Chapter 2
The pace and distribution of gains in child wellbeing over 1980-2000: some preliminary results

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Summary. This paper analyses changes in key indicators of child wellbeing over the last twenty years on the basis of grouped data and microdata derived from twenty Demographic and Health Surveys. Over 1980-2000, most indicators of child well-being recorded a continuation of the favourable trends that characterized the 1960s and 1970s. Yet, this positive trend needs to be qualified in five respects. First, while indicators such as the infant-mortality rate (IMR) and under-5 mortality rate (U5MR) recorded mostly steady gains, progress was minimal in the field of child malnutrition and child poverty. Second, even for IMR and U5MR the pace of improvement was slower than that recorded during the 1960s and 1970s while – third – the intra and infra regional distribution of these gains became more skewed. Two regions were particular hardly hit, i.e. Sub Saharan Africa and Eastern Europe and the former Soviet Union that were respectively affected by the spread of AIDS, civil conflicts and protracted economic stagnation and by a difficult transition to the market economies. Fourthly, DHS data for twenty developing countries point to similar asymmetries in the within-country distribution of gains among children living in urban vs. rural areas or with mothers with different levels of education. As a result of slower and more lopsided gains in child welfare, progress towards the achievement of the global social targets set by the international community in the 1990s was unsatisfactory. At the dawn of the twenty-first century, several of these targets appear out of reach.

JEL: I12, I21, I31,J13, J16

* **This study presents the views of its authors and not the official UNICEF position in this field.**

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1. The valuation of child welfare gains over time

In most regions, the last 20 years have witnessed a continuation of the improvements in key child welfare indicators (IMR, U5MR, primary enrolment rates) which were recorded over the period 1960-1980 (Fox 1998). A thorough social valuation of this encouraging news requires however that these trends are assessed according to a few additional criteria so as to ascertain whether the aggregate gains achieved in these areas:

- have occurred at a pace similar, slower or faster than that realized over the preceding two decades,

- have been accompanied by equally rapid/slow improvements in other social indicators (or groups thereof) such as child poverty, child nutrition, child labour and child protection,

- have concerned all regions and countries or whether some of them were left behind,

- have benefited all social groups within each country (including young girls, children residing in rural areas and children born to mothers with low education) or left behind some of them.

This last point – the reduction of child welfare differentials within countries - is particularly important. Concern for inequality in health, education, nutrition and other aspects of human welfare is not new. In Europe, for instance, the famous Black Report (Black, Morris, Smith and Townsend 1980) focussed its attention on the steep health gradient observed among different classes of civil servants in the United Kingdom. Concern for reducing inequality in health was evident also in the WHO 'Health for All' strategy and the related target setting exercises that in 1984 set average targets for health indicators but also posited that '… by the year 2000, the actual differences in health status between countries and between groups within countries, should be reduced by at least 25%'(Whitehead 1990, cited in Gwatkin 2000). Likewise, the Director General of the World Health Organisation has recently stated there is a need to greatly reduce the burden of excess mortality on the poor.

How does one justify the emphasis placed not only on the average aggregate improvement but also on the improvement of belonging to children of the main social groups and of each individual child? There are at least four theoretical arguments to support focused action on specific target groups, and on the reduction of child welfare differentials in particular:

- the ethical-theoretical argument. According to most theories of justice, an average improvement in IMR or primary enrolment rate characterized by high variation around the mean receives a lower social valuation than an equal average improvement characterized by a more egalitarian distribution around the mean. Thus, an analysis of welfare differentials among social groups helps identifying the specific populations most at risk (for instance,

children in rural areas) and in formulating strategies that by concentrating on the most deprived groups lead to greater overall gains in social welfare;

- the efficiency argument. Targeting the intervention on the deprived groups would permit to achieve faster average improvements than if the intervention was directed to the general population. In many cases, high rates of IMR in underserved areas can be reduced by low-cost public health interventions, while the further reduction of already low IMR in urban areas is much more costly and difficult to achieve. Greater equity in health can thus be a source of aggregate efficiency;

- the political argument. Regardless of their absolute level, large child welfare differentials, or their increase over time, may exacerbate the perception of the unfairness of the social relations prevailing in a given country and so raise political instability. For instance, in Burundi, persistently higher secondary enrolment rates among the Tutsi than among the Hutu increased in the latter group the perception of their racial based discrimination and contributed to the explosion of the subsequent genocidal conflict;

- the child rights argument. A rise in child welfare differentials might signal the discrimination of certain socio-economic groups. This openly collides with the emphasis placed by the Convention on the Rights on the well being of every single child. Rapid improvements in certain right areas or for certain groups therefore are not sufficient to fulfil the prescription of the CRC which demands that minimum standards are met for all children.

Besides these theoretical arguments there are good historical reasons that justify our focus on recent changes in child welfare differentials. Steep gradients in all dimensions of child well-being alluded to above have been observed for long in many developed and developing world owing to an unequal distribution of resources and archaic social norms which limit the access to resources and opportunities to certain groups. A recent rise in child welfare differentials might thus be a symptom of growing distributive tensions or mounting social segregation. As argued in chapter 4, concern for the impact on child well-being of recent policy changes have intensified with the introduction in many countries over the last two decades of structural adjustment programs, that may have inadvertently shifted the policy focus from the search of 'Health for All', 'Universal Primary Education' and other social goals and towards the achievement of fiscal balance.

2. Child welfare gains over 1980-2000 in relation to 1960-80.

In a significant number of regions, recent progress in key child welfare indicators appears to have been slower than over the prior decades. Indeed, the data illustrated below suggests that long term progress has nor been linear and that – especially during the 1990s – there was a slow down in the pace of progress.

(i) IMR-U5MR. In all low-and-middle income countries taken together, IMR declined on average by 2.5 % a year between 1960 and 1980 while over the last twenty years such rate declined to 1.9%

Table 1. Trends in average regional annual rates* of decline in IMR, 1960-99

	1960-70	1970-80	1980-90	1990-9		1960-80	1980-99
World	-2.6	-2.0	-2.7	-0.95		-2.3	-1.88
High income	-4	-5.3	-3.8	-3.8		-4.6	-3.8
Low & middle income	-2.8	-2.1	-2.7	-0.95		-2.5	-1.9
- E.Europe & Central Asia	..	..	-3.9	-3.1		..	-3.5
- East Asia & Pacific	-4.8	-3.4	-3.2	-1.5		-4.1	-2.4
- Latin America & Carrib	-2.2	-3.2	-3.9	-3.4		-2.7	-3.6
- Middle East-North Africa	-2.1	-3.4	-4.5	-3.3		-2.7	-4.0
- South Asia	-1.6	-1.5	-3.1	-1.7		-1.5	-2.4
- Sub-Saharan Africa	-1.8	-1.7	-1.2	+0.34		-1.8	-0.47

Source: authors' calculation based on **aggregate** data from WDI 2001. Data for Sub-Saharan Africa for 1999 are from UNICEF sponsored MICS surveys. Data for World and for Low & Middle Income countries for 1999 are calculated on the base of both sources.
Notes: *rates are compounded and weighted by population size.

This deceleration results from two distinct trends. First, there was a continuous deceleration in the rate of IMR decline that reached worrying levels in the 1990s in the East Asia and Pacific(EA&P) region and an increase of mortality in Sub-Saharan Africa (SSA). In EA&P, the deceleration occurred at low levels of IMRs, possibly pointing to the elimination of all 'easy-to-remove'causes of infant death and to the difficulties faced when dealing with complex and costly perinatal problems. In SSA, the trend suggests acute problems even when dealing with 'easy-to-remove' causes of infant death, as well as a rise in AIDS deaths among infants. In SSA, in fact, the average decadal rate of immunization declined from over 60% in the 1980s to less than 50% during the last decade. A similar slowdown is observable in the former Soviet Bloc (Eastern Europe and Central Asia). While the USSR recorded one of the fastest ever rates of decline in IMR in the 1950s and 1960s, already in the 1970s and 1980s the rate of decline had slowed down sharply (Cornia and Danziger 1997). With the onset of the transition in 1989-92, the pace of decline in IMR was further affected. Because of their high level of aggregation and the method used to calculate the changes in IMR reported in Tables 1 and 2 [1] some of the unfavourable short term trends in IMR that occurred in the 1990s in this region can be captured only on the basis of a more disaggregated analysis. Indeed, in the 1990s the IMR trend in EE/FSU was far from monotonic and showed some worsening over 1991-94 in 2/3 in 27 countries of the region (UNICEF-IRC 2000). As a result in 15 of the 27 countries of the region, the 1994 level of IMR was higher than that of 1990. For the region as a whole, IMR rose from 20.3 in 1990 to 21.2 in 1993, to fall to 15.4 in 1998 (ibid).

The second trend concerns the countries of the Latin America and Caribbean region (LAC), of the Middle East and North Africa (MENA) region and of South Asia. In these regions, there was an acceleration in the rate of decline of IMR (peaking in the 1980s) followed by a marked deceleration in the 1990s. The acceleration in child welfare gains in South Asia,

[1] The rate of decline is calculated according to the following formula $r = (IMR99/IMR90)^{1/9} - 1$, which computes the compounded rate of change on the basis of the point-to-point variation in IMR. This measure that ignores the path followed by IMR between these two points, and which implicitly assumes a monotonic, constant rate of change

LAC and – especially – MENA during the 'the lost decade' of the 1980s is both remarkable and puzzling, in view of the economic stagnation experienced by the first two regions and the debt crisis and public finance problems experienced by L. America during the same period [2]. The 1980s gains in child survival in L. America might thus be explained by: (i) the spread of 'low cost health technologies (such as immunisation) and community-based approaches' to health and – perhaps - an improvement in the inter-sectoral allocation of public health expenditure and international aid, (ii) the spread of 'knowledge' about appropriate health, nutrition and family hygiene practices among parents, (iii) long term rises in literacy among the parents (the mothers, in particular) that are known to enhance the use of existing family resources and to facilitate the absorption of health knowledge for child survival (see part 4).

A pattern of change similar to that of IMR emerges from the analysis of the U5MR data (Table 2). First, there was a continuous deceleration in the rates of improvement in EA&P and EE/FSU. In the latter region, a more detailed analysis of the data for the 1990s (UNICEF-IRC 2000) shows that also U5MR was affected by the turbulence caused by the transition. A modest aggregate regional rise was observed between 1989 (22.7) and 1992 (23.4) while the rate then started declining again to reach 17.4 per thousand in 1998. This latter average improvement was however accompanied by an increase in the variance between the U5MR levels in the countries of the region. While the countries of Central Europe recorded strong gains, the FSU countries showed a broad stagnation in U5MR.

Table 2. Trends in average regional annual rates* of decline in U5MR, 1960-99

	1960-70	1970-80	1980-90	1990-99		1960-80	1980-99
World	-2.2	-2.1	-3.6	-0.9		-2.1	-2.3
High income	-3.4	-5.6	-5.1	-3.2		-4.5	-4.2
Low & middle income	-2.5	-2.1	-3.9	-0.6		-2.3	-2.3
- Europe & Central Asia	..	..	..	-2.8		..	..
- East Asia & Pacific	-4.4	-4.3	-4.0	-2.3		-4.3	-3.2
- Latin America & Caribb	-2.2	-4.3	-4.7	-2.9		-3.2	-3.8
- Middle East-North Africa	-2.1	-3.8	-6.3	-2.6		-2.9	-4.6
- South Asia	-1.3	-1.5	-3.9	-2.2		-1.4	-3.1
- Sub-Saharan Africa	- 1.4	-1.6	-2.0	+1.0		-1.5	-0.6

Source: authors' calculation based on aggregate data from WDI 2001. Data for Sub-Saharan Africa for 1999 are from UNICEF sponsored MICS surveys. Data for World and for Low & Middle Income countries for 1999 are calculated on the base of both sources.
Notes: *rates are compounded and weighted by population size.

In LAC, MENA, South Asia and – in this case – also SSA[3], there was an acceleration over time in the rate of decrease in the U5MR peaking in the 1980s followed by a marked deceleration in the 1990s. In SSA, the deceleration was replaced by a clear surge in U5MR data – reflecting the economic and political difficulties mentioned above and – above all - the devastating impact of AIDS in the countries of Eastern and Southern Africa and, to a lesser

[2] In MENA the public health expenditure/GDP ratio was sustained at a fairly high level during the entire decade.
[3] In the case of SSA, however, it is unclear how the data in Table 2 capture the initial effect of the AIDS pandemic and of an increasing number of conflicts

extent, in other parts of the region (Cornia and Zagonari 2002). For instance, between 1986 and 1996, U5MR rose by 10 percent in Zambia and 20 percent in Kenya. While the deceleration in U5MR reduction in South Asia and LAC was respectively minimal and moderate, that recorded in MENA was dramatic and requires closer scrutiny.

(iii) Primary and secondary education. At the global level, the primary gross enrolment ratio (PER-G) has grown from 85 to 104 per cent between 1970 and 1995 in a context of a rapid rise in the school-age population. Despite this positive trend, the goal of reaching universal primary education by the year 2000 adopted at the 1990 Jomtien World Conference on Education for All was missed by a wide margin, raising doubts on the attainability of the same goal by 2015[4]. In fact, the global trend mentioned above masks strong regional disparities, with several countries experiencing a stagnation or even a decline in primary enrolment rates over the last decade. Indeed, as shown in Table 3, between 1980 and 1995 there was a deceleration in the rate of increase of PER-G in most developing regions.

Table 3. Trends in average annual rates of change in regional Primary Enrolment Rates* - Gross (PER-G), 1960-1995

	1960-70	1970-80	1980-90	1990-95		1960-80	1980-95
World	-0.05	1.27	0.56	0.43		0.61	0.51
High income	-1.08	0.23	0.07	0.14		-0.43	0.09
Low & middle income	0.40	1.59	0.66	0.46		0.99	0.59
- Europe & Central Asia	..	…..	-0.07	0.24		..	0.03
- East Asia & Pacific	-1.19	2.11	0.84	-0.88		0.45	0.26
- L. America & Caribbean	1.87	-0.24	0.04	1.28		0.80	0.45
- Middle East-North Africa	2.64	2.12	1.17	-0.23		2.38	0.70
- South Asia	2.34	0.83	1.66	1.94		1.59	1.75
- Sub-Saharan Africa	2.76	4.66	-0.64	0.60		3.70	-0.23

Source: authors' calculation based on **aggregate** data from WDI 2001.
Notes: *rates are compounded and weighted by population size.

With gross primary enrolment ratio (PER-G) exceeding 100%, Latin America and East and South East Asia seem to be the only developing regions able to provide access to primary education to all their children. With the severe fiscal adjustments of the 1980s and 1990s and the introduction of poorly designed user fees, enrolments in primary education declined in several African countries[5] (Tanzania is a prominent case). A somewhat similar phenomenon was observed in the EE/FSU, in particular in Central Asian CIS countries, where the universal access to free basic education achieved already in the early 1980s was eroded in the early-mid 1990s. Enrolments declined also, if temporarily, in the booming Asian economies in transition (e.g. China and Vietnam) where the fall in the relative wages of teachers, reduced parents' compliance with educational obligations, and the rise in the opportunity costs of the adolescents' time, curtailed enrolments and pushed up drop-out rates.

[4] At the World Summit on Social Development in 1995, the goal of achieving Universal Primary Education was postponed to the year 2015.

[5] In SSA, the decline in primary enrolment rates in the public sector was accompanied by the opening up of higher education to private providers, a fact that increased the number of privately financed enrolments at the secondary and higher level.

The above results may be due to the fact that the variable 'primary enrolment rate' is upper bounded at 100-110, potentially forcing smaller rates of absolute and relative improvement in countries with already high enrolment rates. To test the robustness of the above conclusions about the slow down in gains in enrolment rates, we thus calculated (Table 4) the relative changes in the proportion of children not enrolled in primary school (that is, in the ratio 1- PER-N). The table shows that the reduction in the non-enrolment rate slowdowns significantly over 1990-95 in relation to 1980-90 except for Latin America. Also in the transitional countries the rate of improvement seems to be greater in the 1990s than in the 1980s. This, however, likely reflects non significant changes taking place around the upper asymptote of PER-G. Indeed, in countries with already high aggregate levels of enrolment, including for over-age children, declines in rates above the 100 % mark often reflect a physiological phenomenon not entailing a loss in child well-being but rather a gradual elimination of over-age enrolments.

Finally, to take care of the over-age enrolment problem, we recalculated progress in this area on the basis of changes in the net enrolment rate as such method provides non-ambiguous results about the elasticity of decline of this variable over its entire range. This approach entails however a substantial reduction in the number of countries analysed as information on this variable is often not available, especially in low income countries. Be as it may, the analysis confirms some of the negative trends identified above. For instance, during the first half of 1990s, net enrolment rates have grown at less than half the pace necessary to attain universal primary enrolment by 2015 in 29 SSA countries, and in16 of them they actually fell. For SSA, the projection of the 1990-95 trends of to 2015 shows that by that year 22 countries out 41 will have a net enrolment rate of less than 70% (Watkins 2000).

Table 4. Trends in average annual change rates of regional % of children of primary school age not enrolled in school* - 1960-1995

	1980-90	1990-95
World	-4.56	-2.23
Low & middle income	-4.49	-2.42
- Europe & Central Asia	-4.23	-7.70
- East Asia & Pacific	-15.47	-13.56
- Lat. America & Caribb	-1.86	-8.50
- Middle East-North Africa	-6.55	-0.02
- South Asia	-3.13	-2.23
- Sub-Saharan Africa	..	..

Source: authors' calculation based on **aggregate** data from WDI 2000
Notes: *rates are weighted by population size

To conclude, it must be pointed out that the variables used above provide only a partial picture of the changes that have taken place in the educational situation as they do not reflect changes in grade repetition and drop outs rates. For example, in Latin America, despite almost universal primary enrolments, about 25% of the pupils drop out of school before reaching grade 5. In South Asia the recent gains in enrolments rates were in part offset by lack of improvements in completion rate as the regional completion rate to grade 5 remains at a low 60%.

3. Variation in welfare gains across clusters of child welfare indicators.

Over the last twenty years, social progress appears to have been more pronounced for some basic child welfare indicators (such as IMR, U5MR, PER and so on – see Section 2) that are more directly influenced by public interventions (such as immunization and educational campaigns) than for other indicators (child poverty and child malnutrition) that tend to be more dependent on changes in private incomes. Hereafter, we provide some arguments to support this hypothesis.

- Child Poverty. As argued more in detail in Chapter 4, overall progress on poverty over the last 15 years has been regionally unbalanced and – as a whole – slower than predicted. In 1990, the World Bank projected a decline in the number of the poor from 1125 to 825 million between 1985 and 2000. But in 1998 the number of the poor was assessed at close to 1.2 billion, i.e. some 400 million more than the target set by the World Bank in 1990. If China and a few other East Asian countries – where poverty fell sharply until 1995-6 – are excluded, it appears that the poverty rate almost stagnated and the number of poor rises in SSA, most EE/FSU (World Bank 1990 and 2000), rural South Asia and urban Latin America.

Within this broad picture, in most areas child poverty appears to have risen faster than aggregate poverty (see Chapter 4)[6]. Part of the rise is due to population growth. But part is to be ascribed to a 'child-adverse' poverty dynamic within most regions. The surge in child poverty in EE/FSU, for instance, resulted from the spread of unemployment, low pay, wage arrears and temporary/insecure employment among adult workers with dependent children, as well as on a public policy which neglected minimum wages, public work programs and child allowances (UNICEF 1995). In this region, in 1989, children faced a 30% higher risk of poverty than the general population but this ratio had risen to 50 % by 1993-4[7].

In turn, several OECD countries (e.g. the UK, US and Ireland) experienced a decline in poverty among the elderly but a rise in child poverty because of a surge in the number of 'working poor' and monoparental families, and policy neglect (Cornia and Danziger 1997). In L. America, despite a sharp drop in birth rates (which reduced the number of siblings per family and improves the dependency ratio), child poverty rose faster than the average because of the informalisation of employment, a surge in wage dispersion and a drop in minimum wages – all factors that raise the proportion of 'working poor' with dependent children on the total working population. In SSA, stagnation-induced child poverty has been compounded by the

[6] In chapter 4 child poverty rates are computed in an indirect way. We start from the number of poor people estimated on the basis of the World Bank 1 PPP$/person/day poverty line.We then multiply this number for the ratio of the population 0-15 to the total population, to obtain the number of poor children. This procedure implicitly assumes that poverty is distributed in a proportional way across all age groups. To correct for this bias (we know from the literature that child poverty rates tend to be higher than those for the general population) we multiply the 'neutral number of poor children' for the 'relative risk of poverty of children' – a ratio that in most cases is higher than 1.

[7] Values computed taking the average of the risk of poverty of children divided for that of the general population of Bulgaria, Estonia, Hungary, Poland and Romania provided in Table I.5 of UNICEF (1995)

rise in the number of AIDS orphans who face extremely high risks of poverty. For instance, in three large AIDS affected countries – e.g. Ethiopia, Zambia and Uganda – the share of orphans rose from well below 10 percent in the 1980s to 17.4 and 21.7 percent in 1990 and 2000 (Hunter and Williamson 2000).

In India, GDP growth accelerated to 5.6 percent in the 1990s (from 5.3 percent in the 1980s) but poverty rates diminished only in urban areas (which account for a third of the population). Rural poverty rose sharply during the adjustment and post-adjustment years of 1991-93. For the rest of the decade, rural poverty stagnated and might have risen among the agricultural labourers. To start with, the demand for labour and the real rural wage rate fell because of (i) a sharp slow down in the growth of agricultural output relative to the 1970s and 1980s, (ii) a fall in rural non-agricultural growth, (iii) the retrenchment of government expenditure on rural infrastructure, public works and food subsidies, all of which have a strong poverty alleviation effect. Second, food-grain prices rose during the 1990s because of the devaluation of 1991, a 35% increase by the government in procurement prices and food prices in the outlets of the Public Distribution System (to which poverty is very sensitive). The spread of poverty among the families of agricultural labourers (who have a higher fertility than average) and the fall in poverty among urban families (who have lower fertility rates, including among the poor) contributed to a rise in the number of poor children, both in absolute terms and relative to the number of other age groups.

Finally, in China, fast growth in labour demand in rural areas and in the labour intensive export-led manufacturing sector and a fairly egalitarian distribution of income contributed to a fast rise in the incomes of wage earners with dependent children (see chapter 7). The impact on child poverty was strengthened by the rapid decline in birth rate (that dropped from 1.5 in the 1980s to 1.1 % in the 1990s) that reduced the young age dependency ratios and the average number of children per income earner[8]. A similar 'demographic gift' was observed in most countries of East and South East Asia during the same two decades.

-Child malnutrition. While child health depends mainly on public health programs, nutritional status is generally more directly dependent on family incomes [9]. In most countries outside East Asia, China and urban India, during the last two decades average family incomes have risen slower than in the prior decades, while income distribution has worsened in about two thirds of the countries with available data (chapter 4 provides detailed information in this regard). This unfavourable trend may in part explain the unsatisfactory trends in child malnutrition over the last 3 decades illustrated in Table 5. The table shows a noticeable and steady slowdown in the average annual rate of reduction of the percentage of malnourished children in developing world, from –2.05 yearly during the 1970s to –0.82 in the first half of the 90s. Only South Asia was able to sustain its rate of decline over the whole period. MENA and East Asia experimented a drastic deceleration during 1990-95, while the

[8] See the paper by Aiguo Lu and Wei Zhoung presented at the meeting

[9] This hypothesis needs to be qualified in an number of ways. For instance, parental education, family incomes and other factors also influence the level of IMR. Likewise, access to public services and parental time and literacy also affect the nutrition of the child.

percentage of underweight children in SSA stagnated during the 1980s and increased from 28.8 to 31.3 percent during the first half of the 1990s [10]

Table 5. Trends in child (0-59 months of age) malnutrition in developing regions, , 1970-95 prevalence rates (top part of table), and absolute number (mn) (bottom part).

Regions	Percentage of underweight children					Average annual change in prevalence			
	1970	1980	1990	1995		1970-80	1980-90	1990-95	
EAST ASIA	39.5	30	23.5	22.9		-2.71	-2.41	-0.52	
LAC	21	12.2	11.4	9.5		-5.29	-0.68	-3.58	
MENA	20.7	17.2	15.1*	14.6		-1.84	-2.57*	-0.003*	
SOUTH ASIA	72.3	63.7	53.4	49.3		-1.26	-1.75	-1.59	
SSA	35	28.9	28.8	31.1		-1.90	-0.03	1.68	
ALL REGIONS	46.5	37.8	32.3	31.0		-2.05	-1.56	-0.82	
	1970	1980	1990	1995		1970-80	1980-90	1990-95	
EAST ASIA	77.6	43.3	42.5	38.2		-5.67	-0.19	-2.11	
LAC	9.5	6.2	6.2	5.2		-4.18	0	-3.46	
MENA	5.9	5	5*	6.3		-1.64	0*	2.34*	
SOUTH ASIA	92.2	89.9	95.4	86.0		-0.25	0.60	-2.05	
SSA	18.5	19.9	25.7	31.4		0.73	2.59	4.09	
ALL REGIONS	203.8	164.3	176.7	167.1		-2.13	0.73	-1.11	

Source: authors' elaboration based on data from: Smith, L. C., and Haddad, L.(2000) Notes * 1985 or change over period in which one of the two extremes is 1985 and not the value indicated in the column's heading

Obviously these regional averages conceal important variations among countries of the same region. In the Asian and Pacific region, for instance, Cambodia was able to reap the dividends of peace and, with a rapid increase of the cultivated land, per capita dietary energy supply increased by 21 percent. On the other side, the Democratic Republic of Korea, hit by natural disasters and serious economic crisis, has seen a drop of 21 percentage points in the same variable over 1980-1996 (FAO 1999). Poverty and malnutrition incidence fell dramatically in Thailand during the 1980s, thanks to a poverty alleviation strategy and supporting sustainable rural development. In contrast, the low purchasing power of the bulk of Azerbaijan's population and the increasing income disparity in Georgia have lead to worsening nutrition indicators for these countries (FAO 2000).

In conclusion, the divergence between faster gains in child welfare areas depending on public action than in those depending on gains in family incomes – may signal that 'basic social needs' are being met in increasingly polarized societies. Ironically, in this era of 'laissez-faire', the public sector, civil society and knowledge diffusion might have performed relatively better than free markets.

[10] The different demographic dynamics among developing regions at different stages of their fertility transition explain the apparent discrepancies between the trends in the prevalence of malnutrition and in the absolute number of malnourished children.

But this divergence may also be due to a social policy which has placed a stronger focus on few basic goals (e.g. child survival) than on 'second generation' objectives such as those discussed above and the social protection of the youth. Third, adverse societal changes may have also to be blamed. The same forces that led to gains in child survival (e.g. greater access to services, rise in urban wages, urbanisation itself) may have weakened family and community cohesion and values and exacerbated the problem of child labour. For instance, in Vietnam, the spread of 'consumer society' which followed from the rise of family incomes and the spread of Western consumption patterns encouraged young people to enter the labour market – and leave school - at an early age. Or, as in the case of China, the fall in the wages of teachers and doctors relative to those paid in a fast growing economy caused an exodus of state/commune teachers/nurses to better paying jobs.

4. Variation in welfare gains across countries/regions.

Several regions recorded steady progress for most indicators of child wellbeing but others showed stagnation or even regression. The same trend is observed also within the main regions, suggesting that the aggregate improvements in child welfare took an increasingly lop-sided geographical shape. Growing regional divergence in welfare indicators suggests the emergence of an unsustainable situation, not only for the areas directly concerned but also globally, as with growing regional polarisation in social conditions, spillovers of 'international public bads' (conflicts, refugees, drugs and illegal migration) are likely to multiply.

Hereafter we present data on the average unweighted values of a few child welfare indicators for the years 1980, 1990 and 1999, together with a measure of intra-regional and overall variation (the coefficient of variation (CV) i.e. the ratio of the standard deviation to the average of the indicators of welfare) for the same years.

(i) Infant Mortality Rate and U5MR. Table 1.shows a progressive decline of IMR in all regions over the 1980-90 and 1990-99 periods. With the exception of the EU, the decline in infant mortality was somewhat faster over 1980-90 than over 1990-99.

Table 6. Trends in IMR by main regions and in coefficient of variation (CV) within and between regions, 1980,1990 and 1999

	1980		1990		1999		% Decline
	Average*	CV	Average*	CV	Average*	CV	1980-99
E. & S.E.Asia(25) **	49	0.91	36	0.94	30	0.99	-39
European Union (15)	12	0.36	8	0.17	5	0.13	-59
EE and FSU (27)	30	0.43	20	0.48	15	0.45	-50
Latin America (32)	50	0.59	34	0.57	26	0.58	-48
MENA (20)	67	0.55	44	0.73	33	0.88	-51
North America (2)	11	0.14	8	0.23	6	0.19	-46
South Asia (7)	117	0.38	89	0.50	70	0.62	-40
Sub-Sah. Afr. (45)	118	0.29	102	0.34	98	0.35	-17
All countries (173)	**64**	**0.76**	**50**	**0.87**	**46**	**0.95**	**-28**
All regions	**57**	**0.74**	**43**	**0.83**	**35**	**0.92**	**-39**

Source: calculations by the authors based on WDI 2001 Cd-rom data;. Corrections for Sub-Saharan Africa for 1999 are based on UNICEF sponsored MICS surveys.

Note: *:unweighted average; ** number of countries in each region

The table shows that the regional (unweighted) IMR fell by almost 60% in the EU and 50% in EE-FSU[11], MENA and North and Latin America. In ESEAP the fall was of about 40%, while in SSA it was of only 17% in 18 years. This suggests that the countries with the highest IMR levels (in war–stagnation-AIDS affected SSA and – more surprisingly – in stable South Asia) recorded much slower proportional improvements than regions with better initial IMRs, and that therefore there has been no convergence in IMR levels among regions. Among the regions with high initial IMRs, MENA is that which recorded the most impressive gains during the period under consideration (Table 6). These results are more remarkable when considering that during the last 20 years its GDP/c broadly stagnated. Progress was promoted by a stable and substantial allocation of public funds to the health sector (of 4-5 % of GDP) and a massive rise in female education made possible by large allocations (5-6 % of GDP) of public funds to education staring from the 1970s.

As a consequence of these noticeable differences in regional IMR trends, the intra-regional coefficient of variation (CV) rose from 0.74 to 0.92, while that for the overall 173 countries of Table 6 passed from 0.76 in 1980 to 0.95 in 1999.

An increase in the CV of the distribution of the average IMRs by countries is evident also within all developing regions except LAC, suggesting that the recent regional gains in IMR were unequally distributed within the countries of each region. The sharpest increase in the regional CV is evident in S. Asia (from 0.38 to 0.62) and MENA (from 0.55 to 0.88). Less pronounced that of ESEAP (from 0.91 to 0.99) which was already extremely high. With the highest regional IMR, and the slowest rate of IMR decline over 1980-98, SSA shows a low and stable intraregional CV, suggesting that stagnation affects all countries of the region indistinctly. In contrast, the CV declined from low levels in the EU suggesting an equalisation in living standards and growing social homogeneity within the region. Somewhat similar observations can be made for North America where CV is low as it refers only to two countries and EE-FSU (subject to the caveats expressed in footnote). The same analysis carried out on U5MR data for 125 countries yields – unsurprisingly – results similar to those identified in the case of IMR. For reasons of space the results are not reported.

(ii) Gross and net primary enrolment ratios[12]. The analysis of inter-regional and intra-regional disparity in gross primary enrolment ratios is conducted on data for 129 developing and

[11] These data are puzzling and do not fit with those from other sources. While IMR has indeed fallen steadily in EE, it broadly stagnated or declined imperceptibly in many countries of the FSU (UNICEF-IRC 2000). See section 2.

[12] The gross enrolment ratio is the ratio of total number of enrolled children, regardless of their age, to the population of the age group that officially corresponds to the levels of education under analysis. As the GER includes also underage and overage enrolments, it has been used an indicator of broad levels of participation and school capacity. The ratio is the most commonly available indicator of participation into the educational process but suffers from some shortcomings (it can take values in excess of 100) which reduce its usefulness particularly in the case of cross-country comparison. Other problems concern the duration of each level of education (the primary, secondary, etc) across countries, the repetition rates, etc.

developed countries. The results reported in Table 7 generally point to a decline in the intra- and inter-regional variation in PER-G.

In 1980, South Asia and SSA had similar and low average PER-G and comparatively high CVs. But while South Asia recorded over the subsequent 15 years a strong increase in PER-G (of 20 percentage points) and a rapid reduction in the intra-regional CV (from 0.44 to 0.31), SSA showed a virtual stagnation in average PER-G and a progressive reduction of intra-region variability as the countries with high initial PER-G (e.g.Tanzania) deteriorated and those with lower ratios improved (e.g. Burkina-Faso). In a way, one can talk of 'average stagnation with convergence towards the middle'. With broadly constant PER-G in the developing regions that had already reached the highest level of enrolment and an improvement in South Asia, the inter-regional CV of PER-G declined as well from 0.18 to 0.13. Data on net primary enrolment ratios (PER-N) are available for 124 countries. The trends in average PER-N and in its CV (not shown) are similar to those discussed in the case of PER-G.

Table 7. Trends in Gross Primary Enrolment Ratios (PER-G) by main regions and in the Coefficient of Variation (CV) within and between regions, 1980, 1990 and 1995

	1980		1990		1995	
	Average*	CV	Average*	CV	Average*	CV
ESEAP(17)**	105	0.15	105	0.11	104	0.12
European Union(14)	102	0.08	103	0.07	105	0.08
EE and FSU (20)	98	0.11	98	0.09	97	0.08
LAC (21)	103	0.12	101	0.10	104	0.10
MENA (17)	88	0.25	91	0.24	90	0.21
NA (2)	99	0.002	103	0.0004	102	0.0006
S. Asia (5)	69	0.44	80	0.44	89	0.31
SSA (33)	76	0.44	77	0.38	80	0.35
All countries (129)	**92**	**0.26**	**93**	**0.24**	**95**	**0.22**
All regions	**92**	**0.15**	**95**	**0.12**	**96**	**0.10**

Source: calculations by the authors based on WDI 2000 Cd-rom data
Note; *:unweighted average ** number of countries in each region

(iii) Gross secondary enrolment ratio (SER-G). In 1980, three developing regions had reached values not far from the 50% threshold – while NA, EU and EE/FSU had rates around 90 percent. In contrast, in 1980 SA and SSA had low average SER-G and a high intraregional CV. Over 1980-95 however, these two regions recorded the fastest proportional rises, so that the overall variation in SER-G declined over time. This process was facilitated by the sharp decline (of seven percentage points) towards the global average experienced by EE/FSU, and not sufficiently hampered by the further rise in SER-G experienced in the rich countries. In addition, all regions experienced a reduction in intra-regional CV, although over 1990-5 this trend is reversed in three regions.

The net enrolment ratio (NER) excludes in its computation overage and underage students in an attempt to capture more accurately the system's coverage and internal efficiency. However the NER does not resolve completely the problem of over-counting because some children fall outside the official school age simply because of late or early entry rather than because of grade repetition.

Almost identical results (not shown) were obtained when conducting the same analysis on the adult literacy rate, though the laggards regions in this case converge more slowly towards the levels of adult literacy of the advanced nations, than in the case of primary and secondary enrolment rates.

Table 8. Trends in Gross Secondary Enrolment Ratios (SER-G) by main regions and in the Coefficient of Variation (CV) within and between regions, 1980, 1990 and 1995

	1980		1990		1995	
	Average*	CV	Average*	CV	Average*	CV
ESEAP(18)**	51	0.53	57	0.47	66	0.50
EU (14)	84	0.19	96	0.16	116	0.15
EE and FSU (20)	90	0.20	88	0.13	83	0.18
LAC (20)	50	0.40	57	0.39	59	0.30
MENA (18)	48	0.44	58	0.37	64	0.32
NA (2)	89	0.03	97	0.06	101	0.05
S. Asia (4)	29	0.65	41	0.62	46	0.48
SSA (29)	18	0.85	22	0.64	26	0.66
All countries (125)	**53**	**0.61**	**58**	**0.54**	**64**	**0.53**
All regions	**57**	**0.48**	**64**	**0.42**	**70**	**0.41**

Source: calculations by the authors based on WDI 2000 Cd-rom data
Note: *:unweighted average ** number of countries in each region

5. Variation in welfare gains by social groups

5.1 Salient points from the literature

An analysis of changes in indicators of child welfare by social groups is important because average improvements may result from widely different rates of improvements among 'social groups' identified on the basis of gender, residence (rural-urban), region, income class, ethnic group, religion, level education of the parents, household composition and labour market status of the head of the household. In the worst case, a given average improvement may reflect an improvement among the top 'x' percent of the population and regression among the remaining (100-x) percent. Some of the most common findings of the literature on differentials in child welfare indicators are summarised hereafter:

(i) large child welfare differentials are common. The most pronounced differentials concern female or minority children and children living in rural areas and remote regions underserved by basic services, in incomplete or unstable families often headed by a women, in families with illiterate parents, in low income families affected by high un-/under-employment and so on. Welfare differentials between the worst/best groups can be as high as 4 to 5.

One of the best known and most important differentials in infant mortality is that by the level of education of the mother (Caldwell 1979, Bicego and Boerma 1993). Greater education among mothers is also found to reduce the IMR differential by gender (Murthi et al. 1995). In turn, variables such as region of residence, religion and ethnicity interact in their effects on child mortality though these covariates are likely to act as proxies for environmental, cultural and socioeconomic factors (Mammo 1993). The region and, in particular, the type (rural or

urban) of residence are among the best investigated correlates of infant and child mortality, the common presumption being that the place of residence accounts for different access to sanitation, housing and health and educational services (Defo 1996, Sastry 1996, Lalou and Le Grand 1996, Jhamba 1999)

(ii) child welfare differentials tend to persist over time. For instance, gender disparity in education tends to persist in several countries, despite affirmative action by governments, due to traditional attitudes, socio-economic factors and the insufficient allocation of resources by governments. For instance, in several SSA countries, the persistence of a gender bias in education was perceived to be the result of insufficient public funds rather than of inadequate demand for female education (UNESCO 1998).

In a recent review of trends in rural-urban health inequalities, Eastwood and Lipton (2000) find that the urban-rural gap in child mortality has remained broadly constant over the last two-three decades. They cite evidence from China and India showing that the recent uneven expansion in health service provision in rural and urban areas explains in part why rural dwellers are unable to catch up with rising health standards in the city.

(iii) child welfare differentials persist even in egalitarian societies but are not as glaring. Even in nations with broad access to basic services, such as Denmark, in 1975, a new-born in an unskilled worker's family was two to three times as likely to die during the first year of life as was a new-born in a professional family. Wilkinson (1996, p. 86) reports a comparison in infant mortality rates by social class between England & Wales and Sweden, which shows a marked social gradient in the first one but not in the latter, as in Sweden improvements in infant mortality were more equally distributed as a result of a solid policy commitment to reducing domestic health inequality.

(iv) child welfare differentials tend to be closely linked to economic inequality and unequal access to services; only in a few countries a significant residual advantage for other variables was found. In an analysis of ethnic differentials in child mortality in 11 African countries, Brockerhoff and Hewett (2000) identify significant differentials which are closely linked to economic inequality and differential access to services (Table 9).

Table 9. Mortality differentials among ethnic groups in selected African countries

Ivory Coast (Others/Baulé)		Kenya (Others/Kikuyu)		Senegal (Others/Serer)	
- 1970-4	1.32	- 1968-72	1.71	- 1968-72	0.84
- 1980-4	1.47	- 1978-82	3.27	- 1978-82	0.90
- 1990-4	1.21	- 1988-92	2.87	- 1988-92	1.28

Source: Brockerhoff and Hewett (2000)

An analysis of survey data on inequalities in U5MR by consumption quintiles for 9 developing countries finds statistically significant inequalities for most cases, but at very different extents. U5MR inequality was particularly high in Brazil where a concentration index[13] of –0.322 was found. At the opposite end of the spectrum, the concentration index

[13] The concentration index for child mortality by level of consumption is obtained from concentration curves with the cumulative proportion of deaths (on the *y*-axis) against the cumulative proportion of children at risk ranked by level of consumption starting from the most disadvantaged child (on the *y*-

was -0.016 in Vietnam and -0.028 in Ghana, i.e. countries where the consumption gradient was less pronounced[14] (Wagstaff 2000)

(v) child welfare differentials are also influenced by the characteristics of the family (completeness, stability) and of the community in which they live. Even in the OECD countries, health and educational differentials persist between children living in single-parent as compared to married-couple families (Cornia and Danziger 1997).

(vi) child welfare differentials narrow with an improvement of the average only if the development pattern explicitly focus on equity. For example, in the USA, IMR declined to a record low of 7.9 per 1,000 live births in 1994. At the same time, the ratio of IMR for blacks to that for whites grew from 1.6 in 1950 to 2.2 in 1991 (Cornia and Danziger 1997). A simulation reported in Gwatkin (2000, pp. 12-13) shows how the achievement of the OECD goal for the infant mortality can be attained with different strategies for different population wealth quintiles. In particular, the so called top-down strategy, which starts its interventions reducing mortality in the wealthiest (and perhaps easiest to reach) quintiles, is expected to produce a dramatic widening of the mortality gap between the richest and poorest quintiles.

(vii) child welfare differentials may move in different directions for children of different ages. In middle and high-income countries, infants and young children have been better targeted by public policy than the adolescents. Indeed, in middle income countries, it is not uncommon to observe a rise in adolescent mortality accompanied by a fall in the mortality of young children.

6.2 Analysis of some child welfare differentials over 1980-2000

Any attempt to assess changes in child welfare for different subpopulations could, in principle, be carried out on the basis of a large number of child welfare differentials. Informational gaps, however, limit the number of such differentials that can be calculated, particularly – as in our case – if one needs to count on such differentials at two or more points in time. Table 10 provides a summary of the main differentials that can be computed and of the related sources of information.

Table 10. Summary of the sources of information on child welfare differentials

	Income (or wealth) level	Rural/urban	Male/female	Education of parents	Sex of head of household	Ethnic group
Immuniz.	Pritchett +	DHS	DHS	DHS	DHS	DHS
IMR	Pritchett +	DHS	DHS	DHS	DHS	DHS
U5MR	Pritchett +	DHS	DHS	DHS	DHS	DHS
Primary educatio	…..	UNESCO DHS	UNESCO DHS	DHS	DHS	DHS

axis). The index value is zero in case of absence of inequality in mortality and has negative values when the consumption gradient works in the direction expected in the theory.

[14] The index reported by Wagstaff (2000), as highlighted by the author, refers to inequality between children in different position in the consumption distribution of their countries and not to inequality between children with different absolute living standard in different countries. The degree of consumption inequality is not uniform between countries, as well as the children in the poorest quintile in a country may be relative well of by standards of another country.

n						
Nutrition	Pritchett +	DHS	DHS	DHS	DHS	DHS
Poverty	W.Bank	W.Bank	…..	DHS	W.Bank	

Source: authors' compilation

In view of this, we limit our analysis to changes over time in the child welfare differentials listed below making use of UNESCO/World Bank data for the first three and DHS data for the last two:

- Male/female differential for PER-G (1980-95)
- Male/female differential for SER-G (1980-95)
- Male/female differential for ALR (1980-95)
- Urban/rural differential for IMR (mid-late 1980s - late 1990s)
- IMR differentials by level of education of the mother (mid-late 1980s - late 1990s)

(i) Male/female differentials for PER-G (1980-95)**.** Data on the PER-G for males and females and for the years 1980, 1990 and 1995 are available for 67 developing countries[15]. In 1980, the m/f ratio for PER-G was higher than 1.1 in 40 countries; close to 1 in 14, and lower than 1 in only 4 countries (Botswana and Lesotho, Nicaragua and Venezuela). Thus, in 1980, the gender bias in primary education was still clearly observable. The situation improved steadily over the subsequent 15 years. By 1995, only 8 countries (down from 14) still had a PER-G below 60%, 28 had a ratio comprised from 60 to 100% and 30 surpassed the 100% threshold. Meanwhile the number of countries with a gender gap bigger than 10% fell from 40 to 25. Altogether, during the period 1980-95, the m/f ratio shrank in 35 of the 62 countries which had an original m/f bigger than one in 1980, whereas it stagnated in 23 and rose in Congo, Pakistan, Iraq and Laos (in the latter it however remained within an equitable range)[16].

Table 11. Distribution of 67 countries by the value of m/f ratio in 1980,1990 and 1995

Countries by level of m/f ratio PER-G			
	1980	**1990**	**1995**
0.60-.89	2	2	1
0.90-0.96	2	2	0
0.97-1.03	**14**	**19**	**26**
1.04-1.09	9	6	6
1.10-1.49	21	27	25
1.50-2.00	15	8	8
More than 2.00	4	3	1
Total	67	67	67

Source: authors' elaboration of data from WDI 2001 CD-rom

A cross tabulation of changes over 1980-95 in PER-G and m/f ratio for 62 countries where in 1980 the m/f ratio was bigger than 1 shows that: in most countries (70%) where PER-g rose, the m/f ratio converged towards 1; in the countries where PER-G stagnated (20% of the total), the m/f ratio converged in about 60% of the cases and remained unchanged in

[15] Of the 67 countries, 29 were from Sub-Saharan Africa, 11 from Middle-East and North Africa, 5 from South Asia, 10 from East and South Asia and Pacific and 12 from Latin America and Caribbean.

[16] If the calculation were carried out using PER-N, Brazil and Mozambique would also show a worsening of the m/f ratio. The analysis is not presented here as it produces similar results to that obtained on the basis of the PER-G

another third; in the countries where PER-G declined, the relative m/f gap remained broadly stable in 61% of the cases, improved in 11% and worsened in 28%.

Table 12. Cross tabulation of changes in PER-G and related m/f ratio over 1980-95 for 62 countries with initial m/f PER-G >1

	M/F PER-G ratio			
Average PER-G	Converges	Constant	Diverges	Total
Improves	23	8	1	32
Constant	7	4	1	12
Worsens	5	11	2	18
Total	35	23	4	62

Source: authors' elaboration of data from WDI 2001 CD-rom

These conclusions are confirmed by an analysis of the trends in the efficiency of the education systems (UNESCO 2000, p. 36) that shows that, for the 63 countries with data, the gender disparity at retention rates in primary education (reflecting the impact of repetition and drop-out) are minimal and slightly favour girls in most of cases. A similar conclusion can be traced with regard to the survival rate to grade 5 of primary education, a grade which is considered as a minimum requirement for an individual to become literate for life.

Breaking down the cross tabulation of Table 12 by macro-regions allows to improve the understanding of the relation between changes in average enrolment rates and m/f differentials. The first observation is that the countries with the highest initial m/f ratios and a cultural bias against girls education (as MENA and South Asia) recorded the sharpest falls in such ratio, likely as a result of explicit policies aiming at eliminating this gap. Despite this 'catching up', they still lag behind both in terms of PER-G and m/f ratios.

In SSA the m/f ratio follows a clear downward trend from high initial levels. Nevertheless, in 1995, the m/f gap was still quite large (higher than 1.5 in 7 countries). A disturbing factor of this convergence is that, in several countries, the narrowing in the gender gap is driven as much by declines in boys' enrolments as by increases for girls. A recent study based on DHS data confirms this characteristic and highlights that declines in boys' enrolment have occurred primarily in those countries participating in World Bank supported structural adjustment programs (Lloyd, Kaufman and Hewett, 2000).

In 1980, high m/f PER-G ratios were common in MENA countries such as Iran (1.63), Morocco (1.63) and Saudi Arabia (1.53). Over 1980-95, the m/f ratio recorded an impressive reduction in the entire region. But, in the countries affected by the war (Jordan, Kuwait and Iraq) the PER-G fell and the m/f ratio stagnated or rose. By 1995 only Morocco had a m/f ratio over 1.3, while in 4 countries it ranged between 1.1 and 1.2, and in the remaining 6 it was smaller than 1.1.

Except for Sri-Lanka, in 1980, the gender bias in primary education in South Asia was large, with m/f ratios ranging from over 4 in Afghanistan to 1.5 in India. Over 1980-95, all countries of the region improved their PER-G. Nevertheless, in 1995 the m/f ratio was still 2 in Afghanistan, 1.2 in India, 1.4 in Nepal and 2.2 in Pakistan, the only country of the region

where the gender gap rose over 1980-95. Recent analyses based on three Pakistan Household Surveys for 1991,1995-6 and 1996-7 point however to a fall in the m/f ratio for PER-G (from 1.46 to 1.11), in PER-N (from 1.36 to 1.24) and in the population who completed the primary level of education (from 2.42 to 1.96) or has ever attended school (from 2.21 to 1.89). The South Asian situation is further complicated by high within country heterogeneity, as shown by the comparison between the data from Rajastan, in which the ratio of male to female enrolment for children aged 11-14 is about 2, and of Kerala which has for long achieved stable gender equity (Filmer, King and Pritchett 1998).

Traditionally, ESEAP has exhibited a limited gender bias in education. In 1980, 6 countries already had a m/f ratio of around 1, while in the rest it ranged between 1.15 and 1.3. By 1995, 8 countries had reached the gender balance, Papua New Guinea reduced the m/f disparity to 1.17 while the ratio worsened mildly in Laos. The same applies to Latin America where already in the 1980, gender disparity in primary education was very low except in Guatemala. By 1995 all countries but the latter were very close to the gender equity.

(ii) Male/female differentials for SER-G. Complete series on secondary enrolment rates for the period under study are available for the 58 countries, 15 in SSA, 11 in MENA, 4 in South Asia, 10 in East and South-East Asia and Pacific and 8 in LAC.

The initial levels of SER-G for the developing countries in our sample were generally very low; in 34 of them they were lower than 30% (Table 13). In only 6 countries it exceeded the 70% threshold. This low enrolment rates were accompanied by an acute gender bias, with 33 countries having m/f ratio in excess of 1.5, an information that confirms that gender equity at the primary level is not necessarily accompanied by gender balance at the secondary level. The highest differentials were recorded in SSA and MENA. In contrast, Colombia and Ecuador had a m/f ratio close to 1 and 9 countries (Botswana, Lesotho, Sri-Lanka, Mongolia, the Philippines, Chile, Cuba, Nicaragua and Venezuela) showed a female advantage in secondary education.

Over 1980-95, 8 countries worsened their initial values of SER-G: 4 of them (Iraq, Jordan, Kuwait and Tunisia) are in the MENA region (the others were Ecuador, Mongolia, Togo and Guinea). During the same period, only one country (Guinea) showed a deterioration of the m/f ratio (from 2.5 to 2.8). In 4 countries the initial male advantage changed into a female advantage (Jordan, Lebanon, Myanmar and Malaysia). The initial female advantage was maintained, 15 years later, in 8 countries of 9.

Table 13. Distribution of 67 countries by the values of m/f ratio (bottom panel) in 1980,1990 and 1995

Countries by level of m/f ratio SER-G			
Male to female ratio	1980	1990	1995
0.60-.89	6	6	6
0.90-0.96	3	6	6
0.97-1.03	**2**	**7**	**7**
1.04-1.09	3	2	3
1.10-1.49	12	17	17
1.50-2.00	16	10	16
More than 2.00	17	11	4

Source: authors' elaboration of data from WDI 2001 CD-rom

(iii) Rural/urban differential in IMR. Information on IMR[17] are derived from the DHS[18]. Twenty-one countries disposing of at least 2 surveys at 5 or more years of distance were considered suitable for our analysis. Most of them are from SSA and Latin America (Table 14).

Table 14. List of countries with at least two available DHS over the 1980s-90s period used in this study

Latin America	SSA	MENA	South and SEA
Bolivia (89, 94,97)	Burkina Faso(92/93, 99)	Egypt (92,95)	Indonesia (87,91,94,97)
Brazil (86,91,96)	Cameroon (91, 98)		
Colombia (86,90,95)	Ghana (88,93,99)		
Dom.Rep (86,91,96)	Kenya (89,93,98)		
Guatemala(87,97,99)	Madagascar(92,98)		
Peru (85,91,96)	Mali (87, 96)		
	Niger (92,98)		
	Senegal (86,92/93,97)		
	Tanzania(91/92, 96)		
	Togo (88,98)		
	Uganda (88,97)		
	Zambia (92,96)		
	Zimbabwe(88/89, 96)		

The DHS normally compute IMR differentials over a 10 year period. Instead, we have calculated the IMR over 3-year periods so as to be able to capture the changes in IMR over such period and because the longer is the period considered, the more likely is that the mothers included in the sample are age selected. Our choice thus reduces the dimension of each sample and risks to affect the stability of the estimates. As in other case, the data may also be affected by errors common in this kind of survey, such as omission of registrations, misreporting of age, recall error an so on. The analysis is conducted assigning each of the above surveys to three sub-periods: mid-late-80s, early-90s and to mid-late-90s.

In the mid-late-80s, in the majority of the SSA countries the rural urban (r/u) gap in infant mortality was moderately high (Table 15, 5th column). At first glance, the national average values of IMR do not seem to correlate with the level of urbanisation: two (Senegal and Zambia) of the four countries with the highest share of urban population had infant mortality of about 110.

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[17] The IMR are calculated dividing the total number of infant deaths under one year of age by the total number of births occurred in the three-year period preceding the survey (and excluding the incomplete year of the survey), considering also a part of the deaths occurred at age 12 months, strictly speaking in the second year of life, but which probably occurred in the first year.

[18] DHS are large-scale household sample surveys carried out at periodic intervals. At present DHS exist in more than 60 countries of SSA, LAC, MENA, C. Asia, S.Asia, ESEAP. Almost all of the surveys are representative at the national level and for the sub-populations living in households. The relative size of the survey's sample changes from a country to another and, for each country, survey by survey. For our analysis we have used data from the children recodes, selections of the main survey (the individual recode based on interview of women aged 15-49 or 15-44) containing information about the children of 60 (or 36) months of age at the time of the survey.

Tab. 15 IMR by rural/urban residence in selected Sub-Saharan Africa's Countries

Country	Mid-late-80s				Early-90s				Mid-late-90s			
	IMR	Urban IMR	Rural IMR	R/U Ratio	IMR	Urban IMR	Rural IMR	R/U ratio	IMR	Urban IMR	Rural IMR	R/U ratio
B. Faso	….	…..	….	….	104	71	110	1.54	111	64	116	1.81
Cameroon	63	61	64	1.05	….	…..	…..	….	76	75	76	1.01
Ghana	89	75	94	1.26	62	50	66	1.31	64	48	69	1.43
Kenya	71	69	72	1.03	71	74	71	0.96	68	54	71	1.33
Madagascar	95	63	100	1.58					81	89	79	0.89
Mali	142	98	156	1.59	109	80	119	1.49	….	…..	…..	….
Niger	134	84	144	1.70	….	….	….	….	91	58	98	1.70
Senegal	109	94	117	1.24	72	50	83	1.65	80	56	912	1.63
Tanzania	91	121	83	0.69	90	68	95	1.40	….	…..	….	…..
Togo	97	83	102	1.24	….	….	….	….	69	61	71	1.17
Uganda	121	114	122	1.07	76	79	75	0.96	….	….	….	….
Zambia	110	90	126	1.41	115	113	117	1.04	….	….	….	….
Zimbabwe	55	36	62	1.72	54	47	57	1.23	….	….	….	….

Source: authors'estimates on selected DHS

During the 1990s, 7 of the 13 countries in Table 15 reduced their IMR. In Burkina Faso, Zambia and Cameroon IMR increased over the last 10-15 years. The decline of IMR was associated with a reduction of the r/u gap in four countries. In Niger, the rural infant mortality fell at the same rate of the urban one, leaving the r/u ratio unchanged at a high level of 1.7. In Ghana and Senegal the urban decline was more accentuated than the rural one. In Burkina Faso, Kenya and Tanzania infant mortality in rural areas increased or stagnated, whereas the urban rate improved. The situation in SSA thus appears a composite one with no clear relation between IMR reduction and r/u convergence. The rural areas continue to be disadvantaged with respect to infant health. The countries of Table 15 with a r/u ratio in IMR lower than 1.2 are only five. In seven out of thirteen countries, rural IMR is more than 1/3 higher than the urban one.

Table 16. Cross tabulation of IMR changes over mid-late 80s and mid-late 1990s and changes in the r/u IMR ratio in selected SSA countries

	Convergence Of r/u ratio	Stagnation of r/u ratio	Divergence of r/u ratio	
Average Improvement in IMR	Madagascar, Mali, Togo, Uganda	Niger	Ghana, Senegal	
Average Stagnation in IMR	Zimbabwe, Zambia		Tanzania, Kenya	
Average Worsening in IMR		Cameroon	Burkina Faso	

Source: elaboration of data from selected DHS

In the mid-late-80s, five out of six countries in Table 20 had IMRs higher or equal to 70 per thousand. Only Colombia had a relatively low rate and r/u gap. In Brazil and Peru the rural rate was twice the urban rate. By the mid-late 1990s, all countries in Table 17 had improved

their initial IMR for both urban and rural areas and, except for Bolivia, were moving towards the target of 50 per thousand. With the exception of Guatemala, however, all of them suffered form the persistence at a high level (around 2), or even from the widening, of the r/u IMR ratio thus suggesting the operation of a very skewed pattern of development.

Tab. 17 IMR by rural/urban residence in selected countries of Latin America

Country	Mid- and late-80s				Early-90s				Mid- and late-90s			
	IMR	Urban IMR	rural IMR	R/U Ratio	IMR	Urban IMR	Rural IMR	R/U ratio	IMR	Urban IMR	Rural IMR	R/U Ratio
Bolivia	91	77	105	1.36	65	56	76	1.35	67	47	92	1.98
Brazil	75	55	116	2.10	79	59	100	1.68	41	32	68	2.13
Colombia	36	36	39	1.11					33	30	37	1.23
Peru	94	64	127	1.98	54	37	80	2.14	47	33	68	2.08
Guatemala	89	72	96	1.34	53	37	61	1.66	51	57	47	0.82
Dominican R.	70	70	70	1.00	33	36	31	0.87	51	41	64	1.56

Source: authors' estimates on selected DHS

In the MENA region, we could compute the r/u differential for IMR only for Egypt. The data for this country referred to two immediately contiguous 3-year periods in the late-80s and early-90s, and therefore does not allow to observe large variations. The progress in reducing IMR was modest. With the urban and rural IMRs improving at the same rate, the r/u ratio remained unchanged at a high level (1.6).In Indonesia - the only country covered by four surveys - the decline in IMR showed an acceleration during the 90s. Despite this steady decline, the r/u rate remained broadly constant (or even deteriorated in the early 90s) passing from 1.75 at the beginning of 80s to 1.67 in the last part of the 90s. Also in this case, more focus on the rural areas would have allowed to achieve a faster overall decline – and a more balanced distribution of welfare.

(iv) IMR differentials by level of education of the mother For this analysis, we computed the IMR by the following levels of education of the mother i.e: no education, primary education, secondary/higher education. For some countries of SSA, the comparison was limited to mothers with no or primary education, as mothers with higher education were very few.

Table 18 above shows that in the early 1980s, IMR varied markedly with the level of education of the mother. Infants born to illiterate mothers had a risk of death 10-125% higher than that of infants borne to mothers with primary education (Tanzania, Togo and Uganda were an exception to this rule). The IMR of infants born to mothers with secondary and higher education (we could calculate this ratio only for 5 countries – see the bottom part of Table 18) was, in turn, much lower than for the other categories.

By the mid-late 90s, the IMR gap between mothers with no- and primary education had risen in 4 countries (in Burkina and Tanzania because of an increase in mortality among infants born to illiterate mothers, in Niger and Madagascar because the decline of IMR was faster for educated mothers), followed an irregular path in Ghana, had stagnated in Uganda and narrowed in the remaining 7 countries. In the case of Cameroon, Kenya and Zimbabwe, however, this narrowing was due to the growing mortality of infants of mothers with primary education accompanied by modest improvements of that of mothers with no education. In the 5 countries for which it was possible to compute the IMR of infants born to mothers with secondary and higher education, the gap between illiterate mothers and mothers with

secondary education remained constant at a high level, while that between mothers with primary vs higher education worsened in 3 out of 5 cases.

Table18. IMR by level of education of the mother in selected Sub-Saharan Africa countries

Country	Mid-late-80s			Early 90s			mid- and late-90s		
	IMR No educ	IMR Prim educ	Noed/prim ratio	IMR No educ	IMR prim educ	noed/prim ratio	IMR No educ	IMR prim educ	noed/prim ratio
B. Faso				105	107	0.99	113	88	1.28
Cameroon	96	43	2.25				92	73	1.26
Ghana	97	81	1.2	75	56	1.33	67	71	0.94
Kenya	83	73	1.13	68	81	0.84	72	89	0.81
Madagscar	121	102	1.18				107	79	1.36
Mali	152	77	1.97	111	100	1.11			
Niger	138	116	1.19				94	71	1.32
Senegal	114	84	1.35	78	56	1.39	85	73	1.17
Tanzania	90	92	0.98	115	82	1.40			
Togo	101	98	1.03				68	72	0.95
Uganda	127	119	1.07	81	77	1.05			
Zambia	134	109	1.23	119	119	1.00			
Zimbabwe	79	49	1.6	66	60	1.11			
	IMR Sec educ	Noed/sec	Prim/sec	IMR Sec educ	noed/sec	Prim/sec	IMR sec educ	Noed/sec	prim/sec
Cameroon	41	2.36	1.05				61	1.51	1.19
Kenya	46	1.79	1.58	48	1.42	1.7	41	1.77	2.19
Madagascar	52	2.31	1.95				53	2.02	1.49
Zambia	89	1.49	1.21	102	1.16	1.17			
Zimbabwe	50	1.57	0.98	45	1.48	1.33			

Source: authors' estimates on selected DHS

In 1995, all the Latin American countries in our sample had high levels of female literacy and school enrolment (only Guatemala had a female SER-G of less than 30%). The progress in female education and IMR over the period of analysis, however, was not accompanied by a reduction of the maternal education gap in IMR. The data in Table 19 indicates in fact that the IMR gaps by the education level of the mother declined in about half the cases and rose in the other half. Finally, even in countries where the mortality gap declined the infants born to mothers with secondary education continue having a much lower mortality risk than the children of mothers with no or primary education.

The situation of Egypt is similar to that of Latin America. While female literacy and enrolment progressed at sustained rates during the 1980s and 1990s, and while the IMR of mothers with primary and secondary education continued declining , the IMR of children born to mothers without education worsened in absolute terms. Thus the IMR gap between mothers with no education versus mothers with primary education deteriorated from 1.24 to 1.79 between the second half of the 1980s and the first half of the 1990s. As for the IMR gap between mothers with no education and mothers with secondary education, the gap rose from 1.64 to2.28. In Indonesia, in contrast, comparison of the initial and final surveys (covering the mid 80s to the mid 90s) shows a narrowing of IMR differentials by educational

level of the mother. Such trend is however bumpy, as further underscored by the changes intervened since the crisis of 1997.

Table 19. IMR by level of education of the mother in selected Latin American countries

	Mid- and late-80s			early 90s			mid- and late-90s		
	Imr no ed.	Imr prim ed.	Noed/prim	imr no ed.	Imr prim ed.	noed/prim	Imr no ed.	Imr prim ed.	Noed/prim
Bolivia	120	103	1.17	96	79	1.21	99	84	1.18
Brazil	106	82	1.29	135	63	2.14	102	53	1.94
Colombia		41			36				
Peru	177	100	1.77	84	78	1.08	69	62	1.12
Guatemala	93	94	0.98	67	51	1.32	48	59	0.82
Dominican R		75			48			56	
	imr sec ed	Noed/sec	Prim/sec	imr sec ed	noed/sec	prim/sec	Imr sec ed	Noed/sec	prim/sec
Bolivia	50	2.4	2.06	35	2.72	2.25	37	2.67	2.26
Brazil	20	5.21	4.02	25	5.39	2.52	25	4.16	2.15
Colombia	24		1.73	25		1.43			
Peru	47	3.74	2.11	29	2.85	2.65	31	2.23	1.99
Guatemala									
Dominican R	58		1.30	30		1.58	36		1.54

Source: authors' estimates on selected DHS

7. Summary of the evidence.

The discussion in the previous sections is still highly tentative. Also, some of the conclusions arrived at are dependent on information derived from the World Bank CD-ROMs that for regions like SSA and EE-FSU often appears in conflict with more recent data. Indeed, the trends computed from the above international compilations of the World Bank or UNESCO do not always seem able to capture the complex social dynamics investigated in this paper. Be as it may, the evidence analyzed above indicated that the 'generalized improvements' in child welfare indicators in the 1980s and 1990s mentioned at the very beginning of this paper need to be qualified on several accounts:

(i) as for IMR/U5MR, in ESEAP, EE/FSU and SSA, the recent declines have been slower than those recorded in the past decades. In the last two regions there were also severe deteriorations, at least in several years and countries. In turn, in LAC, MENA and SA, the 1990s brought about a generalized deceleration in rates of progress, after steady improvements in performance in the 1970s and 1980s.

(ii) slower gains in basic social indicators such as IMR/U5MR and school enrolments seem to have been accompanied by even smaller gains in the field of child nutrition and – in several regions (including those where child survival improved) - by a rise in absolute and relative child poverty. While the informational base of such conclusions is weak – and more

work is needed to measure more accurately and analyze these trends – the evidence assembled from the literature is highly suggestive of a disappointing tendency in these two areas.

(iii) where average gains have occurred, these have seldom been accompanied by a uniform distribution of such gains across regions, countries and groups of people within countries. Table 20 below attempts to summarize the prior discussion in this field. As one can see, there are broadly as many cases of divergence as of convergence. In a few cases, the worsening of the differential is the result of the absolute worsening of IMR, PER, etc for the groups already at a disadvantage. In the majority of the cases, a worsening of differentials has resulted from a slower improvement for the groups at a disadvantage. The case of r/u IMR differential in Latin America is a clear case in point. While this situation is less worrying than the previous one, such an increase in relative social distance is still inefficient, causes avoidable loss of child welfare and may lead to political instability.

Table 20. Summary of the changes in different types of differentials for various child welfare indicators

	Between regions	Within regions	Within countries
IMR	Divergence	Divergence within most developing regions	……
U5MR	Divergence	Divergence within most developing regions	……..
PER	Slow convergence	Slow –limited convergence	……
SER	Very slow convergence	Slow-convergence from high level of disparity	……
m/f PER	……..	. …….	-Convergence where PER rises (most cases) -constant/divergence where PER const/falls
m/f SER	……..	……..	Convergence
IMR by urban/rural	……..	……..	9 diverge (esp. LA) 5 constant 7 improve
IMR by educational level of the mother (no educ/primary)	……..	…….	7 diverge 1 constant 11 improve
IMR by educational level of the mother (primary/higher)	……..	…….	6 diverge 3 constant 3 improve

Source: compilation by the authors

What factors are responsible for these only partially satisfactory trend? This question is answered in several of the chapters part of this compilation. What we can offer here are only a few highly speculative conclusions that reflect the high level of aggregation of this analysis. The first observation is that some regions (EE/FSU and SSA), countries within regions (as suggested by rises in intra-regional coefficients of variation), and people within countries (poor children, children in rural areas and children of mothers with no education) have been left behind by the recent drive towards a globalized world to whose benefits everybody was

expected to partake. Globalisation seems therefore to be selective and leave behind weak economies and social strata. The widespread rise recorded over the last two decades in within-country inequality (Cornia 1999) and between-country inequality (Milanovic 2001) has possibly contributed to this increasingly unequal distribution of the overall gains in child well-being recorded over the last two decades. In SSA, the HIV/AIDS pandemic and other new diseases have compounded the trend towards slow or negative progress in child well-being.

Inefficient domestic social policies – such as a fiscal cuts in essential social spending and lack of targeted measures favouring the weaker groups - have also possibly contributed to this state of affairs and need to be corrected on the face of the evidence of the persistence – or even increase – of already high social differential in mortality, education and so on.

Finally, we note a few positive, if not entirely understood, trends. In some cases, as in MENA, the last two decades have brought about considerable gains in child welfare – in spite of stagnant growth suggesting perhaps that the nexus between child welfare and economic growth is much weaker than generally assumed. In MENA, the source of the gains in child well-being appear to have been large and sustained allocations of public expenditure to health and education. Second, Latin America appears to have recorded the fastest ever gains in key child indicators in the 1980s (Tables 1 and 2), i.e. a decade in which both incomes and social expenditure stagnated or declined. Here too, we observe rapid improvements under difficult conditions. The sources of the improvement must therefore be sought elsewhere, perhaps in a better allocation of public funds, in the spread of health information (about which little is known) and in the efforts of a cohesive civil society.

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