
Measures of disparity in under-5 mortality rates, 1970-95, EU 15



Despite these achievements, however, mortality data retains its use as a relative measure of child well-being even in the industrialized world. First, this is simply because there are still unnecessary deaths, although a growing share of these are from less traditional causes. While infectious disease has been close to eliminated as a cause of death in Europe, modern life poses new threats to survival. At the same time, returning to Sen's third argument, mortality data present us with proxies for wider failings in society which are hard to measure by other means.

In this paper we look for evidence of convergence in death rates from two specific causes: both are chosen not only as significant contributors to remaining child and youth mortality in Europe, but also because they represent wider problems faced by the young in industrialized countries today. One of the major changes which has affected children's safety and independence is the rising profile of the car. While many children benefit from the increased mobility rising car ownership has afforded their families, the same development has led to significant new constraints on their own personal freedom. Activities which their parents may have taken for granted – playing football in the street, cycling to school – are out of bounds to many European children today. Unfortunately, mortality rates are almost certainly not the best way to measure the effect the car has had on children's freedom of movement: although they may proxy the wider number of non-fatal accidents (which are difficult to compare across countries), accident rates will be affected by the degree to which parents adapt to the perceived threat (by keeping children indoors) as well as by the extent to which cars are kept in check by safety measures and pedestrian zones. This problem is discussed further below. Still, taken in conjunction with other data the mortality rate gives us some insight into the problem – while also, of course, giving us direct information about the most tragic outcome of the proliferation of the car.

The second mortality measure we look at is the death rate of young men from suicide and self-inflicted injury, a problem of increasing concern in many industrialized countries. Suicide death rates among the young have been rising significantly in a number of countries in Europe, with men particularly affected. In addition to the waste of human potential each death represents, the level of youth suicide in a country suggests itself as one of the few available proxies for a wider phenomenon of stress, dispair and disaffection affecting young people.

4.2 Child deaths from motor vehicle accidents

Motor vehicle accidents are now the single most important killer of children in Europe between the ages of 5 and 14. In 1994 they were responsible for 20% of deaths of both boys and girls of this age group - a total of 1500 children killed on European roads. However, this still represents a considerable improvement on thirty years ago: in 1960 3500 children in this age group were killed. So despite the increasing level of car ownership, Europe has seen a steady improvement in road safety: between 1960 and 1994 the death rate for children 5-14 halved from 7.2 to 3.6 per 100,000. This apparent success raises two questions. First, how universal is the pattern: are all European children sharing in improvements? And second, what can we say about how far falling death rates are due to restrictions on children and how far to curbs on the speed and reach of traffic?

Figure 4.3 shows the main trends in road accident mortality rates for 5-14 year olds. Most countries experienced a peak in the death rate in 1970, although the peak is at various different levels: Germany and Denmark (not shown), for instance, reach a maximum of 16 deaths per 100,000, compared to Austria and the Netherlands (12), and Italy and Ireland (9). From the early 1970s on, there is a steady decline in fatality rates such that by 1994 the death rate varies between 3 and 5 deaths per 100,000 in most of Europe.

The Southern European cohesion countries provide an exception to this rule. In Portugal and Spain road death rates keep rising until 1980 and in Greece until 1990: in all three countries death rates in 1994 are higher than in 1960. The trend in Portugal is particularly striking: the number of children killed in road accidents per 100,000 doubled from 6 to 12 between 1960 and 1975, before falling back to 8 by 1994.

Naturally this different trend in the Cohesion countries is explained by their later development: as the number of traffic accidents is to some extent a factor of the number of cars, this is one welfare indicator likely to be negatively correlated with GDP. Greece and Spain in particular start off in 1960 with much lower traffic death rates than any of the more advanced European countries, and so the fact that these rates increase over the period is of little surprise.

However, there is clearly a point at which traffic accidents no longer increase with income, and countries turn their attention to improving road safety measures -- hence the 1970 turnaround in Northern Europe. The Cohesion countries appear to have reached this turning point already: the road death rate in Portugal, as noted, has been falling since 1980; while in Greece the death rate fell in the first half of this decade, although it is too early to say whether this is a permanent trend. It is also worth noting that, even in Portugal, rates in the late 1970s did not reach the highest level of the 1970 peak: the pattern of road death rates in Portugal is an echo of the Austrian trend, for instance, rather than the German one.

What this means for convergence is shown in Figure 4.4. Coefficients of variation fall between 1960 and 1965: this is sigma convergence driven by beta convergence, as death rates in Greece and Spain rise from their initial low starting point. Between 1965 and 1970 we get exactly the opposite effect: sharp rises in death rates in countries which already have poor records is compounded by a fall in deaths in Greece. However, the subsequent improvements in the north, combined with the steady worsening of the situation in Greece and Spain, leads to considerable sigma convergence between 1970 and 1975: the ratio of maximum to minimum halved from 5 to 2.5 in this five-year period alone.

Since then, standard deviations have been falling steadily as road death rates come down all over Europe. However, the speed of improvement in some countries combined with a lagging behind in Portugal mean that the mean-insensitive disparity measures show stagnation and even widening over the last decade. Portugal is largely responsible, but even with Portugal excluded we find stagnation after the striking improvements of the 1970s, with the maximum/minimum ratio stuck at a rate of some 2.5. Even if this is due to continuing progress in countries which already have relatively safe roads, rather than increasing dangers elsewhere, it raises questions about why all countries are not managing to follow the example set by the best. For instance, why are there two and a half times as many road traffic deaths in Finland as in neighbouring Sweden? Similarly, how have Sweden and the UK managed to halve their road deaths over the decade 1985-94 while the Netherlands has reduced theirs by only 10%?

Figure 4.3
Deaths from motor vehicle accidents among children 5-14, selected EU countries (deaths per 100,000)

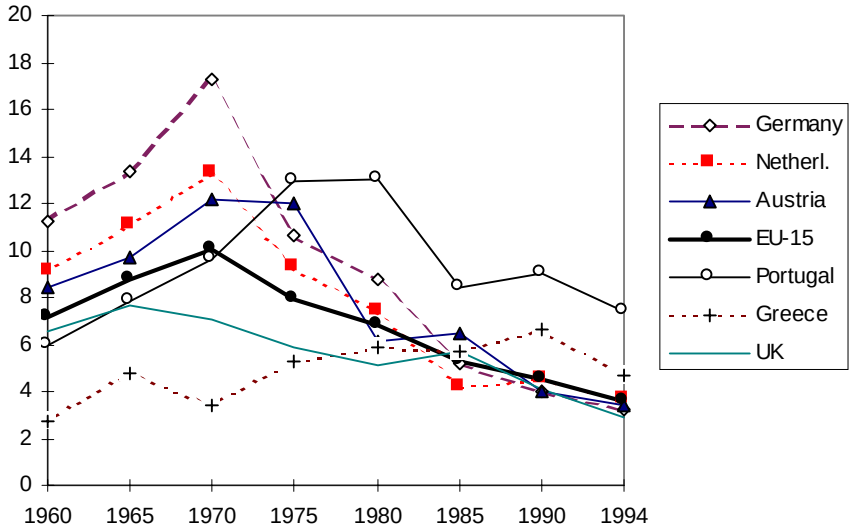
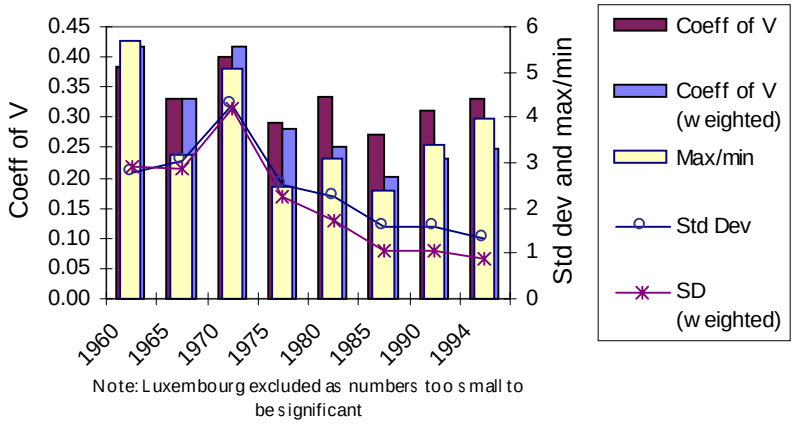


Figure 4.4
Measures of dispersion for child traffic death rates, EU 14, 1960-94



As suggested above, however, there is a potential problem with reaching conclusions about children's welfare on the basis of road death figures. It has been argued that road accidents are falling, not because of increased safety on the roads, but because parents are keeping their children cooped up at home away from traffic and other perceived dangers. A study for the UK Policy Studies Institute argues that "the streets have not become safer; they have become … extremely dangerous. It is the response to this danger, by both children and their parents, that has contained the road accident death rate." (Hillman et al, 1990, p.2; see also Hillman, 1993). For instance, in 1971 80% of British seven and eight year olds went to school on their own, but in

1990 only 9% were allowed to do so (Hillman et al, 1990, p.106).[3] Half of nine year olds in 1990 were allowed to cross the road unaccompanied, compared to 70% in 1971 (op.cit. p.44). Thus while European children may be less likely to be killed in traffic today than twenty years ago, this may be at the cost of a deteriorating quality of life for the young.

Once children's effective independence is considered alongside road fatality statistics, comparisons of road death rates across countries become complicated. For example, the Netherlands, Germany and the UK have near identical child death rates from traffic accidents in the early 1990s. But in the Netherlands 61% of boys aged between 12 and 14 and 60% of girls travel most places by bike, while in Britain the figures are 13% and 4%. Similarly, in Germany in 1990, 60% of seven and eight year olds were travelling to school unaccompanied, and 90% of nine year olds were allowed to cross the road alone; much higher than the figures given above for Britain (Hillman et al., 1990, p.73). This suggests that UK roads may be much more dangerous than statistics suggest: it is parents and children rather than drivers who may have adapted.

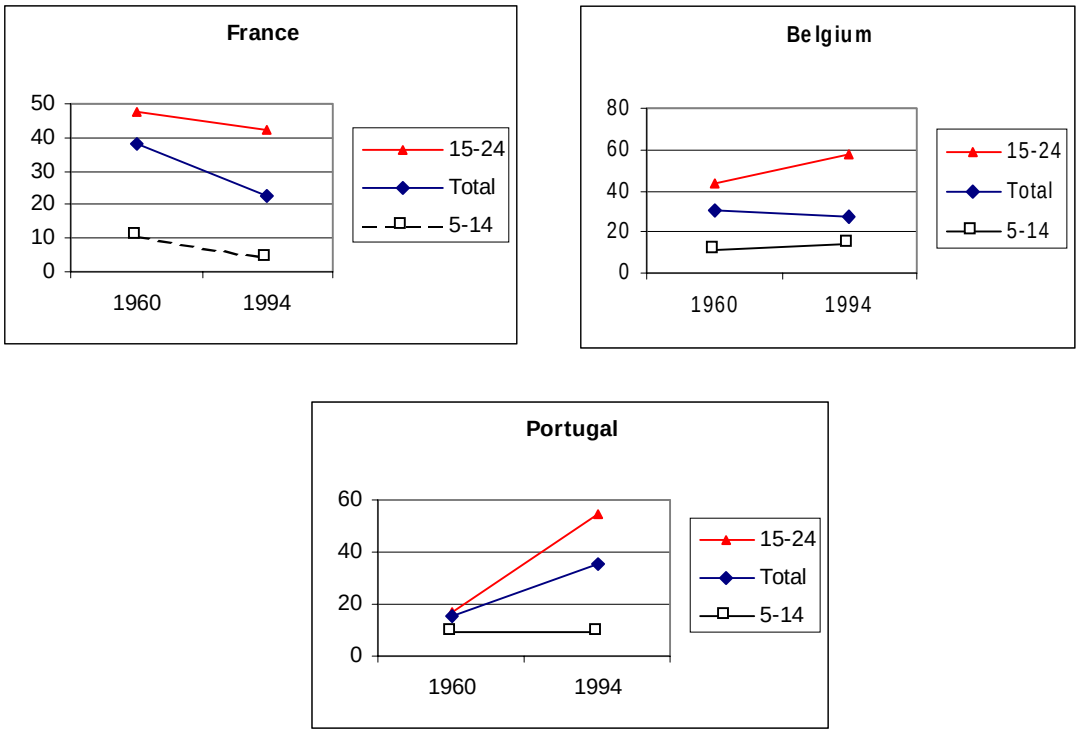
It would be very much in children's interest if this sort of data was collected systematically. In its absence, what other types of information might shed light on how far falling death rates are really due to parental caution and how far to tighter controls and more responsible motorists? One way might be to look at road death rates among poorer children – those more likely to be on the street. For instance, a 1990 survey of primary school children in Lisbon found that 68% were unsupervised after school (chapter by Silva in Cornia and Danziger, 1997). This may explain part of the higher child death rate in Portugal. In Britain, a child from Social Class VI is more than four times as likely to be killed in a traffic accident as a child from Social Class I (Report of the Commission on Social Justice, 1994, p.44), putting poorer children in Britain at similar or greater risk to the average child in Portugal. The problem with this approach though is that, while a disparity in fatality rates between social classes is good evidence that the roads are not as safe as the averages make them appear, the opposite is not necessarily true. An absence of such disparities may be indicative of a society in which all parents have the means to ensure that their children are supervised.

An alternative way of assessing the extent of children's diminishing independence may be to look at the level of road death rates in the population as a whole. Is road safety improving in general, or are children simply being better protected from constant or increased dangers? This type of data in fact gives little support to the idea that it is just that the child is being protected. Figure 4.5 shows road death rates in three countries for three different age groups of males: children between the ages of 5 and 14; young men between the ages of 15 and 24, which is when the majority will become fully independent for the first time; and the total male population. The countries, France, Belgium and Portugal, are chosen as they represent the main national trends followed. In most of Europe, traffic-death rates for the whole population have fallen somewhat more steeply than death rates for either children or

[3] Traffic danger was cited by 43% of parents as the primary reason for concern, compared to 21% who cited molestation and 21% who said their child was too unreliable.

young people, as reflected in the figure for France.[4] This suggests that traffic is being curbed: European roads seem to be growing safer for all, with the young the last to benefit. The exceptions are Belgium and the Cohesion countries. In Belgium, death rates of children and young men have actually increased over the period while the rate for the total population has fallen. The strongest support for the hypothesis of the over-protection of the child comes from Portugal, Spain, Greece and Ireland, where death rates for the whole population and for young men have risen steeply, while child death rates are broadly similar to what they were in 1960.[5] Yet in these countries the hypothesis itself is less convincing. Many of the increased deaths are likely to result from the expansion of highways, and it is plausible that children would have been affected less than proportionately by these.

Figure 4.5
Death rates from traffic accidents for three age-groups of males
Three EU countries, 1960 and 1994 (deaths per 100,000)



4.3 Deaths of young men from suicide and self-inflicted injury

Road accidents are also the leading cause of death for young people in Europe aged between 15 and 24. As Figure 4.5 illustrates, the chances of dying on the roads at this age are up to ten times higher than the chances of dying in the same way between 5 and 14. However, it is the next most common cause of death for this age group,

[4] Although the UK is unique in being the only country in which the death rate for the 15-24 age group has come down much more quickly than the total death rate. This may be due to a powerful campaign against drink-driving.
[5] Italy is the only other country where road death rates for 15-24s have risen over the period. Death rates for the other two groups have both fallen.

death from suicide and self-inflicted injury, which is attracting increasing concern. In part this is because suicide is responsible for a growing number of early deaths: while the rate of death from traffic accidents in 1994 was roughly similar to that in 1960, the rate of death from suicide had increased by some 60%. But in part it is because a rising suicide rate is indicative of a wider phenomenon of disaffection and malaise among young people. Young men are particularly affected: over four times as many young men as young women die from suicide each year.[6] In 1994 over 3000 males and some 750 females between the ages of 15 and 24 are recorded as having taken their own lives in the EU. An additional 800 males and nearly 200 females died from violent causes undetermined whether deliberate or not.[7]

These last figures are relevant because of the problems involved in the classification of suicide deaths. It is widely held that official suicide statistics significantly underestimate the true number of suicides (see e.g. Pescosolido and Mendelsohn, 1986). A suicide death is one which is self-inflicted and intended, and the establishment of intent after death is not always easy. In many cases the decision hinges on witness testimony about the dead person's circumstances and state of mind, which introduces an element of uncertainty. In an investigation of verdicts reached on deaths of people run over by London Underground trains, Taylor (1982) illustrates how apparently identical deaths can end up being classified differently purely on the basis of whether or not a witness testifies that the person had seemed depressed.

This room for ambiguity is likely to result in a universal downward bias in suicide figures, as coronors and magistrates usually prefer to record an open verdict if in doubt, rather than cause unnecessary distress to surviving family. But the degree of the bias is also likely to vary across countries, making cross-national comparisons questionable. In part this is because of differing taboos associated with suicide, providing differing motivations to disguise the circumstances of death. The long accepted inverse relationship Durkheim established between Catholicism and suicide rates is now often put down to a greater degree of under-reporting of suicide in Catholic countries (e.g. Pescosolido and Mendelsohn, 1986..). But in part it is also simply because of procedural differences in the process of registering cause of death. For instance, in England and Wales a coronor must prove 'beyond reasonable doubt' that a person intended to take their own life – a relic of the times where a suicide verdict was a criminal verdict. In contrast, in the Republic of Ireland a police inquiry can reach the decision on the basis of the 'balance of probabilities', and official suicide rates are considered far more reliable as a result (The Samaritans, personal communication).

One common practice to get around this problem is to look at both deaths

[6] It is interesting though that 'parasuicide' (attempted suicide) seems to be more prevalent among young women than among young men: in the UK young women between 15-19 form the highest risk population group ('Suicide in the UK', The Samaritans, 1997). This may be because women happen to choose less violent means of death which allow room for discovery; or because female suicide attempts are more often cries for help than decisions to end life. Whichever is the explanation, para-suicide would in itself be an interesting measure of well-being, but data is naturally much less easily available.

[7] In comparison to both these categories, homicide was responsible for a tiny number of deaths. In 1994, for instance, there was less than one homicide for every ten deaths from suicide or undetermined causes.

recorded as suicides and those recorded as caused by 'undetermined violence', or under an open verdict. This, according to the Samaritans (Suicide in the UK 1996), "goes some way towards reducing the margins of error created by the varying definitions and rules applied by different countries to arrive at suicide verdicts in some cases." Naturally it will be less relevant in countries where suicide verdicts are easier to reach, but in these places undetermined deaths will only be a small percentage of the total anyway. We therefore include as suicides all deaths recorded as caused by undetermined violence in all fourteen countries of observation, although this restricts analysis to the period since 1970, as sufficiently detailed breakdown of cause of death is not easily available for earlier years. (Luxembourg is excluded because the numbers are too low to be considered statistically significant.) In fact, this turns out to increase noticeably only the rates in Portugal (which has a very low official suicide rate which is tripled by the inclusion of undetermined deaths), and, to a lesser extent, the UK, Sweden, Denmark and France. (It is interesting that in the other Catholic or Orthodox countries of Europe – Greece, Spain and Ireland – using this definition does not affect the suicide rate significantly.)

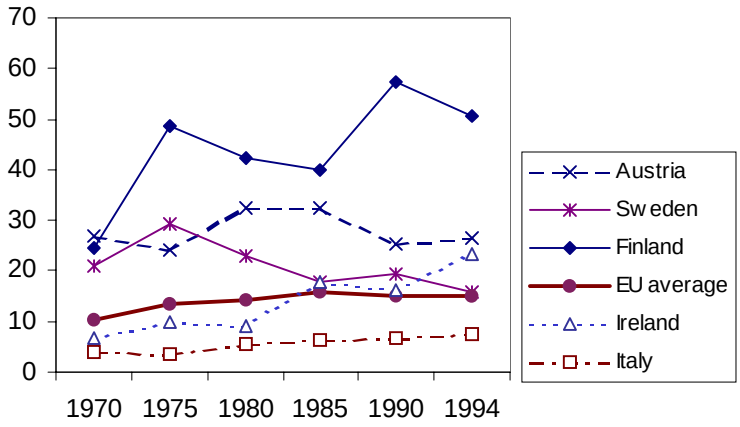
Measured in this way, we find that male suicide rates are rising across the EU, although at several different speeds.[8] Figure 4.6 illustrates the main trends since 1970. The slow but steady increase in the EU average reflects trends in the UK, Denmark, Belgium and France, all of which have rates at roughly similar levels. A much better record is found in parts of Southern Europe, the Italian trend representing similar patterns in Spain and Greece: while suicides are also on the increase in these countries they are still much below average. The Netherlands (not shown) has a rate just above that of Italy.

Not all of Southern Europe does so well, however. The trend in Portugal is very similar to that shown for Ireland. In both countries suicides start very low but climb steadily, surpassing the EU average in the mid-1980s. Ireland is also unique in displaying a steep increase in suicides in the first half of the 1990s (Portugal records a considerable drop between 1990 and 1994).

The other striking phenomenon illustrated in Figure 4.6 is the very different patterns followed since 1970 by countries in Northern and Central Europe. Austria, Finland, Sweden and Germany (which follows roughly the Swedish trend) all started off in 1970 with fairly similar suicide rates. Since then rates in Sweden and Germany have (alone in Europe) slowly fallen, the Austrian rate has remained fairly stable and suicides in Finland have increased dramatically.

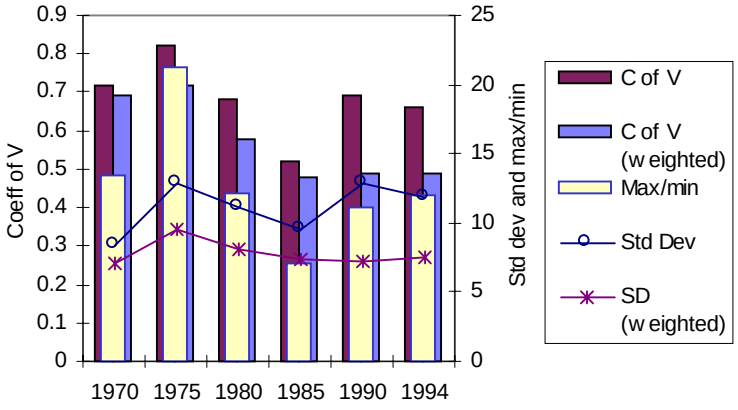
[8] If deaths from undetermined violence are excluded, suicide deaths are still found to be rising, but by slightly less: the EU average death rate for deaths classified as suicide and self-inflicted injury rose from 9.0 to 12.0 per 100,000 between 1970 and 1994; with undetermined violence included the rate rose from 10.4 to 14.9. The national trend is the same for the two measures in every country except Portugal, where the death rate for suicide alone falls over the period, while the rate for suicides and undetermined causes doubles.

Figure 4.6
Death rates from suicide and unexplained violence, males 15-24
Selected EU countries 1970-94 (deaths per 100,000)



These differing patterns are clearly not suggestive of convergence in suicide rates across Europe. Figure 4.7 further illustrates this, showing various measures of disparity over time. The standard deviation has risen steadily over the period; while coefficients of variation suggest that suicide rates *are* more similar now than in 1970, but that this can be broken down into a sharp fall in disparity between the mid-70s and the mid-80s followed by some degree of divergence since then. Convergence in all measures between 1975 and 1985 seems driven by falling suicide rates in Finland and Sweden accompanied by substantial rises in countries with low initial starting rates like Ireland and Portugal. The increase after 1985 in all non-weighted measures seems driven entirely by Finland; hence the stability in measures of disparity calculated with weighted populations.

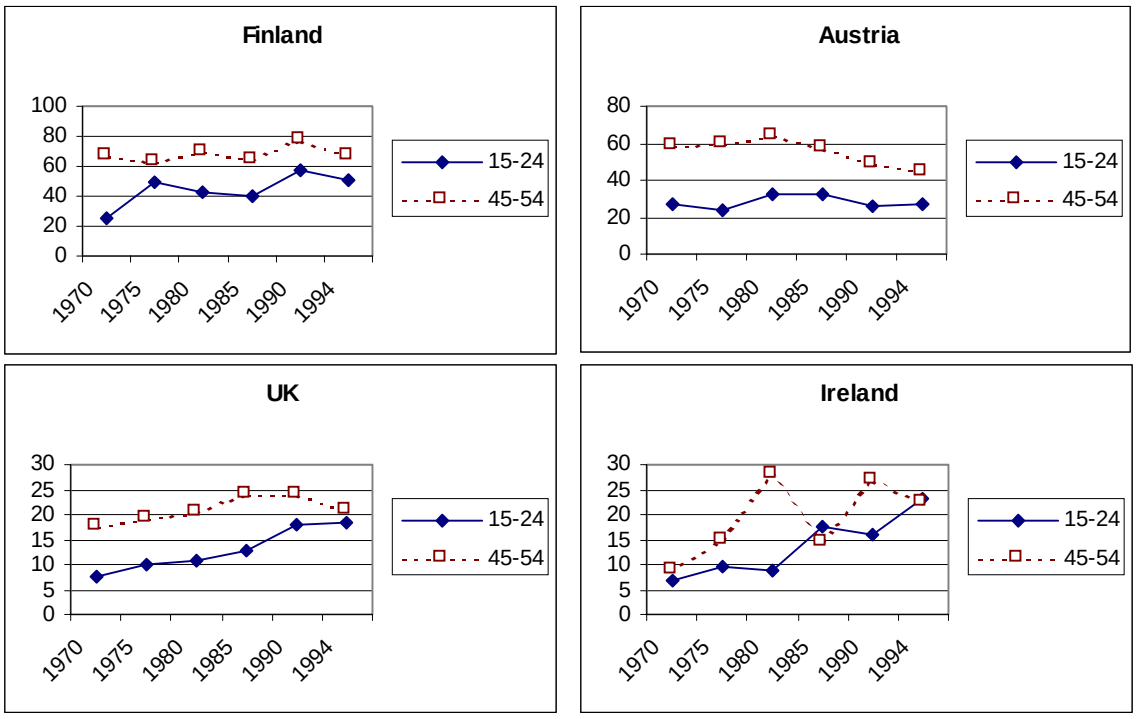
Figure 4.7
Measures of dispersion for deaths from suicide and unexplained violence,
Males 15-24, EU-15



Suicide, then, seems to be a growing problem for young people across Europe. Only Sweden, Germany and Austria seem unaffected by the rising trend. But rates of suicide are still very different, with the youth suicide rate in Finland in 1994 double that in Austria, the country with the second highest rate. Furthermore, rapid increases in suicides in Ireland and Portugal suggest that rates may continue to diverge even with the exclusion of Finland.

It is worth exploring how much youth suicide rates are explained by wider suicide trends and how much appears to be specific to the age-group. Broadly, trends in suicide rates of 15-24s since 1960 seem to match rates of 45-54s. The exceptions are Finland and the UK, where youth suicide rates have risen while those for 45-54s have remained fairly stable; and Austria, where rates for 45-54s have fallen slightly; This is illustrated in Figure 4.8.[9]

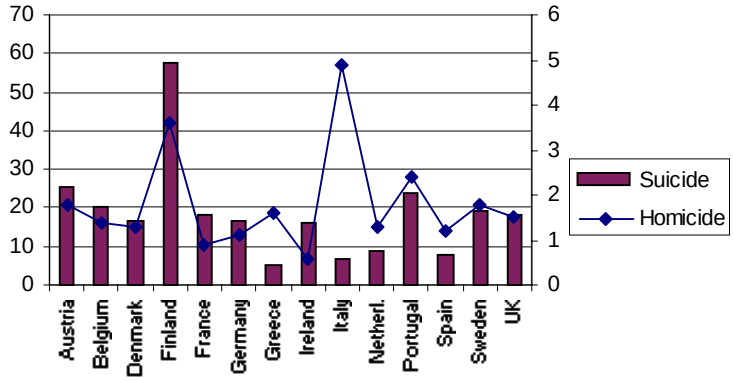
Figure 4.8
Male death rates from suicide for two age groups: 15-24s and 45-54s



[9] Figure 3.8 also illustrates the differences in the *level* of suicide among younger and older age groups. In most European countries the suicide rate for 45-54 year old men is considerably higher than that for 15-24s (about double), as in the figure for Austria. Finland, Ireland and the UK are the exceptions: in 1994 in Finland the suicide rate for the older age group was only 20% higher than that for the younger; while in Ireland and the UK the rates were the same.

A second interesting question concerns the relation between suicides and homicides. Arguments could be put forward hypothesizing a positive relation (violent societies leading to more of both) or a negative relation (Durkheim??). Homicides among 15-24 year olds in Europe are far rarer events than suicides, at roughly one tenth the number (this contrasts sharply to the situation in the USA, where the homicide rate was 50% higher than the suicide rate for young men of this age group in 1991).[10] However, it is striking that there does seem to be a positive correlation between homicides and suicides across the last three decades. There are two exceptions to the rule: Italy, where homicides of young men in this age group have been increasing steadily since the 1960s, so that by 1994 there were more than twice as many homicides in Italy as anywhere else (alongside a very low suicide rate); and Portugal, where homicides were very high in the 1960s and have been falling since. With these two countries excluded, the correlation between homicide and suicide rates for 15-24s ranges between 0.32 (1985) and 0.72 (1975) in each of the five year intervals between 1960 and 1990, although it drops to 0.12 in 1994. The relation is illustrated in Figure 4.9 which shows suicide and homicide rates in 1990.[11]

Figure 4.9
Suicide and homicide rates for young men 15-24, EU 15 1990
(deaths per 100,000)



4.4 Conclusions: convergence in mortality?

To conclude, this section has illustrated the significant progress made in Europe in bringing down under 5 mortality rates, and through them death rates for all children. Rates of death for the under 20s have halved even since the early 1970s. With the less developed countries of Southern Europe (and Portugal in particular) exhibiting especially rapid progress, cross-country disparities in under-5 mortality and in total child mortality have been dramatically reduced.

Child death rates from traffic accidents have also converged considerably since 1960, although most progress was made prior to the mid-1980s. In the last decade

[10] WHO statistics. It is the homicide rate in the USA, of course, which stands out: the suicide rate is about 23 deaths per 100,000, similar to that in several European countries.
[11] Homicide rates have shown a trend towards convergence (with one or two kinks) since 1970: the coefficient of variation was 0.96 in 1970 (Portugal the outlier), falling to 0.63 in 1990 and 0.54 in 1994 (Italy the outlier).

disparities in road accident rates have tended to stagnate. In part this is due to Portugal, where death rates are falling too slowly to keep up with the rest of Europe; and in part to continuing achievements in countries where road deaths are already relatively rare. This last is of course not really cause for concern, although it does raise questions as to why other countries are not managing to achieve the same results.

However, we also pointed to the fact that it is difficult to know how far falling road fatality rates are due to additional restrictions being placed on the child rather than on the car. The fact that in most of Europe traffic death rates are coming down for all age-groups, not just for children, is good news. But road death rate data really needs to be supplemented by data on children's activities such as bicycle use and unaccompanied journeys to school, if we are to have a more complete picture of what the rise of the car has meant for children's independence. The small amount of this type of data that exists so far suggests that there would be an interesting cross-national picture to be told.

Finally, the suicide rate shows little sign of convergence; the opposite if anything is the case. Responsibility for this can largely be pinned on Finland, where young males have shown a frightening increase in tendency to suicide: the suicide rate for 15-24s has doubled since 1970. In 1970 suicide rates for this group were similar in Finland and Sweden; today Finnish young men are three times as likely to die from suicide as Swedish young men. However, while the problem appears of epidemic proportions in Finland, the suicide rate is of cause for concern across much of Europe. If Finland is excluded, a process of convergence does seem to have taken place, but this has been convergence not to a low point but to a high to middling point. While Sweden, Austria and Germany have seen suicide rates stagnate or fall from relatively high levels, all other countries have seen rates rise. Besides Finland, the increase has been particularly sharp in Ireland, where youth suicide rates are now the third highest in Europe.

5. Education

Education indicators might be divided into three types, input indicators, process indicators and output indicators. What interests us about an education system is really its output, what people come out of school knowing, and how they are able to apply this knowledge. But output indicators which are consistent over time are notoriously difficult to find, while such indicators valid across countries with different examination systems are next to impossible to put together.[1] Most studies are therefore restricted to looking at input measures – the resources that go into education; and process indicators – enrolment rates and (where data is available) dropout rates and repetition rates. In this paper we look for convergence in one of each of these second two types of indicator. First, we look at public expenditure on education as a percentage of GNP, as a standard input measure easily conducive to cross-national comparison, and clearly reflecting government choice about priority given to education.[2] As a process indicator we choose the percentage of 16 year olds still in education; sixteen is chosen as the first age at which education is no longer compulsory in the majority of EU countries.[3] Finally, we explore how far one new source of comparative data on output fits in with our findings, by looking at the results of the OECD International Adult Literacy Survey (IALS) for the few European countries in which it has so far been conducted.

5.1 Expenditure as a percentage of GDP

Measures of disparity in the percentage of GNP spent on education since 1980 are presented in Figure 5.1. The measures show strong evidence of convergence during the period, but mostly this seems to have taken place during the early 1980s, with stagnation in the early 1990s. Figure 5.2 gives an idea of the figures behind the convergence measures. During the 1980s we see something of a traditional convergence pattern, with spending rising steadily as a share of GNP from low levels in Spain, Greece and Portugal; and falling from very high levels in the Netherlands and Sweden and from relatively high levels in Belgium, Ireland and the UK. However, a growing share of spending on

[1] Recent suggestions by UK employers and universities that there has been a 'devaluation' of the 'gold standard' of the A level (the final school exams in England and Wales) provide evidence that even within a single country it is difficult to know whether exam results can be compared across years. Seventeen percent of pupils received the top grade in 1998, compared to eleven percent ten years previously (see for example *The Guardian*, August 20th 1998).

[2] The 1997 OECD report on education indicators, *Education at a Glance*, notes that "the share of total financial resources devoted to education is one of the key choices made in each country" (p.51). In fact, as the report goes on to point out, public expenditure is now only one part of this choice, with resources coming from private sources of funding playing an increasingly important role. But private resources are still responsible for a very small share of the total in most EU countries (see OECD, 1997, p.52), while time-series data which includes private funding is not easily available. There is also independent reason to focus on the share spent publicly if our interest is in the priority given to education by government.

[3] The minimum school-leaving age in 1994/95 was fifteen in all EU countries except Italy (fourteen), the UK, France and the Netherlands (sixteen) and Belgium and Germany (eighteen). (Source: UNESCO website.) The school-leaving age in Italy has been increased to 15 as of the academic year 1998-99.

education in Denmark (and, to a lesser extent, Finland) dampens down the effect of what would otherwise appear to be convergence from above and below at 5% of GNP.

Figure 5.1
Measures of disparity in public spending on education as share of GNP, EU 15 1980-95

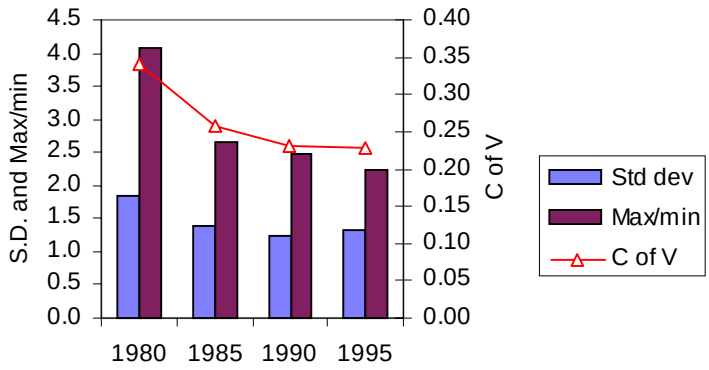
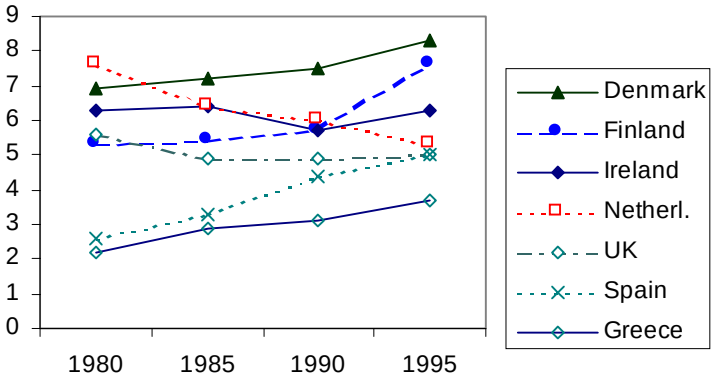


Figure 5.2
Public expenditure on education as a percentage of GNP, selected EU countries 1980-95



Source: UNESCO. Note: for some countries 1995 data is for 1994.

The stagnation in disparity measures between 1990 and 1995 is explained by a growing number of higher spending countries increasing their expenditure share, preventing Spain, Greece and Portugal from catching up despite their own progress. Expenditure shares rose in Denmark, Finland and Ireland as shown in Figure 5.2, and also in France and Sweden. Indeed, the only countries *not* to increase education spending as a share of GNP over this period are the UK (where the share is constant at 5%) and Italy and the Netherlands (where it falls). Developments in the Netherlands are particularly striking: over the course of the period spending falls from the highest share of GNP in

1980 to below that of Portugal in 1995. Only Spain, the UK, Italy, Germany and Greece spend less.

5.2 Enrolment at age 16

Our process indicator, the share of 16 year olds in education, also shows strong evidence of convergence over the period for which data is available. Measures of disparity are shown in Figure 5.3. (Note though that only twelve countries are included because of missing data for several countries in several years.)[4] Convergence is driven by strong achievement among countries which had been lagging behind, alongside understandably slower progress among countries which already had high shares of the population in education, notably Scandinavia. Not all the countries lagging behind are those which might be expected, however. The group includes Portugal and Spain, where less than 20% of 16 year olds were in education in the 1960s, but respectively 80 and 90% by 1994.[5] But it also includes the UK, where the share in education was just 27% at the start of the 1960s, less than that in Greece, Italy and Ireland. By 1994 82% of UK 16 year olds were in education, but this still represented the third worst position of the fourteen countries where data is available, and only just ahead of Luxembourg and Portugal. These trends are illustrated in Figure 5.4.

Luxembourg also presents an interesting case, as evidence that no country can sit back and rest on its achievements. In 1965 72% of Luxembourg 16 year olds were in education, the highest rate in Europe at the time. But in 1995, this share had increased to just 77% - leaving Luxembourg with the *worst* record in Europe. As Figure 5.4 shows, this is primarily due to a big (and unexplained) fall in the share of the age group in education in the 1970s, a phenomenon shared by Austria.

Finally, it is unfortunate that no data is available on Italy after 1980. In 1980 a similar share of Italian 16 year olds were in education to that in Spain and Portugal, but the minimum school-leaving age remained lower for a longer period of time, only being raised from fourteen to fifteen in 1998. It seems likely that enrolment rates might have remained low among Italians as a result.[6]

What is driving rising enrolment? In part the trend must be explained by increases in the minimum school-leaving age. But it is also likely to be related to unemployment: lack of opportunity available on leaving school encourages the young to stay on. In Italy,

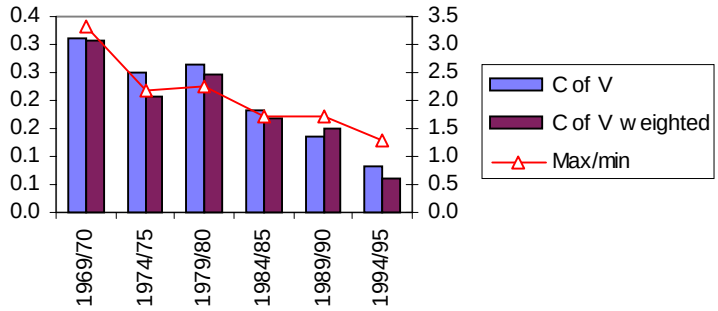
[4] There are too many missing observations to put together a series for Denmark, Germany or Italy. For six of the remaining twelve countries, data was extrapolated for certain years on the basis of that for preceding and following years. These points can be identified in Figure 5.4 as no data marker is given.

[5] The minimum school-leaving age has increased over the period from eleven to fifteen in Portugal and from twelve to fifteen in Spain.

[6] Eurobarometer survey data suggests that 16% of Italian 16-24 year olds interviewed between 1990 and 1994 had left school before the age of 16, compared to 11% of Greeks of the same age, 12% of Spaniards and 34% of Portuguese. But the surveys give a somewhat different picture to the enrolment data: for instance, only 5% of this age group in Luxembourg and 7% in the UK said they had left before 16.

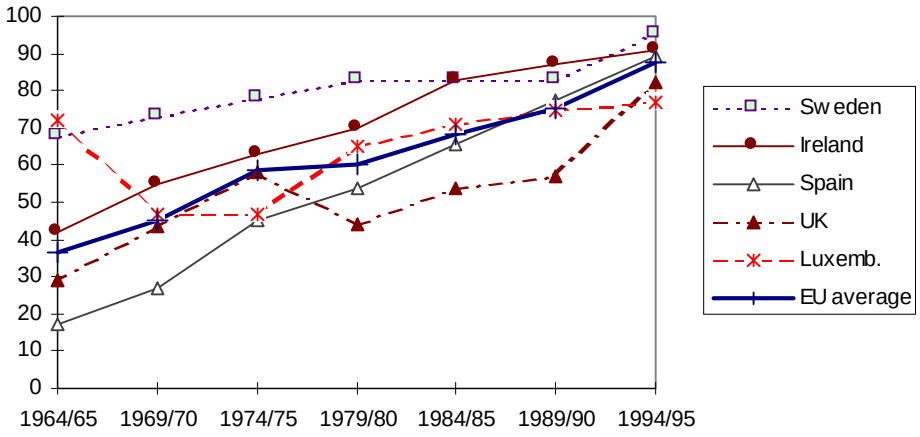
for example, staying on rates are much higher in the south, where unemployment is high, than in the industrial north (source). The rising levels of youth unemployment discussed in Section 3 are probably partially responsible for the trends in enrolment illustrated here.

Figure 5.3
Measures of disparity in the percentage of 16 year olds in education, twelve EU countries 1970-95



Source: UNESCO. Note: Denmark, Germany and Italy are excluded because of insufficient data.

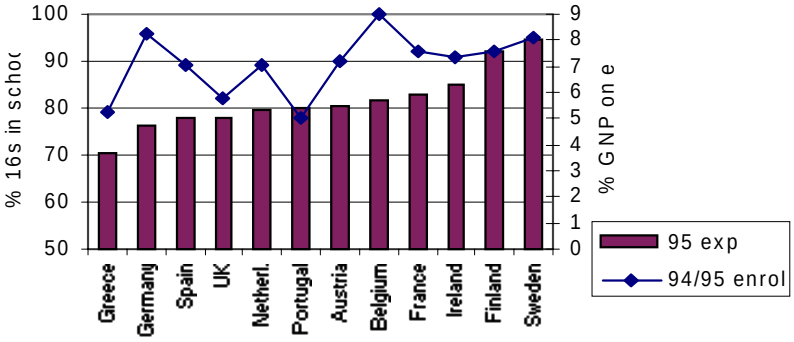
Figure 5.4
Percentage of 16 year olds in education 1965-95, selected EU countries



Finally, Figure 5.5 shows the most recent figures for the two indicators together. Clearly we would expect a positive link between expenditure and enrolment: higher enrolment demands higher spending; while higher spending is an indication of a commitment to education which we would expect to affect (among other things) post-compulsory enrolment rates. Indeed, the top six countries ranked on spending as a share of GDP all have 16 year old enrolment over 90%, with enrolment on average lower among the lower spenders. The noticeable exceptions are Germany and the Netherlands, where enrolment appears high in relation to spending, and Portugal, where spending as a share of GDP is average for the EU, while enrolment is the lowest recorded. In part, the

peaks and troughs in the enrolment data simply reflect the law: in Germany and Belgium the school leaving age is 18, while in Portugal and Greece (among other countries) it is still fifteen.

Figure 5.5
Enrolment among 16 year olds and public spending on education, EU 1994/95



NB . No enrolment data for Italy; no expenditure data for Luxembourg.

5.3 Output measures: The OECD International Adult Literacy Survey

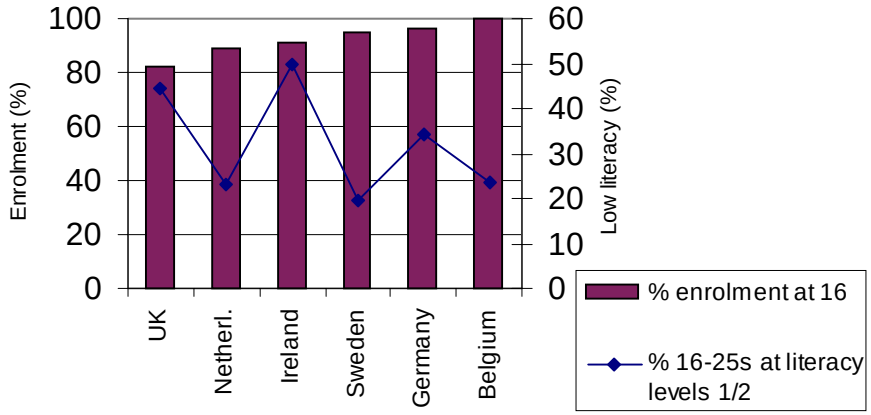
To remind us, however, of the shortcomings of the indicators we are looking at, Figure 5.6 shows the percentage of 16 year olds in education against some results from the second OECD International Adult Literacy Survey (OECD, 1997). Although the OECD survey cannot yet be used to track developments over time, it presents some interesting extra information for the six EU countries in which it has been carried out so far. The line in Figure 5.6 shows the percentage of 16-25 year olds in each of these countries who were classified as being at the lowest levels of document literacy (Levels 1 or 2).[7] As the figure shows, there is no simple relationship between the numbers staying in school and the numbers able to carry out what might be considered fairly straightforward everyday functions.[8] While Sweden, Belgium and Germany all have high enrolment rates at 16 and perform well in the survey, Irish young people in particular seem to be let down by their education. While 90% of Irish 16 year olds are in school, one in two 16-25 year olds was classified at Level 1 or 2. The UK performance was nearly as bad, with 44% of young people classified in these two groups, in comparison to 34% in Germany and 20% in Sweden.

[7] An individual was judged to be at Level 2 (or below) if he or she was unable to carry out Level 3 tasks successfully at least 80% of the time. A typical Level 3 document task included two charts, one showing annual sales of fireworks in the 1980s and the second showing annual numbers of firework victims treated in hospital. The task was to write a brief description of the relationship between sales and injuries (a positive correlation) based on the information given. See OECD (1995, 1997) for further details.

[8] Figure 5.6 would have been much too complicated for Level 3.

To conclude, there is strong evidence of convergence across Europe in both levels of expenditure and enrolment at age 16, although some countries are still lagging behind. However, results from the OECD IALS illustrate that there is more to an effective education than staying in school. Results for 1994/95 suggest that large discrepancies exist in the *quality* of education young people are receiving across Europe. A verdict on whether these discrepancies represent divergent trends or the early stages of convergence will have to wait for later rounds of the IALS.

Figure 5.6
Relation between enrolment at age 16 and scores for 16-25 year olds in the OECD International Adult Literacy Survey, 1994/95



Notes. Level 1 is the lowest literacy level, so a high share of people at Levels 1/2 is a bad performance. Literacy data for Belgium is just for Flanders

6. Teenage fertility

The association of teenage fertility with negative outcomes for both mother and child has been long documented. A series of studies in the UK and the US have shown that women who give birth before they are twenty are less likely than other women to finish school, more likely to be poor at the end of their twenties, and more likely to bring up their children as single mothers (Hofferth and Moore, 1979; Furstenburg et al, 1987; Maynard, 1997). The disadvantages for their children begin at birth and last into adolescence. Children of teenage mothers are more likely to be born with low birth weight, less likely to be breastfed and fully immunized, and more likely to die in the first year of life (Butler et al, 1981). They are at greater risk of physical abuse and accidental injury, and do less well in education (Butler et al, 1981; Furstenburg et al, 1987). They are also more likely to drop out of school, to become teenage parents themselves, and to spend time in prison in their late teens or early twenties (Furstenburg et al, 1987; Manlove, 1997; Maynard, 1997).

Recently, a number of studies in the US have challenged the assumption that teenage childbearing is itself the cause of these outcomes. They point out that teenage fertility is strongly correlated with social and economic disadvantage, and that it may be this disadvantage which is responsible for many of the negative outcomes observed (see eg Geronimus, 1987; Ribar, 1994; Maynard, 1997). While most research does control for a series of socioeconomic factors, still finding a significant role for the age of childbirth itself, it has been open to the criticism that important background variables are likely to remain unobserved. However, studies which use control groups identical to the teenage mothers in all but the age at first birth also suggest that childbirth has a negative, if much reduced, impact. For example, Geronimus and Korenman (1992) and Hoffman et al (1993) compare the life paths of teenage mothers with those of their sisters who delay childbearing; they find that the mothers are significantly less likely to complete high school and are likely to do less well in economic terms. Hotz, McElroy and Sanders (1997) compare teen mothers with women who become pregnant as teens but miscarry (arguably the perfect control group): they conclude that teen mothers are likely to earn *more* at every age than if they had delayed childbearing, but that they are likely to work longer hours through their 20s and to remain single mothers for a greater part of their life. They note that these effects are likely to have negative implications for the children.

There are reasons, though, why cross-national comparison of teenage fertility rates may be complicated, even if the teenage fertility rate over time within a single country is a good indicator of the well-being of young women. As noted, all the studies cited above are for the UK and the US and it could be that in other countries teenage fertility has different connotations. For instance, in both countries there is evidence that the vast majority of teenage births are unintended (good reason in itself for using it as a measure of teenage welfare).[1] But elsewhere there may be traditions of

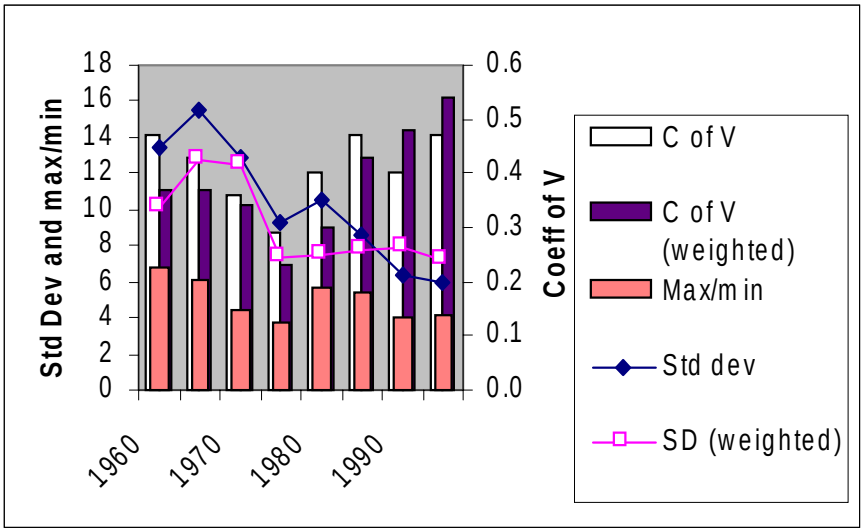
[1] Maynard (1996, p.1) claims that 87% of teenage pregnancies in the US are unintended; while Kiernan (1997) finds that 74% of teenage mothers in the UK National Child Development Study claimed at 33 that their first baby had not been planned. Kiernan notes that this may be an underestimate due to post hoc rationalization. Most studies of the impact of early motherhood are concerned with the socioeconomic consequences, and ignore the emotional impact of an accidental pregnancy at an early age.

settling down earlier, with teenage births more likely to be planned and to take place within the framework of a stable relationship. (Married teen mothers and their children do far better than unmarried, provided the marriages last; see e.g. Furstenberg et al., 1987.) In fact, demographic trends across Europe are similar enough for this to be of little likely significance, but it is an issue explored in greater detail below in discussion of the share of teen births that take place within marriage, and also the share which take place to younger teenagers (16 year olds): younger teen mothers are less likely to have planned the pregnancy and likely to suffer more negative consequences than women who become mothers in their later teens (cite).

6.1 Trends in teenage birth rates

Figure 6.1 shows disparities in birth rates to 15-19 year olds across the European Union since 1960.[2] We see clear convergence on all measures from 1960 to 1975, followed by a setback between 1975 and 1980. Since then, the standard deviation has fallen steadily, but other measures of disparity give a mixed impression. Coefficients of variation have been steadily rising, while the weighted standard deviation and the ratio of maximum to minimum have remained fairly stable.

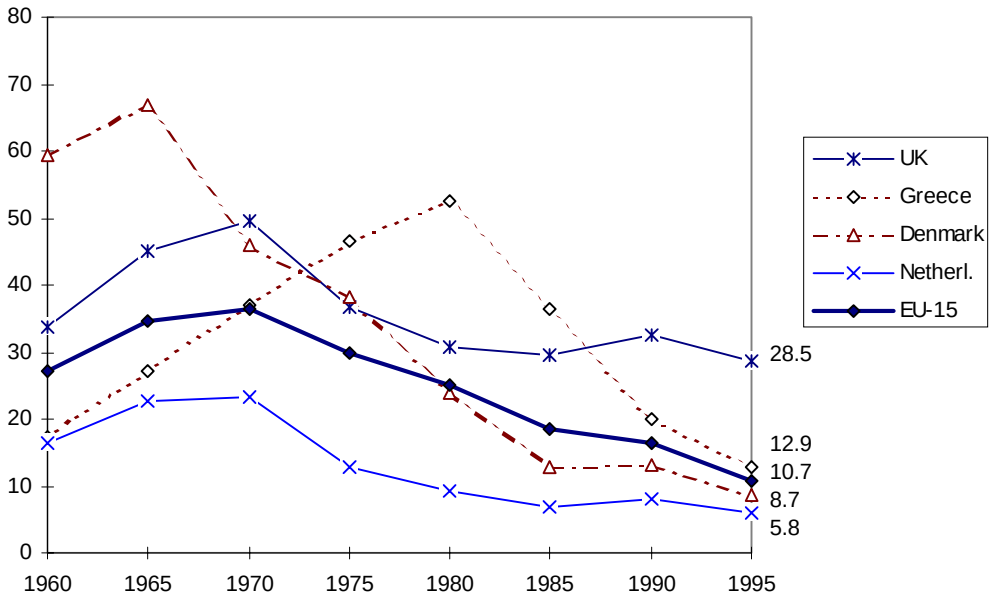
Figure 6.1
Measures of dispersion in teenage birth rates 1960-94, EU 15



[2] Data from Eurostat (Demographic Statistics) and from UN Demographic Yearbooks for Austria, Sweden and Finland 1960-1985. Teenage birth rates are measured as number of births during the year to women aged 15 to 19 for every thousand women in this age group (only a tiny share of births to under 20s are to under 15s). There are two ways of measuring mother's age at birth: as the age at last birthday or as the age at the end of the calendar year; the latter measure naturally resulting in considerably smaller birth rates (roughly 25% smaller). The birth rates we use are based on the mother's age at last birthday, but in some cases we have had to estimate this from data for the other measure. This is done using a coefficient for each country based on the average difference between the two measures in years where both types of data is available. Countries affected are Belgium, Denmark, Luxemburg and the Netherlands in 1960-85; France in 1960-90 and 1994-95; and Germany for all years (coefficient used here is an average across all countries).

In Figure 6.2 we see some of the different national trends behind these dispersion figures (only selected countries are represented, but these represent the main patterns followed over the period). The trend towards convergence in the 1960s appears to be driven by two different phenomenon. First, Denmark, an outlier at the start of the period with a teenage birth rate over twice the EU average, experiences extremely rapid progress between the mid-1960s and mid-1980s, reaching the EU average by 1980. At the same time, we see Greece rising equally quickly from one of the lowest rates in the EU to one of the highest. What is particularly interesting about the path followed by Greece here is that it reflects similar, though less dramatic, trends in Spain, Ireland, Portugal and Italy. All these countries start with fairly low birth rates in 1960 and see them rise to a peak in 1980 (Italy in 1975). Simultaneous decline from higher starting points in countries across Northern Europe explains the steady convergence noted in Figure 6.1.

Figure 6.2
15-19 birth rates 1960-95 (births per 1000 women 15-19)
selected EU countries and EU average



This might be described as beta convergence (the initial level of the birth rate is negatively correlated with its change over time), resulting in sigma convergence -- the overall level of dispersion in the distribution declines. But beta convergence, though a necessary condition for sigma convergence, is not a sufficient condition. What we find in the second half of the 1980s is that two of the Cohesion four, Greece and Portugal, 'overshoot'. Teenage birth rates catch up (in a negative sense) with the average but continue to rise, explaining the subsequent divergence in sigma between 1975 and 1980.

In the 1980s teenage birth rates in these countries start to come down, and we see the trend towards convergence re-established. But as Figure 6.2 illustrates, this period also sees the emergence of a new outlier -- the UK. Unlike the pattern in all other European countries, the birth rate in the UK has shown no tendency to decline

since 1975: it has hovered for the last twenty years around the rate of 30 births per 1000 teenage women. This compares to a weighted average for the EU as a whole of some 11 births by 1995, and a rate of 6 births per 1000 in the Netherlands. The rise in the UK birth rate in the late 1980s is not sharp enough to affect the overall decline in the unweighted standard deviation brought about by progress in Greece and Portugal; but because of the UK's relative size it does affect the weighted dispersion measures. As seen in Figure 6.1, the weighted coefficient of variation is higher in the 1990s than at any time in the previous three decades, while the weighted standard deviation remains stuck at its 1980 level. (With the UK excluded, both weighted and unweighted coefficients of variation come down from around 0.46 in 1985 to 0.36 in 1995).

6.2 Relationship with total fertility rates

It is worth considering to what extent these trends simply reflect trends in overall fertility. The UK, for instance, has not experienced as rapid a decline in fertility rates as a number of other European countries. Does this go any way towards explaining the stability of teenage birth rates in the UK over the last twenty years?

In reality, the declining total fertility rate may explain some part of the general downward trend in teenage birth rates, but it cannot explain individual country trends. Birth rates for women aged 15-49 have been falling steadily in all countries, and at relatively similar speeds when compared to the varied pattern of teenage birth rates. The result is that teenage births as a percentage of the total actually look very similar to teenage birth rates themselves: a graph showing teen births as a percentage of the total would closely resemble Figure 6.2. There are clearly factors which affect teen fertility more than or differently than total fertility. This is not really surprising: we might expect teenagers to have been more strongly affected than the general population both by the sexual revolution in the 1960s and by changes in the availability of contraception and abortion in the 1970s.

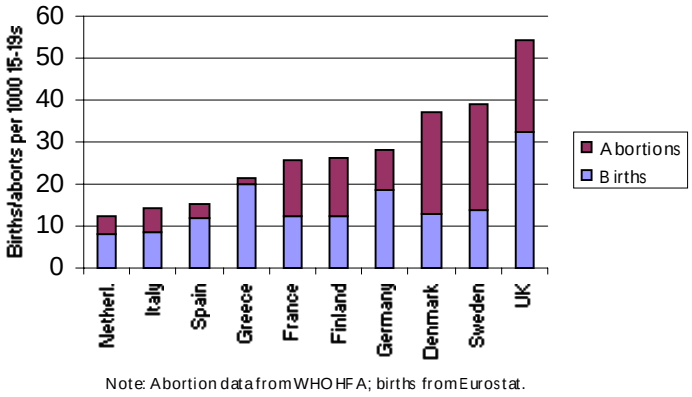
6.3 Conception rates

A second natural question is how far abortions are responsible for falling birth rates and for persisting differences. Our interest in the teenage birth rate is really an interest in teenage pregnancy: if the birth rate is kept low through extensive recourse to abortion rather than by prevention of pregnancy it is not an ideal situation. The birth rate is commonly used as a rough proxy for the conception rate as data on abortions is often not available or reliable, but the limited data we do have helps to give an idea of whether countries are tackling teenage births through prevention or abortion.

There is insufficient data on abortion throughout the period to enable us to establish the role played by the legalization of abortion in bringing down the teen birth rate, although there is evidence that abortions increased during the 1970s (eg Phoenix, 1991, p.40). This probably explains part but not all of the downward trend in teen births, as conceptions appear to have decreased as well, most likely because of greater openness and easier access to contraception (ibid.). However, we do have evidence

that the importance of abortion varies considerably even across countries in which it is freely available. Figure 6.3 shows births and abortions in 1990 for the ten countries for which data is available (others tend to be those in which abortion is still illegal and no statistics are kept). When abortions and births are added together to form a rough teenage conception rate, there is some reordering of national performers. In particular, the Scandinavian countries, and especially Denmark and Sweden, rank much less well on conception rates than on birth rates: it is high levels of abortions rather than effective prevention which is keeping birth rates down. In contrast, the Netherlands has one of the lowest abortion rates as well as the lowest birth rate in Europe -- and this despite having one of the most liberal abortion laws in the world. (The Netherlands, along with Spain and England and Wales, is also one of the places non-resident women travel to obtain abortions, so this will swell the figures somewhat.)[3]

Figure 6.3
Conception rates (births and abortions) for 15-19s, 1990



Note: Abortion data from WHO HFA; births from Eurostat.

6.4 Births to unmarried teenagers

Finally, there are two ways in which we can get a little more insight into these teenage birth rates by breaking them down into more detail. As with abortions, this cannot be done for every year with the data we have, but even a static picture in one year can help us shed light on how far a teen birth in one country is a similar phenomenon to one in another. First, we look at the division between marital and extra-marital teen births, as births to married teens are more likely to have been wanted, while the prognosis is also better for married teen mothers and their children. Second, we look at the rate of births to 16 year olds as compared to that to 19 year olds: again, older teen mothers face far fewer problems than girls who give birth as young teens.

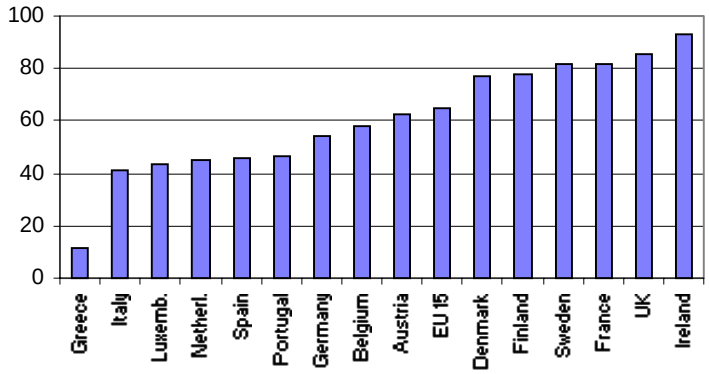
Unfortunately, of course, grouping teen mothers as married or unmarried does not pick up exactly the distinction we would like. First, we only know whether women were married at the time of the birth; hence women who marry their partners *because*

[3] See 'Women's choices – abortion and the new Europe' by Dilys Cossey, in *Choices: sexual health and family planning in Europe*, Vol. 26, No.2, 1997. In 1995 non-resident women accounted for 6% of abortions in England and Wales, mostly from Northern Ireland, the Republic of Ireland and France.

they are pregnant are indistinguishable from those who had decided to marry beforehand. Perhaps more important, the growing incidence of cohabitation, particularly in Scandinavia, means that the unmarried group will include mothers in stable relationships which are effectively marriages along with mothers who are genuinely single. However, looked at with an eye on the role of cohabitation in each society, the breakdown ought to be of some interest.

The share of teenage births to unmarried mothers varies widely across countries from a low of 11% in Greece to a high of 93% in Ireland, as illustrated in Figure 6.4. In Italy, Spain and Portugal the percentage is relatively low, at just over 40% of teen births, which may reflect social mores which make it more likely that a pregnant teenager will face pressure to marry. The high share of extra-marital births in Sweden, Denmark and Finland will at least in part be explained by the high rate of cohabitation. However, in Ireland cohabitation is much less widespread and less likely to explain the high level of extra-marital teen births: these are more plausibly accidental pregnancies (20% of all births in Ireland were extramarital in 1994, comapred to 50% in Sweden and 45% in Denmark). The same is true to a lesser extent of the UK, where one third of all babies are born outside marriage, while 85% of babies born to teenage mothers are extra-marital.

Figure 6.4
Percentage of teenagers (15-19s) giving birth in 1994 who are unmarried

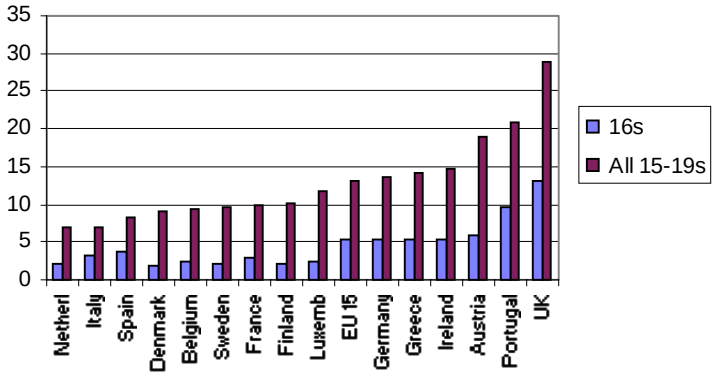


6.5 Births to younger teens

The second way in which the teen birth rate can be broken down into more detail is by looking at the extent to which it is composed of births to younger rather than older teens. Births to 16 and 17 year olds have stronger negative consequences than those to older teens, who have had more time to complete education and may be more ready for motherhood (see e.g. Maynard, 1997??). As might be expected, the share of all teen births which are to younger teens tends to be higher in countries where teen birth rates are higher. Countries with low teen birth rates, in contrast, have the majority of teen births to 19 year olds. Thus for instance in the Netherlands over half of teen births are to 19 year olds, compared to less than 40% in the UK and Portugal. The result is that these two countries stand out even more with respect to the 16 year old birth rate than the overall teen birth rate. Indeed, the birth rate for sixteen year olds in the UK is roughly the same as the EU average birth rate for all teenagers

between 15 and 19; while the birth rate to Portuguese 16 year olds is higher than that to 15-19 year olds in the Netherlands, Italy, Spain, Denmark and Belgium. This is illustrated in Figure 6.5.

Figure 6.5
Birth rate for 16 year olds and for all 15-19s, 1994



6.6 Conclusions

The UK, then, is the black sheep on this issue whichever way the data is sliced. The teen birth rate in the UK is the highest in Europe, and is also the only rate in Europe not to have fallen since 1980. (If the UK is excluded, teen fertility rates show clear evidence of convergence across Europe since 1980.) Then, when the figures are broken down, we find a higher share of teen births in the UK are to younger teens than anywhere else in Europe, while only Ireland has a higher share of teen births to unmarried mothers. These breakdowns suggest that that the phenomenon of teenage fertility is more serious in Britain as well as being more widespread. But why? Contraception is free in Britain and accessible through family planning clinics where anonymity is assured. On the surface, the system is as liberal as that in the Netherlands, and yet clearly something is wrong.

The Netherlands' success in combatting teenage pregnancy is generally put down to an open and unembarrassed attitude towards sex which allows sexual issues to be discussed frankly and clinics to be advertised widely, and it may be attitudes in Britain which have to change.[4] In one survey in the early 1980s a Dutch respondent described the use of contraception in the Netherlands as 'as ingrained as not going through a red light' (Jones et al., 1986, p.154). In contrast, an 18 year old single mother in the UK in the late 1980s said she had considered it important not to become pregnant, but: 'I just stopped taking [the pill] because I wasn't going with anyone at the time then I just forgot about it and threw them away and that was it' (Phoenix,

[4] As one UK journalist recently pointed out, when AIDS first arrived, Dutch television demonstrated how to use a condom on prime-time television; in Britain the highly cryptic public service announcement centred around an iceberg. (Polly Toynbee, 'Why kids have babies', *The Guardian*, August 26th 1998.)

1991, p.75). The situation in the UK may have been exacerbated in the 1980s by a combination of cuts in funding to health clinics and a growing moralism in the law which has made it more difficult for doctors and teachers to discuss sexual matters with under-age teenagers.[5]

A second important factor in determining teenage births, though, is likely to be the alternative opportunities young women face – or the lack of them. There is strong evidence from the UK that women who have children before they are twenty come predominantly from disadvantaged backgrounds.[6] (Indeed, this is the reason early motherhood appears to make only a limited difference to women's prospects, as discussed at the start of this section: options for most young mothers were narrow even prior to pregnancy.) While the fact that most teen pregnancies are unwanted belies the idea that teenagers actively choose motherhood as a more attractive alternative to unemployment or a dead-end job, women with few prospects clearly have less incentive to be careful about contraception, and also appear less likely to choose abortion.[7] It would be difficult to use the teen birth rate as a cross-national indicator of lack of opportunity, as circumstances in the UK may make motherhood seem a more attractive escape route than elsewhere: in particular, the possibility of receiving separate housing may mean teenagers in the UK associate motherhood with an independence not available to young women in southern Europe. But it is likely that rising teen births in the 1980s in the UK are in part explained by increasing unemployment and social exclusion among the young.

[5] In 1985 the High Court in Britain ruled that girls under the age of 16 could not be prescribed contraception without parental consent, after a case brought by Victoria Gillick, mother of five girls under 16. The ruling was later overruled by the Law Lords but is believed to have had a permanent effect on the freedom with which doctors discuss contraception with young teens and on the confidence teenagers have in asking family doctors for advice (Jones et.al, 1986, p.110). A second significant event in Britain was the passage in 1988 of legislation designed to ensure that parents, not schools, should decide what constitutes appropriate sex education for their children (Phoenix, 1991, p.20). See also Toynbee article cited above.

[6] For instance, Kiernan (1997) shows that 92% of the teenage mothers in the NCDS had left school at 16 (for most of them this would have been *before* pregnancy), compared to 68% of women who became mothers between the ages of 20 and 33. Teenage mothers were also around twice as likely to have fallen into the bottom quartile when ranked on educational achievement at age 7 and 16, and considerably more likely to be from families which had experienced financial difficulties during their childhoods.

[7] Bury (1984) and others cited in Phoenix (1991, p.46) claim pregnant teenagers of lower socioeconomic status are more likely to continue with the pregnancy.

7. Life satisfaction

This paper has so far explored a variety of objective measures of child well-being. But what do children themselves say if asked about their welfare? In Europe a unique source allows us to investigate, if not the attitudes of younger children, at least what teenagers (aged 15-19) say for themselves about how happy they are. Eurobarometer surveys have been carried out twice annually in the EU member states since 1973, asking questions about public attitudes and opinion.[1] The question we focus on here is about life satisfaction: 'On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?' This question has been asked regularly since the survey began, allowing us to reach some conclusions about convergence in the way young people across Europe see their own quality of life.[2]

The use of this kind of subjective information on well-being is somewhat controversial: although it has had a long history in the psychology literature, economists have tended to avoid it, perhaps because it does not sit well with the traditional view that utility cannot be measured.[3] However, there are good reasons to believe that what people say about their own welfare is interesting and important. Obviously it is not the only aspect of welfare we are interested in: there is cause for concern about someone who is malnourished, for instance, even if they claim to be happy with their situation. But it seems equally clear that life satisfaction is one important element of well-being. Echoing Sen on mortality (see Section 4) we might argue that being happy is, first, of intrinsic value in itself, and second, a prerequisite for participating fully in many other aspects of life.[4] And if we are interested in how happy someone is, asking them seems the most straightforward way to get the answer.[5]

If rare, the use of subjective data is not unheard of among economists. In the early 1970s, Easterlin used self-reported happiness levels to explore the relationship between national income and welfare (Easterlin, 1974). More recently, both Clark and Oswald (1994) and Wottiez and Theeuwes (1998) have used surveys on subjective well-being to ask questions about labour market status and welfare, and in particular

[1] The Eurobarometer Surveys are organized by the European Commission. Random samples of the population between the ages of 15 and 64 are interviewed in each survey. With responses grouped across five year intervals reasonable sample sizes are obtained for the 15-19 age group (between 500 and 1500 responses per country). Unfortunately, though, surveys are only carried out in EU member states, meaning they cover the EU 9 since the beginning and Greece, Spain and Portugal only since the early to mid-1980s. Data on Austria, Finland and Sweden are only available for 1994 and are not analysed here.

[2] Unfortunately the question was discontinued in 1995.

[3] Argyle (1989) is often cited as a readable introduction to the psychology literature (Clark and Oswald, 1994; Blanchflower and Oswald, 1997).

[4] It is perhaps harder to argue that life satisfaction is a proxy for other, harder to measure, variables – Sen's third justification for looking at mortality – although to the extent that this is true the case for using data on self-reported satisfaction is further strenghtened.

[5] Indeed the only way? Other possibilities might be to measure how many times an individual smiles or laughs, or to ask others to rate a person's happiness. Blanchflower and Oswald (1997, p.1) cite evidence that self-reported levels of well-being are in any case correlated with these ratings.

to look at the hypothesis that unemployment is voluntary. Nor indeed are we the first to use the Eurobarometer surveys to investigate the well-being of the young: Blanchflower and Oswald (1997) use the same data to look at the welfare of the under 30s.

Blanchflower and Oswald's results show a significant increase in life satisfaction among the young between the 1970s and the 1990s. However, their work focuses on this general rise and on possible explanations of it; they are not particularly interested in differences in happiness levels across countries. (They also use a broad definition of the young in contrast to our own focus on teenagers.) Of course, trying to compare results across countries leads to immediate problems: 'satisfaction' may be interpreted differently in different places for both linguistic and cultural reasons. Assuming, though, that the question is interpreted in the same way in a given country over time, then comparing national trends *is* informative. For instance, if the share of the young claiming to be happy has risen more in one country than in another over the last two decades, that tells us something even if the happiness levels themselves are not comparable in any one year.

A second issue of interest is how happy the young are relative to the rest of the population, and how this has changed over time. Suppose the population taken as a whole is increasingly satisfied with life. Are teenagers sharing equally in the phenomenon, or are they being excluded? Hence in Section 7.2 we look at trends in the ratio of youth satisfaction rates to those of the general population. These too should be unaffected by national differences in the way in which the question is interpreted.

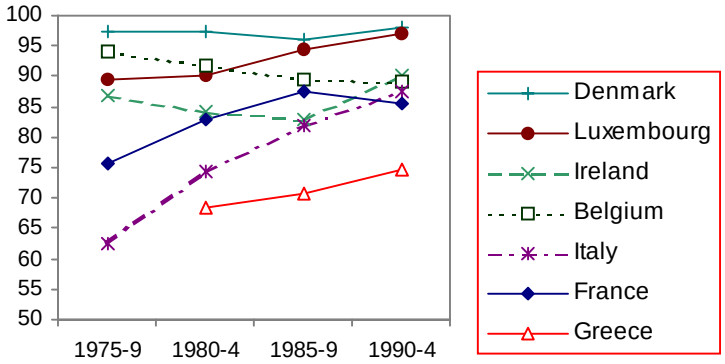
7.1 Life satisfaction among the young 1975-1994

In keeping with the findings of Blanchflower and Oswald for the under 30s, life satisfaction among 15-19 year olds seems to be broadly on the rise across Europe. The share of this age-group classifying themselves as 'very satisfied' or 'fairly satisfied' with their lives was greater in the early 1990s than in the late 1970s in all but one of the EU 9 for which data are available for both years.[6] This in turn has led to convergence in the level of satisfaction across countries, as the share of the young who are basically happy with their lives grows towards 90% and beyond. In the late 1970s, for example, a striking 98% of young Danes but only 62% of young Italians said they were satisfied; by the first half of the 1990s 87% of Italians did, while in Denmark of course there had been little room left for further progress.

[6] We chose to group these two categories together to try to minimize national differences in how the question is understood. There should be less difference across countries in the perception of the central dividing line between basically satisfied and basically not than in the interpretations of the words 'very' and 'fairly'.

Belgium is the one EU country in which the share of the young who are satisfied has fallen over this period: in 1975-79 94% of young Belgians put themselves in the top two satisfaction groups; in 1990-94 only 89% did so.[7]

Figure 7.1
Percentage of 15-19s very or fairly satisfied with their lives, selected EU countries

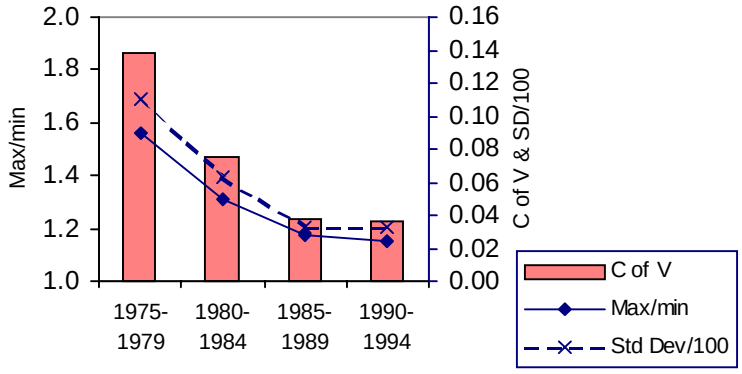


These trends are illustrated in Figures 7.1 and 7.2 (the convergence measures in Figure 7.2 are calculated just for the EU 9). Figure 7.1 shows that the rise in well-being has not in fact been linear in every country. In particular, Ireland shows a similar decline in satisfaction levels to that experienced by Belgium between the late 1970s and the early 1990s. A slightly less steep decline was also found in the UK (not shown), setting these three North-West European countries on a contrasting course to that followed in the rest of Europe, and partly driving the sharp fall in coefficients of variation shown in Figure 7.2 (hence this turns out to be to some small degree, *negative* convergence).[8] However in the 1990s both Ireland and the UK see a reversal of this trend: in Ireland in particular, the share of satisfied teenagers has jumped by six percentage points over the last five year period. As the figure shows, France experienced a mirror trend-reversal at the same point, leaving Belgian and French teenagers the only ones whose satisfaction levels have fallen since the late 1980s.[9]

[7] Results are calculated using weights provided in the dataset to ensure that the Walloon and Flemmish populations of Belgium are proportionately represented; hence there is no reason to believe that this result is due to a change in the sampling of the two groups.
[8] These are weighted dispersion measures, and both Belgium and Ireland are small countries, so the impact is small.
[9] It should be noted that these results do not fit completely with those of Blanchflower and Oswald (1997) for the under 30s. Looking at the decade between 1983 and 1992 they find "a positive and statistically significant upward time trend over the most recent decade of 1983 to 1992… in each nation except Great Britain and Northern Ireland"(p.9). The earlier cut off point may explain the absence of an upward trend in their results for the UK, but our results suggest no upward trend over any period for Belgium. The explanation could be that teenagers have been following a different – and less positive – trend to that followed by those in their 20s in Belgium.

The other interesting story told in Figure 7.1 is that of the countries of Southern Europe, which seem to have more in common in this case than the countries of the Cohesion Four. As already noted, Italy has experienced a dramatic increase in the rate of satisfaction among the young over the period, from the minimum point of the EU9 in 1975-79 to close to the mean in 1990-94. Data for Greece is only available for the last three points, but suggests a similar low starting point, with improvement steady but far less dramatic than that in Italy. (Dispersion measures calculated with Greece included still show convergence over the period, but more gradual than that shown in Figure 7.2.) Unfortunately, for Spain and Portugal only the last two data points are available. These are very similar to those recorded for Italy (80 to 82% in the late 1980s rising to 85-86% five years on). Until very recently then, it seems that young people in the countries of Southern Europe have been considerably less likely than those in the North to declare themselves to be happy with their lives. While in Italy, Portugal and Spain the difference from the EU mean is now small, Greece remains a notable outlier.[10]

Figure 7.2
Measures of dispersion in percentage of 15-19s satisfied, EU 9



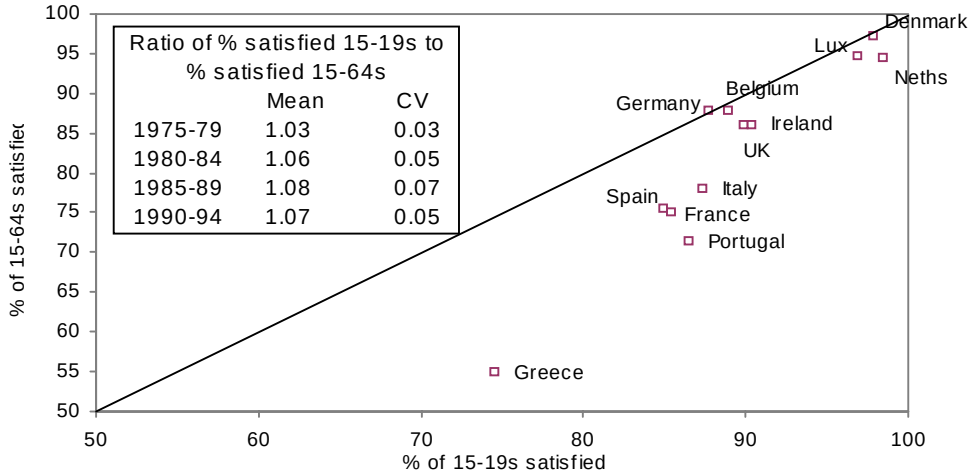
[10] The share of teenagers declaring themselves 'not at all' satisfied with their lives was also examined, to explore the possibility that the increasing numbers of happy teenagers detract attention from a growing minority of the very excluded. However, the story implied by results is very similar to that presented above. The share of the very unsatisfied has fallen in all of the EU9 except Belgium and the UK, and in the latter two both the increase and the level is small (in 1990-94 under 3% put themselves in this group in both countries). Italy has experienced considerable improvement to match that illustrated above: in 1975-79 10% of teenagers said they were 'not at all' satisfied, falling to 2% by 1990-94.

7.2 Levels of satisfaction among the young compared to those in the general population

How does the life satisfaction of young people compare with that of older groups? Do the improvements illustrated above reflect a trend shared by the whole population, or is the *relative* well-being of the young also improving? It turns out that the young are more likely than the general population to classify themselves as satisfied in almost every country, as illustrated in Figure 7.3, which plots the percentage of the young who claim to be satisfied with their lives against the percentage of the whole population (15-64) for 1990-94. The data points fall below the 45 degree line if a higher share of the young than of the general population declare themselves as satisfied; in practice all points fall along or below the line. The gap is particularly large where levels of satisfaction are lower, i.e. in Greece, Spain, France, Portugal and Italy.

Furthermore, the gap between the two series has been increasing over time, as shown by the summary statistics given in Figure 7.3 for the ratio between the two (EU9 only). The mean ratio has increased slightly: this is basically because satisfaction levels have stayed fairly constant among the total population and risen among the young, particularly in countries where satisfaction started low. The increase in the coefficient of variation is explained by the same phenomenon: as satisfaction increases, the young leave the older further behind in Southern Europe and France; while in countries with higher satisfaction levels to begin with (Denmark, Germany, Luxembourg and the Netherlands) there is little difference between the two series. There is certainly no story here of growing exclusion of the young, or of disparities between the young and the rest of the population across the EU changing in a way that is an obvious cause for concern. (If there is any concern, it is with the happiness of *adults* relative to children in Southern Europe.)

Figure 7.3
Percentage of 15-19s and of 15-64s 'very satisfied' or 'fairly satisfied' wth their lives 1990-94



7.3 Summary

To sum up, Europe has seen growing convergence in life satisfaction among young people, largely driven by increasing levels of satisfaction in Southern Europe, and particularly in Italy. The trend in Spain and Portugal looks likely to have been similar to that in Italy, but Greece remains an outlier.

These results suggest that life satisfaction data do pick up on an area of welfare not reflected by other indicators, although what exactly it is that is measured is hard to pinpoint. Blanchflower and Oswald put forward increasing personal and marital freedom as the cause of the growing well-being they identify among European under-30s: they show that it is predominantly young single people who are becoming happier, implying that in the past young people were constrained by their inability to postpone marriage or choose alternative lifestyles. Clearly marital freedom is not the issue among the younger group we look at here, but the related idea of growing personal freedom could be of importance. The liberalization of attitudes which have led to the postponement of marriage will have affected adolescents too.

A more obvious theory is that increasing satisfaction is simply the result of growing wealth in these countries. In fact rising wealth and liberalization are likely to come hand in hand, and there may be also be direct links between the two. For instance, increasing GDP has given the young much greater access to their own transport – mopeds in particular – which in turn has enabled them to seize a much greater control over their own lives than was ever the case before. (This idea of the moped as the harbinger of liberty, if there is any truth in it, presents an interesting counterbalance to some of the dangers highlighted in Section 4.2 on road death rates. The rise of motorized transport may have inhibited the actions of the child and increased road deaths among teens but at the same time furnished the young with a heightened independence which has had a profound impact on their quality of life.)

The other story presented in this section is a growing malaise in some countries of the north. This is best exemplified by the case of Belgium, but Ireland and the UK also experienced a steady decline in the share of teenagers claiming to be satisfied until the reversal of the early 1990s. In the early 1990s satisfaction among teenagers in France has begun to fall. This may be temporary, but the case of Belgium perhaps calls for further attention.

8. Conclusions

> "Indicators for tracking the well-being of children and their families are important tools of government. Uses include simple description; monitoring to inform planning and resource allocation; goal-setting to guide broad policy and co-ordinate efforts across agencies and between levels of government; accountability efforts to hold agencies and even whole levels of government responsible for making progress toward specific social goals; and, under limited circumstances, evaluation of comprehensive government initiatives" (Brown, 1998, p1)

The goal of closer integration in Europe requires the monitoring of various aspects of the integration process. This is equally true of macroeconomic performance on the one hand and, on the other, living standards and quality of life – the ultimate goal of any new policy initiative at the European level. Our aim in this paper has been to investigate whether the well-being of children in the different Member States has become more or less similar over time, and hence to contribute to the analysis of economic and social cohesion in the European Union.

Not surprisingly perhaps, the results are not clear cut – not surprising since we select a wide range of different indicators relating to different domains of human welfare and it would indeed be remarkable if all these were to move in the same way over time. This lack of a clear answer to the question as to whether child welfare is converging should not be seen as a disappointment – it serves as a reminder of the diversity of what must be meant by "standard of living" and of the need to match this diversity with empirical quantification. Countries ahead or catching-up on one indicator may be falling adrift on another.

The 1980s saw considerable convergence of national income per head within the EU, with catch-up growth by the Cohesion Four, although this was not maintained in the 1990s (with the exception of Ireland). How do results relating to children enrichen this picture of progress on economic and social cohesion? Our main findings are as follows:

Economic well-being

- Disparities in child poverty (using the conventional yardstick of income relative to the national median) were broadly stable between the mid 1980s and the early 1990s, or falling by only a modest amount, against a background of an increasing average level of poverty.

- Reduced disparities in worklessness among families but a rising average level between the mid-1980s and the mid-1990s.

- Increased disparities in unemployment among young people and a higher average level.

Mortality

- Cross-country disparities in under-5 mortality and in total child mortality have been dramatically reduced since the early 1970s.

- Child death rates from traffic accidents have converged considerably since 1960, although most progress was made prior to the mid-1980s.

- Suicide among young men aged 15-24 shows little sign of convergence and most countries have seen rates rise.

Education

- Strong evidence of convergence across Europe in both levels of expenditure and enrolment at age 16, although some countries are still lagging behind – and large discrepancies appear exist in the quality of education young people are receiving across Europe.

Teenage fertility

- Clear convergence on all measures from 1960 to 1975, followed by stagnation or setbacks thereafter.

Life satisfaction

- Strong convergence since the early 1970s, largely driven by increasing levels of satisfaction in Southern Europe, but with several Northern European countries displaying hints of a growing malaise.

The results are therefore mixed, and include cases of "negative" convergence, with countries coming closer together around a lower average level of child welfare.

Besides these substantive findings, our attempts to monitor well-being over time in a number of dimensions leads to conclusions about data sources. In short, they are insuffficiently abundant. There were various dimensions of child welfare that we wished to monitor over time, but could not for lack of available data. The researcher's plea for more data is of course a familiar refrain but in this case we believe that it is warranted. The future of Europe lies with Europe's children and data collection and analytic efforts should match this reality.

References

1. Introduction

European Commission (1996), *First Report on Economic and Social Cohesion 1996*, European Union, Luxembourg.

Sala-i-Martin, X (1996), "Regional Cohesion: Evidence and Theories of Regional Growth and Convergence", *European Economic Review*, 40(6): 1325-1352.

Quah D (1997), "Regional Cohesion From Local Isolated Actions: I. Historical Outcomes", Centre for Economic Performance, Discussion Paper 378, London School of Economics.

Quah D (1997a), "Regional Cohesion From Local Isolated Actions: II. Conditioning", Centre for Economic Performance, Discussion Paper 379, London School of Economics.

2. Concepts of child well-being and of convergence

Adamson P (1996), "Beyond Basics",in UNICEF, *The Progress of Nations 1996*, UNICEF, New York.

Baumol, William J. (1986) 'Productivity growth, convergence and welfare: what the long-run data show'. *American Economic Review*, Vol.76, No.5, pp.1072-85.

Beaton, A.E., I.V.S. Mullis, M.O. Martin, E.J. Gonzalez, D.L. Kelly, and T.A. Smith (1996a), *Mathematics Achievement in the Middle School Years: IEA's Third International Mathematics and Science Study*. Chestnut Hill, MA: Centre for the Study of Testing, Evaluation and Educational Policy, Boston College.

Beaton, A.E., M.O. Martin, I.V.S. Mullis, E.J. Gonzalez, T.A. Smith, and D.L. Kelly (1996b), *Science Achievement in the Middle School Years: IEA's Third International Mathematics and Science Study*. Chestnut Hill, MA: Centre for the Study of Testing, Evaluation and Educational Policy, Boston College.

Ben-Arieh, A. and H. Wintersberger, eds. (1997) *Monitoring and Measuring the State of Children: Beyond Survival*, Eurosocial Report 62, Vienna: European Centre.

Central Statistical Office (1994), *Social Focus on Children*, Her Majesty's Stationary Office, London.

DeLong, J. Bradford (1988) 'Productivity growth, convergence and welfare: comment'. *American Economic Review*, Vol.78, No.5, pp.1138-54.

Ditch J, Barnes H, and Bradshaw J (1998), *Developments in National Family Policies in 1996*, The European Observatory on National Family Policies, European Commission.

Dowrick, Steve and Nguyen, Duc Tho (1989) 'OECD comparative economic growth 1950-85: catch-up and convergence'. *American Economic Review*, Vol.79, No.5, pp.1010-30

Hauser, Robert M., Brett V. Brown and William R. Prosser, ed. (1997) *Indicators of Children's Well-Being*, New York, Russell Sage Foundation

OECD (1995) *Literacy, Economy and Society: Results of the first International Adult Literacy Survey*, OECD, Paris and Statistics Canada.

OECD (1997) *Literacy Skills for the Knowledge Society: Further results from the International Adult Literacy Survey*, OECD, Paris and Human Resources Development, Canada

Raiser, Martin (1998) 'Subsidising Inequality: Economic Reforms, Fiscal Transfers and Convergence across Chinese Provinces'. *The Journal of Development Studies*, Vol.34, No.3, pp.1-26

Rutter M and Smith D (editors) (1995), *Psychosocial Disorders in Young People: Time Trends and Their Causes* , John Wiley and Sons, Chichester.

Ruxton S (1996), *Children in Europe*, NCH Action for Children, London.

Sala-i-Martin, Xavier (1996) 'The Classical Approach to Convergence Analysis', *Economic Journal*, Vol. 106, No. 437

Sen, A (1985) *The Standard of Living*, The Tanner Lectures, Clare Hall, Cambridge, Cambridge University Press

Sen, A (1992) *Inequality Reexamined*, Clarendon Press, Oxford

Streeten, P and Burki S (1978), 'Basic Needs: Some Issues', *World Development*, 6

UNDP (1990) *Human Development Report 1990*, Oxford University Press, New York.

UNDP (1998) *Human Development Report 1998*, Oxford University Press, New York.

UNICEF (1998) *The State of the World's Children 1998*, Oxford University Press, New York.

WHO (1996) *The Health of Youth: A Cross-National Survey*, WHO Regional Publications, European Series No.69

3. Economic well-being

Atkinson A B (1995), "Poverty, Statistics and Progress in Europe", in Atkinson A B, *Incomes and the Welfare State*, Cambridge University Press, Cambridge UK

Atkinson A B (1998), "Social Exclusion, Poverty and Unemployment" in Atkinson A B and Hills J (eds.), *Exclusion, Employment and Opportunity*, CASEpaper 4, Centre for Analysis of Social Exclusion, STICERD, London School of Economics.

Atkinson A B (1998a), "EMU, Macroeconomics and Children", forthcoming Innocenti Occasional Paper, UNICEF International Child Development Centre, Florence.

Atkinson A B, Rainwater L and Smeeding T (1995), "Income Distribution in European Countries" in Atkinson A B, *Incomes and the Welfare State*, Cambridge University Press, Cambridge, UK.

Bradbury B and Jantti M (1998), "Child Poverty Across Industrialized Nations", forthcoming Innocenti Occasional Paper, UNICEF International Child Development Centre, Florence.

EUROSTAT (1997), *Statistics in Focus*, (Population and Social Conditions), no. 6.

Gregg P and Wadsworth J (1996), "It Takes Two: Employment Polarization in the OECD", Centre for Economic Peformance, Discussion Paper 304, London School of Economics.

Hagenaars A, de Vos K, and Zaidi M A (1994), *Poverty Statistics in the Late 1980s: Research based on Microdata*, Office for Offical Publications of the European Community, Luxembourg.

OECD (1998), *Employment Outlook*, OECD, Paris.

US Department and Health and Human Services (1996), *Trends in the Well-Being of America's Children and Youth*.

4. Mortality

Anand, Sudhir and Martin Ravallion (1993) 'Human Development in Poor Countries: On the Role of Private Incomes and Public Services', *Journal of Economic Perspectives*, Vol.7, No.1, pp.133-150.

Commission on Social Justice/IPPR (1994) *Social Justice: Strategies for Renewal* (The Report of the Commission on Social Justice)

Congdon, Peter (1996) 'Suicide and Parasuicide in London: A Small-area Study', *Urban Studies*, Vol.33, No.1, pp.137-158

Cornia, Giovanni Andrea and Sheldon Danziger, ed. (1997) *Child Poverty and Deprivation in the Industrialized Countries 1945-1995*, Clarendon Press, Oxford

Corsini, Carlo A. and Pier Paolo Viazzo, ed. (1997) *The Decline of Infant and Child Mortality. The European Experience: 1750-1990*, UNICEF ICDC, Martinus Nijhoff Publishers.

European Observatory on National Family Policies (1996) *A Synthesis of National Family Policies in 1996*, European Commission, Employment and Social Affairs

Fox, John, ed. (1989) *Health Inequalities in European Countries*, European Science Foundation, Aldershot: Gower

Pescosolido, Bernice A. and Robert Mendelsohn (1986) 'Social causation or social construction of suicide? An investigation into the social organization of official rates'. *American Sociological Review*, Vol.51, pp.80-101

Hillman, Mayer, John Adams and John Whitelegg (1990) *One False Move … A Study of Children's Independent Mobility*, Policy Studies Institue, London

Hillman, Mayer, ed. (1993) *Children, Transport and the Quality of Life*, Policy Studies Institute, London

The Samaritans (1998) *Exploring the Taboo: A Samaritans Report* (web page?)

Saraceno, Chiara (1997) 'Growth, Regional Imbalance and Child Well-Being: Italy over the Last Four Decades', chapter in Cornia and Danziger (1997).

Sen, Amartya (1995) 'Mortality as an Indicator of Economic Success and Failure', Innocenti Lectures, UNICEF ICDC, Florence.

Silva, Manuela (1997) 'Child Welfare in Portugal amidst Fast Growth and Weak Social Policy', chapter in Cornia and Danziger (1997).

Taylor, Steve (1982) *Durkheim and the Study of Suicide*, Series on Contemporary Social Theory, London and Basingstoke, MacMillan.

5. Education

OECD (1995) *Literacy, Economy and Society: Results of the first International Adult Literacy Survey*, OECD, Paris and Statistics Canada.

OECD (1997) *Literacy Skills for the Knowledge Society: Further results from the International Adult Literacy Survey*, OECD, Paris and Human Resources Development, Canada

6. Teenage fertility

Bury, J (1984) *Teenage pregnancy in Britain*. London: Birth Control Trust

Butler, M., Ineichen, B., Taylor, B. and Wadsworth, J. (1981) *Teenage Mothering*. Report to DHSS, Bristol: University of Bristol

Eurostat (1996) *Social Portrait of Europe*, Luxembourg: Office for Official Publications of the European Communities.

Geronimus, Arline T. (1987) 'On Teenage Childbearing and Neonatal Mortality in The United States'. *Population and Development Review*, Vol.13, No.2, pp.245-279

Geronimus, Arline T. and Sanders Korenman (1992) 'The Socioeconomic Consequences of Teen Childbearing Reconsidered'. *Quarterly Journal of Economics*, Vol. 107, No.4, pp.1187-1214

Furstenburg, F., J. Brooks-Gunn and S.P.Morgan (1987) *Adolescent Mothers in Later Life*. Cambridge: Cambridge University Press

Hofferth, Sandra L. and Kristin A. Moore (1979) 'Early Childbearing and Later Economic Well-Being'. *American Sociological Review*, Vol.44, pp.784-815

Hoffman, Saul D., E. Michael Foster and Frank F. Furstenberg Jr. (1993) 'Reevaluating the Costs of Teenage Childbearing'. *Demography*, Vol.30, No.1, pp.1-13

Hotz, V. Joseph, Susan Williams McElroy and Seth G. Sanders (1997) 'The Impacts of Teenage Childbearing on the Mothers and the Consequences of those Impacts for Government', in Maynard, Rebecca, (ed.), *Kids Having Kids: Economic Costs and Social Consequences of Teen Pregnancy*. Aldershot: Ashgate/Urban Institute Press.

Hotz, V. Joseph, Charles H. Mullin and Seth G. Sanders (1997) 'Bounding Causal Effects Using Data from a Contaminated Natural Experiment: Analysing the Effects of Teenage Childbearing'. *Review of Economic Studies*, Vol.64, pp.575-603

Jones, Elise F., Jacqueline Darroch Forrest, Noreen Goldman, Stanley Henshaw, Richard Lincoln, Jeannie I. Rosoff, Charles F. Westoff and Deirdre Wulf (1986) *Teenage Pregnancy in Industrialized Countries*, A Study Sponsored by the Alan Guttmacher Institute, New Haven and London, Yale University Press.

Kiernan, Kathleen (1997) 'Becoming a young parent: a longitudinal study of associated factors'. *British Journal of Sociology*. Vol 48, No 3 pp.406-428

Manlove, Jennifer (1997) 'Early Motherhood in an Intergenerational Perspective: The Experiences of a British Cohort', *Journal of Marriage and the Family*, Vol.59, pp.263-279.

Phoenix, Anne (1991) *Young Mothers*. Oxford: Polity Press

Ribar (1994) 'Teenage Fertility and High School Completion', *Review of Economics and Statistics*, Vol.76, pp.413-424

7. Life happiness

Argyle, M (1989) *The Psychology of Happiness*. London, Routledge.

Blanchflower, David G and Andrew J Oswald (1997) 'The Rising Well-Being of the Young', Centre for Economic Performance, LSE, and Institute of Economics and Statistics, University of Oxford, Discussion Paper Series on The Labour Market Consequences of Technical and Structural Change, No.16.

Clark, Andrew E and Andrew J. Oswald (1994) 'Unhappiness and Unemployment', *Economic Journal*, Vol. 104, No. 424, pp.648-659.

Easterlin, R.A. (1974) 'Does economic growth improve the human lot? Some empirical evidence,' in P.A.David and M.W.Reder (eds.), *Nations and Households in Economic Growth*, New York, Academic Press.

Wottiez, Isolde and Jules Theeuwes (1998) 'Well-being and labor market status' in Jenkins et al. (1998) *The Distribution of Welfare and Household Production: International Perspectives*, Cambridge University Press.

8. Conclusions

Brown, B (1988), "Tracking the Well-being of Children within States: the Evolving Federal Role in the Age of Devolution", Washington DC, The Urban Institute, New Federalism: Issues and options for States No. A-21 (http://www.urban.org)