

# The Demographic Context and its Implications for Childhood Poverty

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**CHIP**

# Preface

This paper is one of a series of working papers, reports and policy briefings on different aspects of childhood poverty published by the Childhood Poverty Research and Policy Centre (CHIP). CHIP is a collaborative research and policy initiative involving academic institutions and Save the Children in China, India, Kyrgyzstan, Mongolia and the UK. It aims to:

- deepen understanding of the main causes of childhood poverty and poverty cycles, and increase knowledge of effective strategies to tackle it in different contexts
- inform effective policy to end childhood poverty, ensuring that research findings are widely communicated to policy-makers, practitioners and advocates
- raise the profile of childhood poverty issues and increase the urgency of tackling them through anti-poverty policy and action
- work globally to tackle chronic and childhood poverty in developing and transition countries.

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The views in this paper are those of the author and do not necessarily represent those of CHIP, CPRC, DFID or Save the Children.

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# Executive summary

## Links between poverty and population factors

1. **Demographic variables affect childhood wellbeing at the micro-level (mainly through the household and the family) and at the macro-level** (especially the pace of economic growth and the extent of public investment in services and infrastructure of relevance to children).
2. **Evidence concerning the relationship between poverty, population trends and child wellbeing are very context- and culture-specific** and there are inevitably many exceptions to the general conclusions outlined here. Relationships at the macro-level appear stronger and clearer than those at the micro-level.
3. **Micro-level channels: In general, the larger a household, the greater the potential for the dilution of family resources**, including income, access to public services, parental time and a mother's physiological and nutritional resources. For example, in developing countries, an infant born within 18 months of a previous birth has twice the probability of dying of an infant born two or more years after. There is some evidence of higher rates of children's work, particularly among older girls in large families.
4. **Lower fertility may benefit children if a family is then able to invest more in fewer children**, although not all children will necessarily benefit equally. Intra-household inequalities, such as discrimination according to age and gender, may be exacerbated in larger, resource-poor families.
5. **Macro-level channels: Population growth can affect childhood poverty by influencing the growth and distribution of an economy's overall resources, and through the effect of age structure.** High rates of population growth can adversely affect poor people by skewing income distribution away from them – in particular, by creating downward pressure on wages and upward pressure on consumption prices, and by diluting resources for key public services such as health, education, water and sanitation. High rates of population growth can also create a large pool of child workers who may undercut adult wages and exacerbate poverty. The poorer the country and the higher the initial fertility level, the greater the beneficial effects of a decrease in fertility rates.
6. **Child vulnerability increases in high fertility settings when public resources are withdrawn from services that are essential to childhood wellbeing.** Where population growth has declined significantly, the beneficial effects on children's education appear substantial. However, even where the population is increasing, school enrolment can still be significantly increased if there are interventions that enhance efficiency and avoid dilution of public resources, as experience in East Asia has shown.

7. **Population age structure is as crucial as growth rates.** Where fertility has declined so that the pool of working people is larger than their younger and older dependants, there is a one-off opportunity to invest in improving child wellbeing and reducing overall poverty. This 'demographic window' lasts for one generation, and it is crucial that supportive policies are in place to take advantage of it (see below).

## Lessons from history

8. Though historical European experience is often thought to have important lessons for the contemporary South, **different countries had contrasting experiences and thus clear lessons are not easily drawn.** In the UK, rapid population growth was particularly detrimental to the poor where land inequality was high, institutional and market responses weak and agricultural policies biased against the poor, a situation common to many Southern countries today.
9. **Overall in nineteenth century UK,** improvements in child wellbeing resulted more from changes in laws and regulations regarding child labour, state commitment to expanding education and better provision of public services and infrastructure, than from a slowing down of the rate of population growth.
10. **However, the contemporary South has experienced much more rapid population growth than nineteenth century Europe, and a reduction in fertility rates may well be more beneficial** and important in improving child wellbeing than it was in European history.
11. **Some mortality decline, especially among infants and children, is a precondition for a lowering of fertility rates,** because it induces parents to want fewer children to reach their desired number of surviving children, and it increases the returns to investment in children. Evidence suggests that a life expectancy of around 75 years and a literacy rate of about 95 per cent are needed to reach replacement levels (ie, zero population growth). Achieving this requires investing substantially in women's education and livelihood opportunities, as well as improvements to health systems.

## Policy implications

12. Unless the link between high fertility and childhood poverty is very clear, action to reduce childhood poverty should address the causes of both poverty and high fertility rates, such as low quality or limited accessibility of education and limited employment opportunities. In the long term such structural interventions are more important than only fertility reductions per se.

In other words, **policies aimed at reducing population growth may supplement direct interventions to reduce childhood poverty, but they are not sufficient by themselves, because they only induce slow, gradual and supplementary change in childhood wellbeing.**

13. **Action to tackle high fertility rates is justified where the costs of high fertility outweigh the benefits.** In relation to childhood poverty, this is particularly the case where children bear the costs through poorer nutrition, less education and more work.
14. **When family planning programmes are implemented alongside wider development programmes (enhancing education, promoting women's status, etc), they are more likely to have beneficial impacts on childhood wellbeing.** To improve child wellbeing, a focus on delaying first births and increasing birth spacing, which also improves women's reproductive health and reduces reproductive risks, may be more important and effective than focusing on reducing fertility per se. However, family planning programmes can help initiate the 'reproductive revolution' (ie, shift towards greater investment in fewer children) and lead to ideational and cultural changes that favour small families.
15. The 'demographic window' is **a one-off opportunity to invest in child wellbeing when reduced fertility and mortality result in the highest possible ratio of working to non-working population**, and thus the greatest per capita resource availability. East Asian countries successfully took advantage of this 'demographic window' to invest in education between the 1960s and 1990s. For other countries to do the same, investment in human capital and infrastructure are the two most important policy emphases.
16. **Policies that give people incentives for protective, rather than destructive, practices can improve the environment and minimise the negative effects on children, at least as much as those which aim to do so by reducing population growth.** High fertility does not necessarily have adverse environmental impacts where there are policies that expand income opportunities, especially for women, such as improved access to capital, credit and savings and employment which provide livelihood sources and opportunities with lower environmental impact.

# Introduction

Reducing childhood poverty possibly represents the most challenging goal within the overall agenda of poverty eradication, but also the one with the greatest potential returns. It is challenging, first, because of its sheer magnitude, with the absolute number of children in poverty reaching new appalling records every year.<sup>1</sup> Although the problem is most widespread in Asia, Africa and Latin America, all regions have been experiencing new dimensions of childhood poverty. In transitional economies, the difficult and uneven process of economic and political transition has hit children the most severely (Cornia and Sipos, 1991), while rich countries, notably the US and the UK, have experienced the marginalisation of some groups of children, despite increasing overall living standards (Cornia and Danzinger, 1997).

At the same time, attacking childhood poverty, which is one of the roots of worldwide chronic poverty, is a promising long-term strategy. Malnutrition in the crucial first years of life, lack of education, poor health, inappropriate care and violence impair children's physical, intellectual and emotional development, often with irreversible consequences. Many poor children will be unable to find good employment and have adequate lifestyles as adults, and thus, be unable to give their own children the best resources and education: when malnourished girls become mothers, they are more likely to bear underweight babies, while victims of violence are likely to reproduce similar patterns later in life. Thus, childhood poverty is likely to be transmitted into adulthood and result in inter-generational poverty (Harper, Marcus and Moore, 2003).

When comparing poverty rates across age groups, children are the group most likely to live in poverty. For example, when using the narrow definition of income-poverty and the one dollar per day poverty line, half of the world's poor are likely to be children, although children represent significantly less than half of the world's population (UNICEF, 2000). The observed prevalence of poverty among children is partly because poor people have more children than the non-poor (UNICEF, 2000: Table 2).<sup>2</sup> Similarly, when comparing countries, the poorest countries also have the highest fertility (UNFPA, 2003a: Figure 1.2).

Casual evidence seems to suggest a negative correlation between fertility rates (or population growth) and childhood wellbeing. However, is there a cause and effect connection, and in which direction? How do demographic variables and childhood poverty relate to one another? Such questions are often overlooked in policy documents and arenas concerned with childhood poverty.<sup>3</sup>

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1 Nearly 11 million children under five die each year, most of them from preventable diseases; 150 million children are malnourished; 120 million children aged between six and 11 do not attend school; more than half the world's children do not have access to safe water and sanitation, the lack of which is the main cause of malnutrition, disease and death in children (UNICEF, 2002).

2 The difference between the numbers of children in the two sets of households is large and statistically significant.

3 It should be noted, however, that the case for improving reproductive health in order to enhance the wellbeing of newborns and of young people who are sexually active, is now often made. See UNFPA (2003b) and Population Action International (2003).



There is a lack of precise information about the implications for children of changes in fertility and mortality rates, thus offering weak grounds for sound policy recommendations. Yet, rapid population growth and its effects on the economic prospects of today's developing countries have attracted much debate and controversy in the social sciences. The implications for childhood wellbeing deserve a more careful examination.<sup>4</sup> The present work aims to contribute to filling this gap.

Despite the vast literature on the relationship between population growth and economic development,<sup>5</sup> and important studies focusing on the relationship to poverty,<sup>6</sup> there is little research that comprehensively addresses the link between demographic contexts and childhood poverty.<sup>7</sup> The objective of this paper is therefore to assemble evidence from a range of different studies, and provide a more comprehensive framework with which to analyse the possible implications of changes in the demographic context on childhood poverty in the developing world, mainly in Africa and Asia, with some reference to Latin America and Central Asia. It also refers to the historical experience in Europe, which is much cited in support of different positions on the issue. The paper then aims to draw policy conclusions about necessary and effective action to reduce childhood poverty and deprivation.

Childhood poverty has been conceptualised and measured through various dimensions, such as income-poverty, basic needs poverty, nutritional status and physical stress, and susceptibility to exploitation and abuse (UNICEF, 2002; White, Leavy and Masters, 2002). By taking account of several dimensions of childhood wellbeing, not only is the understanding of a complex situation enhanced, but recommendations for policy are also more precise than reliance on one indicator which may be misleading. For instance, there is evidence that the relationship between family size and childhood wellbeing is negative, when the latter is measured as income-poverty, but is not so when other measures, such as child schooling, are considered (see Section 3.1 below).

This paper adopts a multidimensional conceptualisation of childhood poverty and childhood wellbeing, comprising conventional dimensions such as nutrition, health, education, material and social resources available within and beyond the household. Although by no means exhaustive of all relevant aspects of childhood wellbeing, these are nonetheless important, both as ends in themselves and as the means by which to attain good and meaningful lives (Sen, 1999).

Section 1 provides a brief description of the population change that has occurred in developing countries over the last half century, presents the relevant debates and provides a comparison with

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4 Recently, careful consideration has been directed at the implications of the demographic transition for women's wellbeing (eg, Family Health International (1998) and McNay (2003)).

5 Seminal books include National Research Council (1986), Johnson and Lee (1987), Cassen (1994), Birdsall, Kelley and Sinding (2001).

6 These include Livi-Bacci and De Santis (1999) and Eastwood and Lipton (1999) among others.

7 Increasingly, research and policy work on childhood poverty has paid attention to the implications of the AIDS pandemic for children wellbeing. See for instance Foster and Williamson (2000) and Grassly and Timaeus (2003).

the historical experience of developed countries, mainly England. Section 2 proposes a theoretical framework for analysing the relationships between demographic context and childhood poverty, while Section 3 discusses relevant empirical evidence. Section 4 then both draws policy implications from the empirical evidence presented earlier and discusses the effects of population-related interventions<sup>8</sup> on childhood poverty. Many interventions (other than family planning), such as those affecting women's status (eg, labour policies, microfinance, inheritance laws), and social security (eg, minimum pensions, safety nets, social insurance) are likely to affect demographic variables (particularly fertility rates). The capacity of some of these interventions to affect fertility rates, as well as their desirability and effectiveness when compared to population-related interventions, are thus explored.

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8 In the course of this work, the term population-related interventions will indicate both family planning and, more broadly, reproductive health which includes pre-natal, delivery and post-natal care.

# I Population growth: facts and debates

## I.1 The demographic transition in developing countries

The term ‘demographic transition’ refers to a frequently observed pattern of change in birth and death rates, which usually accompanies socio-economic development.<sup>9</sup> It represents the intermediate phase in the change in a demographic regime characterised by high fertility and mortality rates and consequent low population growth, to one with low population growth, but resulting from low fertility and mortality rates. In the initial period, the intermediate phase is characterised by high population growth, because death rates decline first, while fertility rates only decline later in the development process. Only when fertility starts to decline in this second phase, does the population growth rate eventually start to decrease.

The developing world as a whole is now half way through the demographic transition, with the phase of fertility decline having started in 1970 and expected to last until 2030 (Bongaarts, 2001). During the two decades following World War II, population growth rate accelerated as a result of substantial and sustained declines in mortality rates, which were made possible by access to vaccines and other medical technologies for fighting epidemics and preventable causes of deaths, as well as improvements in healthcare, nutrition, water and sanitation. However, progress in reducing the mortality rate has been geographically uneven. Material poverty is not the only determinant of these diverse outcomes. In fact, state policy is considered to be more crucial than average income levels. For example, Sri Lanka, the state of Kerala in India, Cuba and Costa Rica have succeeded in significantly raising their populations’ life expectancy at low levels of socio-economic development, largely due to significant public investment (Caldwell, 1986).

During the peak period of population growth, the whole developing world was growing at an unprecedented rate of 2.5 per cent per year. From the 1970s, birth rates started to decline significantly in some parts of the world, eg, Latin America and Asia, causing the world population growth rate to drop to 1.8 per cent by the mid-1990s. The African continent has only recently started to experience a decline in fertility rates. As can be seen in Box 1, which presents data on fertility, mortality and population growth rates for major regions in the world and some representative countries, there is an extremely varied pace and pattern in the demographic transition.

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9 The concept of demographic transition has been used in different ways – eg, as a theory of demographic change, a simple empirical fact, and a paradigm. Szreter (1993) outlines an intellectual history of this concept. In this paper, it is used as an empirical fact, which in its broader characteristics, is applicable to today’s developing countries. It will be specified when particular theories are referred to.

### Box I - Fertility and mortality rates for world regions and selected countries

|  | Total fertility rate |             | Population growth rate |             | Life expectancy at birth |             |
|--|----------------------|-------------|------------------------|-------------|--------------------------|-------------|
|  | 1965-70              | 1995-2000   | 1965-70                | 1995-2000   | 1965-70                  | 1995-2000   |
| <b>Sub-Saharan Africa</b>              | <b>6.78</b>          | <b>5.71</b> | <b>2.62</b>            | <b>2.48</b> | <b>42.7</b>              | <b>47.1</b> |
| Nigeria                                | 6.90                 | 5.92        | 2.53                   | 2.81        | 42.0                     | 52.5        |
| Kenya                                  | 8.12                 | 4.60        | 3.25                   | 2.18        | 48.3                     | 50.7        |
| <b>Asia</b>                            | <b>5.68</b>          | <b>2.72</b> | <b>2.41</b>            | <b>1.41</b> | <b>53.7</b>              | <b>65.7</b> |
| India                                  | 5.69                 | 3.45        | 2.28                   | 1.76        | 48.0                     | 62.1        |
| China                                  | 6.06                 | 1.80        | 2.61                   | 0.90        | 59.6                     | 69.7        |
| Pakistan                               | 6.28                 | 5.48        | 2.43                   | 2.62        | 47.0                     | 59.0        |
| <b>Latin America and the Caribbean</b> | <b>5.55</b>          | <b>2.72</b> | <b>2.57</b>            | <b>1.56</b> | <b>58.8</b>              | <b>69.4</b> |
| <b>Europe</b>                          | <b>2.36</b>          | <b>1.42</b> | <b>0.68</b>            | <b>0.02</b> | <b>70.6</b>              | <b>73.2</b> |
| <b>North America</b>                   | <b>2.54</b>          | <b>2.01</b> | <b>1.10</b>            | <b>1.07</b> | <b>70.5</b>              | <b>76.4</b> |

**Source:** Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2002 Revision* and *World Urbanisation Prospects: The 2001 Revision*, <http://esa.un.org/unpp>.

The greatest mortality and fertility declines have occurred in Asia and Latin America, where, between the late 1960s and the late 1990s, life expectancy increased by 22 per cent and 18 per cent respectively, total fertility almost halved, and population growth dramatically declined (by 39 and 41 per cent respectively). Sub-Saharan Africa lags noticeably behind, with life expectancy significantly below 50 and the highest fertility in the world (at 5.71). Population growth has declined, but only marginally. The lags in demographic attainment are particularly striking when comparing Sub-Saharan Africa with Europe and North America. There are also marked differences between countries within regions. For example, within Asia, China's fertility is already below replacement level, while Pakistan's fertility transition has only recently got underway. India represents an intermediate scenario, but with huge variations across states, with some states – Kerala, Tamil Nadu and Goa – having completed the fertility transition, while others fall very much behind (Srinivasan, 1995). Within Sub-Saharan Africa, Kenya, although starting with more unfavourable demographic indicators than Nigeria, has lower fertility and population growth rates, and a higher life expectancy, than Nigeria.

The diversity of worldwide experience of the demographic transition reflects the context-specific nature of factors determining mortality and fertility declines (see also Section 2). Evidence across space and time shows that the speed at which fertility rates respond to mortality decline is variable

and thus difficult to anticipate.<sup>10</sup> For instance, the slow response of fertility rates to both mortality decline and socio-economic development in Sub-Saharan Africa has puzzled researchers. It is now understood to arise as a result of specific cultural and structural factors which sustain a pro-natalist attitude (Caldwell and Caldwell, 1987). Nonetheless, the demographic transition has practically started everywhere in the world, and there is no doubt that fertility will decline throughout, although the extent remains to be seen. There is reason to believe that in Africa, as elsewhere (eg, Bangladesh), fertility decline will stop (perhaps for decades) before replacement levels are reached due to insufficient improvements in human development indicators and weak family planning programmes. Experience from countries about to complete the fertility transition suggests that a life expectancy of about 75 years, combined with a literacy rate of about 95 per cent, are needed to reach replacement levels (Bongaarts, 2002). It should be noted that these are targets, which have not yet been achieved in many parts of the world.

## 1.2 The demographic debates

The population growth experienced by developing countries in the last 50 years or so is unprecedented, both in terms of its magnitude and duration. During the same period, two contrasting views on the relationship between population growth and development emerged, with a third emerging more recently.

The first, lucidly articulated in a highly influential study on Mexico and India by Coale and Hoover (1958), emphasises the negative effects of population growth on the rate of economic growth. Such effects are believed to be more penalising for countries that are already poor, as their efforts to improve living standards and alleviate poverty are dwarfed by the need to provide basic services and jobs for ever-growing numbers of people. This pessimistic (or neo-Malthusian) perspective on population, dominant during the 1960s and 1970s, was instrumental in promoting family planning programmes worldwide as countries were persuaded of the seriousness of the demographic threat looming in developing countries.

The second view, the so-called 'revisionist' position, which emerged in the 1980s, downplayed the causal relationship between population growth and poverty, stressing that poverty may either be a cause of population growth, or that individual and institutional responses would diminish the consequences of population growth. This position takes a long-term perspective, and is thus more likely to emphasise the role of institutional and policy changes over time in providing compensating mechanisms against the negative effects of population growth. Proponents of this view refrain from the alarmist tones which characterise the neo-Malthusian position, although some often share with the latter the conclusion that slower population growth is likely to be beneficial.

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10 That the length of the demographic transition is mainly a result of the speed at which fertility responds to mortality decline explains why debates on population growth mainly revolve around the issue of fertility decline, a perspective also reflected in this paper.

The revisionist position gained currency as a result of a concurrent set of factors. First, economic growth theories were changing, with a new emphasis on the role of human capital, technical change, institutions and policies as sources of growth, and challenging the role of per capita physical capital. Second, there was additional empirical evidence that qualified some hypotheses central to the earlier population debate. Third, some economists started to challenge the prevailing view, arguing that population growth could actually have beneficial effects, because it could, in the long run, lead to an expansion of human resources and thus production potential (Simon, 1981) and to greater and more effective efforts at solving economic problems, thus spurring technological innovation (Boserup, 1965). Although Simon's and Boserup's different arguments were vigorously challenged, their impact was significant and long-lasting in stimulating a reassessment of the effects of population growth. Finally, but importantly, the pessimistic position resonated with charges of racism – it was seen by some as a conspiracy to reduce the number of people in the developing world, while failing to acknowledge that many global problems are caused not so much by overpopulation but by excessive per capita consumption in the North.

A new turning point in the population debate seems to be occurring now – what one might call a 'third phase'. The potentially important role of demographic variables is resurfacing, albeit with some qualification. The renewed interest in demographic issues within academic research is exemplified by a recent edited volume, eloquently titled 'Population Matters' (Birdsall, Kelley and Sinding, 2001). Here, economists and demographers, who had held the revisionist position, reconsider the link between population growth and economic development with new data and more sophisticated models, and come to the conclusion that the consequences of population growth are more significant than they previously thought.

At the policy level, an International Conference on Population and Development, held in Cairo in 1994, was fundamental in marking a shift in thinking on population issues. Although the approach that emerged from the Cairo Conference was non-alarmist, broad and encompassing, it brought demographic issues to the forefront of the development agenda with a vigour unseen in the previous decade. It is easy to see how comprehensive and far-reaching this agenda has been. That three of the eight Millennium Development Goals are demographic in nature<sup>11</sup> has helped to further crystallise the links between population and development, particularly the consequences for poverty. Other examples include UNFPA's (United Nations Fund for Population Activities) State of the World Population report for 2002 and the Fifth Asian and Pacific Population Conference organised in the same year by the Economic and Social Commission for Asia and the Pacific, which both centred on the relationship between population and poverty. Concerns are increasingly expressed about the potential perverse linkages between population growth and environmental and resource degradation, with adverse consequences for the poorest in the world.

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11 These are: reduce child mortality; improve maternal health; and combat HIV/AIDS. It can be argued that the goal of promoting gender equality and empowering women, because it includes enhancement of reproductive rights, also encompasses demographic concerns.

In this climate of renewed anxiety for the effects of population growth for poor and vulnerable people, the implications of the demographic transition for childhood poverty therefore represent a legitimate and topical issue which can be expected to attract increasing attention in both the research and policy domains.

### 1.3 The historical experiences of developed countries

The historical experience of European countries has sometimes been invoked to provide support for concerns about the implications of sustained population growth for childhood wellbeing. The objective of this section is to examine evidence of the relationship in order to assess whether, and to what extent, lessons can be learned from the past.

The demographic transition followed such different and contrasting patterns in Western Europe that it challenges the notion of one theory being applicable to all contexts. It is now widely accepted that the main tenet of the demographic transition theory formulated during the 1940s – that mortality rate decline precedes fertility decline – is not universally applicable (Cohen and Montgomery, 1998). Notably in France, fertility rates started to fall during the first half of the eighteenth century before any significant mortality decline, about 50 years earlier than in other Western European countries and at a much lower level of socio-economic development.<sup>12</sup> Furthermore, in England, fertility appears to have fallen well before infant mortality, contradicting the replacement hypothesis, which suggests that parents want a given number of (surviving) children (Szepter, 1993).

However, despite these different patterns, population growth did eventually stabilise throughout Western Europe. What were the consequences of high and then lower population growth for poverty in general, and for children in particular?

#### *Consequences of demographic transition for poverty in general*

Although Malthus turned out to be incorrect in his pessimistic view about population growth overtaking the growth in food production, he was, however, correct in pointing out the negative consequences of rapid population growth for poor people in England and Wales. In agrarian societies, as England and Wales were before 1800, characterised by under-developed markets and unequal land distribution, population growth meant a rapidly increasing labour force, downward pressure on wages, upward pressure on food prices, and thus a redistribution of wealth from landless workers to landowners. Such an analysis is also likely to be relevant for contemporary agrarian societies which, in many ways, replicate conditions among the poor of eighteenth century England and Wales.

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12 The reasons for such an early fertility decline in France are still subject of debate (Weir, 1995). Fertility decline also preceded most of the mortality decline in the US and Hungary.



Lee (1980) notes that in pre-industrial England, an increase in population growth would have depressed wages, raised rents, lowered industrial prices relative to agricultural prices, increased the ratio of industrial to agricultural production and reduced labour's share of national income, all by significant amounts. Since the bulk of the poor were labourers and rural dwellers, they were adversely affected by any increase in population growth rates.

Only those economies able to undertake technological and institutional changes, which allowed for increases in labour productivity, could absorb population growth with a minimal impact on wages (Weir, 1991). This was the case of England in particular, because the agricultural revolution during the seventeenth and eighteenth centuries, raised farm productivity, induced the release of labour from agriculture, and thus acted as a powerful precondition for a successful industrial revolution. During the industrial revolution, women's massive entry into the non-agricultural labour force induced the fertility decline (by increasing the opportunity costs of rearing children) and economic growth, and was instrumental in breaking the previous low productivity and high fertility cycle. Other countries in Europe, such as France and Germany, where growth in both the labour force and productivity were much slower, were less successful than England, in withstanding the negative impact of increased population on wages (ibid).

### *Consequences for children*

The intense debates on childhood poverty and on child protection interventions during nineteenth century Britain seem to have barely made the link with population growth, focusing instead on technological change, labour market changes, poverty and state interventions. However, in England industrialisation took place in the context of such rapid population growth (which peaked in 1820), that it would be difficult to exclude the pressure of the rising dependency ratio on the observed high incidence of child labour (Humphries, 2003). Autobiographical evidence and other sources cited by Humphries (ibid) suggest that a large family was the main reason for children working, and for doing so at an earlier age, in order to supplement the meagre parental income.

The fact that child labour started to decline when population growth slowed down is also significant, although the decline of child labour in Britain was also supported by the introduction of compulsory education from 1870. In many countries, compulsory education has represented a crucial step to reverse trends in children's labour force participation rates (Weiner, 1991). Therefore, while demographic factors may have played an important causal or enabling role for the rise, and then the decline, of child labour, technological, labour market and cultural changes were undoubtedly fundamental to a series of legislative measures which, over the turn of the nineteenth century, paved the way for the eradication of child labour for the youngest children.

Considering other dimensions of childhood wellbeing, possibly the most documented evidence of the effects of fertility decline was the reduction in infant mortality rates (IMRs) in late nineteenth and early twentieth century Europe. Evidence of this association appears particularly strong in the case of England and Wales, fuelling intense debate among historical demographers on the relationship between fertility



and IMR. Indeed, mainstream demographic transition theory postulated that a decline in infant mortality is one of the preconditions for a subsequent fertility decline: parents realise they can reach their desired number of surviving children by bearing fewer children (ie, the ‘replacement effect’). However, the importance of the reverse causal link, ie, from reduced fertility to reduced IMR, eventually emerged.<sup>13</sup>

Woods, Watterson and Woodward (1988, 1989) show that declining fertility did have an important role in inducing the infant mortality decline in England and Wales during the late nineteenth and early twentieth centuries. The main channels were increased birth spacing which allowed mothers to take greater care of each child, and a lower incidence of higher-parity births.<sup>14</sup> (Such children face an increased chance of dying due to pressure on a mother’s time and attention, and her older age.)

Of the factors responsible for fertility decline in England and Wales, advances in women’s literacy seem to have had the major direct and indirect effect on IMR improvements, whereas income -poverty seemed much less important. These findings have a resonance in current debates, where female education, rather than poverty per se, is regarded as the crucial causal factor for fertility transition and improvements in childhood wellbeing.

#### **1.4. Concluding remarks**

There is an intense debate on whether population growth affects economic development and poverty. Available historical evidence from developed countries shows that increased population growth, although not necessarily detrimental to economic growth, might have shifted income distribution away from poor people. Child welfare may have been at risk, particularly during the industrial revolution, when both population and the demand for cheap labour increased.

The first lesson from the past is that the impact of high population growth is most likely to negatively affect income distribution among the poor where there is great land inequality (eg, the poor rely mainly on wages), weak institutional and market responses, and harmful agriculture policies (Kelley and McGreevey, 1994). The last point is particularly relevant, since many developing countries, especially during the 1960s and 1970s, typically invested mainly in the industrial sectors and favoured the urban population by subsidising agricultural prices and by other forms of market distortions, which particularly penalised agriculture (Lipton, 1977). Such biased policies may have exacerbated the effects of population growth on poverty levels, since in most countries, the poor were concentrated mainly in rural areas and in agricultural occupations.

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13 IMRs depend also on other factors, which can affect fertility, such as poverty, maternal and infant nutrition, hygiene facilities and sanitation, feeding practices (among which breastfeeding is the most crucial), general childcare, women’s status and employment.

14 Higher-parity births are later births to a mother who already has many children.

Secondly, improvements in child welfare in history were not so much linked to a slowing down of the rate of population growth, as to changes in laws and regulations regarding child labour, state commitment to expanding education, and better provision of public services and infrastructure. Moreover, when reduced population growth provided an enabling factor, it was mainly the simultaneous underlying changes within society, such as women's entry into the labour force, which provided an additional income for the family and, thus, greater resources that could be spent on children.

The experience of developing countries today differs in several respects. First, countries in Asia, Africa and Latin America have witnessed extraordinary and unprecedented population growth – in terms of the rate, sustained duration and low level of income and socio-economic development at which it has occurred. Given these conditions, the likelihood that a slower rate of population growth might benefit childhood wellbeing, appears to be greater than it was in the historical past. Second, whereas governments in the eighteenth and nineteenth centuries did not have active population policies in the way we understand them today,<sup>15</sup> they now have both appropriate frameworks and effective instruments to affect mortality (eg, immunisation, medical technology) and fertility rates (eg, modern family planning). Governments and aid agencies now face the choice of either devoting their scarce resources to population-related interventions or to alternative measures.

These reflections lead us to identify two distinct issues that need to be addressed. One is the question about the extent to which slower population growth and a lower fertility rate can improve childhood wellbeing. The second is whether reproductive health interventions are the best policies (in terms of both effectiveness and value for money) to reduce family size. Sections 2 and 3 set out the theoretical framework and discuss the empirical evidence which answer the first question, while Section 4 addresses, among others, the second question.

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15 Fertility rates then declined at a slower pace than in the twentieth century, although quite decisively, mainly as a response to economic development, increased urbanisation, expansion of schooling, and the massive entry of women into the labour market.

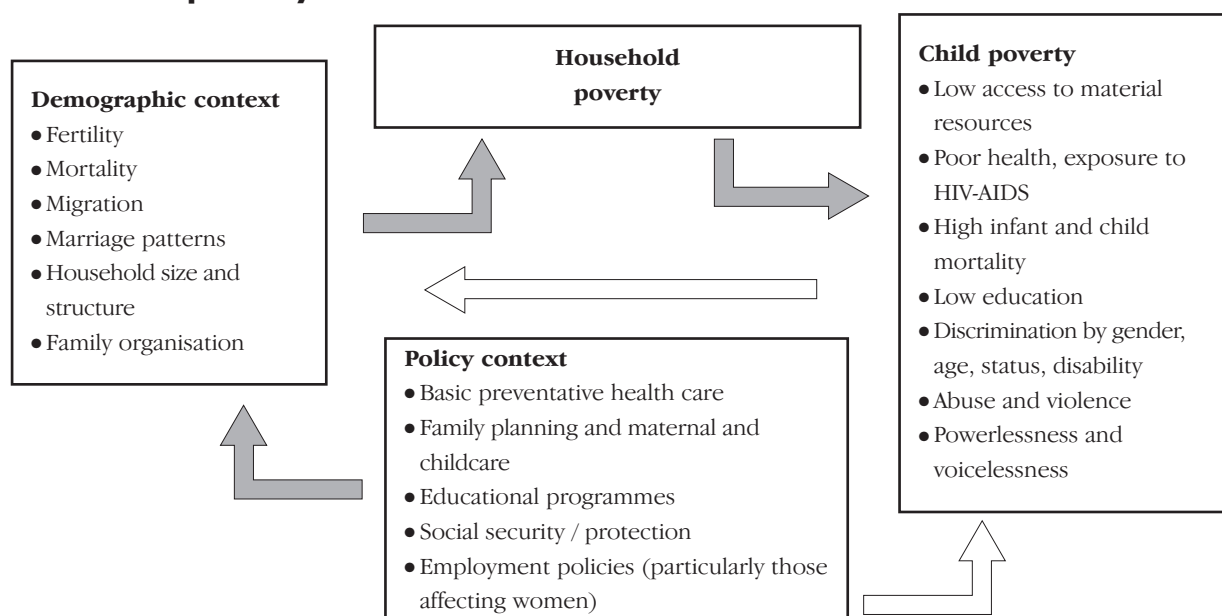
# 2 Theoretical framework: demographic context and childhood poverty

## 2.1 The main links

Demographic factors play a potentially important role in determining childhood poverty. Population size and age-structure together contribute to determine the amount of resources accruing to children and other dependants. Over time, the demographic transition can affect childhood poverty, not just through mortality and fertility decline, but also through other accompanying changes to family size, marriage patterns, household and family structure and organisation. Economic circumstances in general, and poverty in particular, including childhood poverty, in turn affect demographic variables. The latter are not just the result of biological and environmental factors, but also of families' and individuals' responses to social and economic pressures.

When analysing the interaction between demographic contexts and childhood poverty, this double causation link therefore needs to be properly addressed (Lipton, 1999). Although one side of this relationship, eg, the effects of population change on childhood poverty, is central to assessing whether policies lowering both mortality and fertility rates have a significant impact on child welfare, the other side needs also to be taken into consideration. In other words, if it is proven that the causal effects of poverty on demographic variables are significant, the root problem is not solely demographic and population-related policy interventions by themselves may be insufficient, or even undesirable.

**Figure 1 - The basic relationships between demographic context and childhood poverty**



The framework proposed here for analysing the complex relationships between demographic context and childhood poverty (see Figure 1) shows that policy can affect childhood wellbeing both directly and indirectly, eg, by changing the demographic context (represented by the shaded arrow path).<sup>16</sup> For instance, educational programmes may improve the wellbeing of children directly through increased schooling or, indirectly, by lowering fertility and, thus, possibly inducing parents' to increase the schooling of their children. While some policies will affect childhood poverty directly (eg, preventive healthcare), others act mainly through the indirect, demographic channel (eg, family planning).

Although the direct effects of policies are generally quicker to manifest, the indirect impacts, which imply a change in contextual demographic variables, may be more long lasting, and are thus equally important. In this paper, the focus is on evaluating the merit of policies that are most likely to affect childhood poverty through demographic changes (ie, the shaded arrows in Figure 1). The fact that some policies – typically, education – that are advocated for reducing fertility rates also directly affect children's wellbeing, has contributed to promoting the case for lowering population growth, on the grounds that many fertility-reducing interventions may be desirable, regardless of the goal of reducing population growth.<sup>17</sup> Even if this were always true – and it may not be so in many cultures, which attribute material and emotional value to children – it would not, nonetheless, remove the need to assess whether the objective of lowering population growth is advantageous to decreasing childhood poverty. After all, the same intervention may be designed in different ways depending on the objective. Therefore, if the primary objective is to lower fertility, family planning programmes will focus on inducing 'stopping' strategies, whereas if it is to enhance current children's wellbeing, 'spacing' strategies would be more effective.

In the relationships highlighted in Figure 1, timing considerations are important since some links or feedback loops may take longer than others. The causal relationship between demographic context and poverty has typically received greater attention because it emerges more rapidly than the one in the opposite direction – ie, between poverty and demographic variables. However, this is not true of all demographic responses; for instance, while fertility and mortality are relatively slow to change, migration and household formation can respond quite rapidly to changing conditions of poverty (Lloyd, 1999). For example, mothers who face difficulties in caring adequately for all their children might migrate independently in search of jobs and leave children behind with grandparents (Brydon, 1979).

A useful framework for examining more closely the ways in which the demographic context affects childhood poverty is the one proposed in Figure 2, where two main channels of influence are identified. The first is at the micro-level, mainly through the household and the family to which the

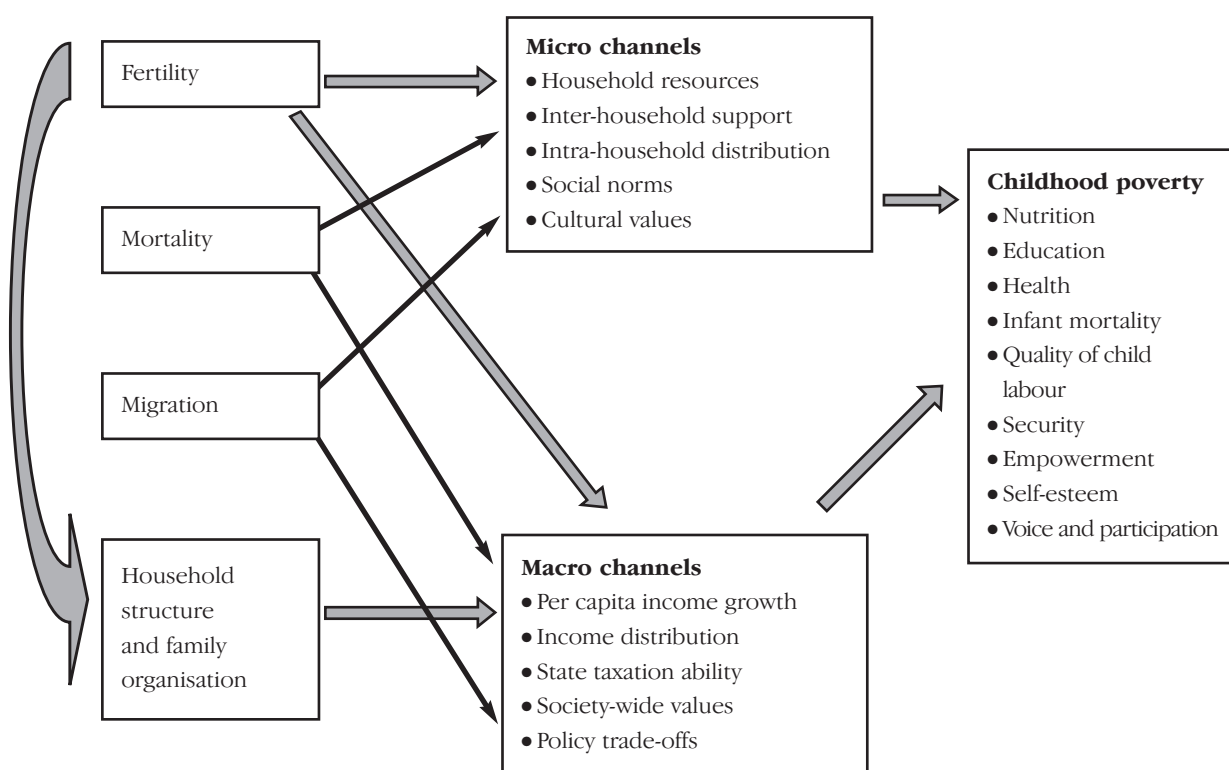
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16 The effectiveness of a range of economic and social policies in tackling childhood poverty is discussed in forthcoming CHIP papers.

17 Birdsall (1994) has thus named such interventions to lower fertility as 'win-win' policies.

child belongs, but also, in some contexts, through the community, as its social, economic and political organisation also affects the opportunities and constraints for both households and individuals.<sup>18</sup> Relevant elements are therefore community institutions and norms, existing support between family members who live apart, household structure and organisation, household poverty, and norms determining resource distribution among different members, including girl and boy children. Typically, the costs and benefits associated with demographic variables are distributed unevenly within the household, according to culture-specific norms that assign roles and responsibilities to members according to their age, gender and status in the family hierarchy. Children, particularly girls, may be disproportionately disadvantaged because of their vulnerability and lack of power. For instance, a regime of high fertility may be beneficial to some household members, typically men and elders (Caldwell and Caldwell, 1987), but detrimental to children, if resources due to them are the first to be cut in times of stress or if they are culturally allocated less.

**Figure 2 - The micro and macro channels**



18 There is substantial controversy around the definitions of 'household' and 'family' in the social sciences. Most economists and demographers define, for survey purposes, the household by either residential criterion or the criterion of eating from the same pot (Blackwood and Lynch, 1994). Household members are often kin, but not exclusively so. In practice, households are more complex realities, whose boundaries are ill-defined because membership is fluid and often subject to negotiation (Lloyd, 1999). Individuals may belong to different households at the same time, eating main meals in one, sleeping in another and participating in yet another when it comes to agricultural production. Households are also context-specific so that a definition which is valid in one cultural context may be meaningless in another. A family often indicates a group of people linked by kinship ties, and often involving a much wider and broader group than the household (Pollak, 1985; Guyer and Peters, 1987).

The second route through which demographic variables influence childhood wellbeing is at the macro-level, by determining the pace of economic growth, savings and investment, the level of taxation and the amount of public resources and infrastructure, especially those of importance to children (such as schools, health and recreational facilities). Society-wide demographic features can also affect prevailing views and concepts of childhood within society, thus setting the standards of acceptable ways of rearing children. For instance, it has been argued that high fertility regimes in African societies can explain, as well as be affected by, the widespread practice of sharing childrearing responsibilities among a variety of kin. In other words, high fertility and child fostering reinforce each other (Caldwell and Caldwell 1987; Dasgupta, 1993). The practice of child fostering in turn affects children's health, physical and emotional development in different ways, depending on the context (Engle, Castle and Menon, 1996).

Figure 2 shows the main relationships involved. The links highlighted by the shaded arrows constitute the focus of our subsequent discussion. We will now turn to explain in more detail the nature of the micro and macro channels, in order to provide a basis for understanding the subsequent empirical discussion (in Section 3).

## 2.2 The micro route

A useful starting point for framing the question of how, at the micro-level, demographic variables impact on childhood poverty, is the 'quantity-quality' trade-off model. Formally, this notion was introduced by Becker and Lewis (1973), but it is found in many similar formulations in the literature, in economics and the other social sciences. Central to such a trade-off is the notion that households have a given quantity of resources to spend on their children, about whom they simultaneously decide both their number (ie, quantity) and their level of human capital (ie, 'quality').<sup>19</sup> They can either decide to have many children, for whom they will be unable to ensure a high level of human capital, or to have fewer children for whom they can provide greater resources. Together with any combination of cultural, social and emotional factors which affect fertility decisions, parents choose among alternative 'quantity-quality' trade-offs according to the prevailing socio-economic conditions. With high child mortality rates, low net costs of raising a child and minimal returns to education, the best strategy might be to have many children and invest relatively few resources in them. This maximises the chance of having surviving children during old age (Cain, 1982) and minimises the economic loss from any child's death. However, when mortality rates decline and the return from investing in children rises following socio-economic development, the option of fewer, 'high quality' children may become more desirable.

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19 In its simplest formulation, the model also assumes that parents choose an average 'child quality' – that is, they divide resources equally between all the children, a hypothesis which is actually unrealistic in many empirical contexts, as will be seen later.

One problem with such a framework is that it regards cultural, social and emotional determinants of fertility behaviour as constant, and is therefore only valid in the short term or in settings in which these determinants of fertility do not change at the same time. In practice and in most cases, differences in the number of children per family and in the resources devoted to them are likely to be the product of changing social norms and new emerging values, as well as of modified socio-economic conditions. Because such norms and values depend on the specific context, the 'quantity-quality' framework needs to be enriched with a more contextual and in-depth perspective, in order to uncover the particular relationships involved in determining observed fertility levels (Hammel, 1990; Fricke, 1997). Another problem is that, even when the material conditions make it viable to choose fewer 'high-quality' children, the envisaged change in parental strategies may not occur or, if it does, take a long time. Among other factors, high uncertainty and limited scope for individual decision-making, (particularly among women) may prevent parents from making that choice.

First, parents need to be confident that lowering fertility is both socially acceptable and economically justifiable – for example, that the rate of return from child investment has increased sufficiently. With imperfect information and high uncertainty, the strategy to have many children may still be regarded as the best one, albeit with limited expected economic returns. In other words, economic rationality might be replaced by behaviour that aims to minimise the chance of undesirable events, such as social ostracism and lack of support from children in old age. Keeping options open in reproductive matters, eg, not restricting fertility, is sensible behaviour for poor people for whom children are of fundamental material and emotional value to a large set of relatives, not only the parents (Bledsoe, 1994). Therefore, not only does the socio-economic context need to change, the environment must also be stable and predictable if expectations are to change accordingly.

Moreover, parents need to feel that they have the means to influence both fertility and 'child quality', the latter including child health and mortality. This requires not only improved material conditions, such as the availability of modern forms of contraception and effective preventive and curative medicine, expanded education and employment opportunities, but also the perception of change in one's agency. The demographic transition typically coincides with a move from social control exercised by the extended family to parental control over fertility matters and childrearing (Caldwell, 1976). In other words, parents, especially mothers, should become freer to make choices for themselves and their own children that are more consistent with their own preferences. Parents' increased aspirations are fundamental in expanding their agency (Kabeer, 2000) and marking the transition from having a family according to chance to having a family that is planned (Lloyd, 1994a). When parents feel that they have better control over fertility and child survival, they will feel able to make the best use of all resources available (including emotional investment), which has positive effects on child survival.<sup>20</sup>

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20 The argument that with increased agency, families are much more able, in both material and emotional terms, to make the right investment in children, is related to the observation that constant experience of poverty and child deaths can induce in parents a sense of powerlessness and fatalism (Scheper-Hughes, 1992). However, although it is possible that individuals adopt psychological self-defence mechanisms (such as fatalism and resignation), it should be noted that often societies with the highest infant and child mortality rates also attribute the greatest cultural (as well as material) worth to children.



While the ideational changes induced by the expansion of literacy, education and family planning programmes might contribute to achieving such results, this will not occur within a short period. Partly because of the constraints just highlighted, a cycle of high fertility and poverty may persist – ie, the transition to fewer, ‘better quality’ children is not forthcoming – even when the conditions are favourable.

On the one hand, poverty may lead to high fertility because children can provide invaluable assistance to their parents at different stages of their life cycle: labour from an early age (Caldwell, 1976; 1978), and support in times of illness, and old-age security (Cain, 1981), especially to widowed mothers (Drèze and Srinivasan, 1998). These benefits are particularly crucial to poor parents who are often unable to access alternative means of production, credit and insurance assets.

On the other hand, in many developing countries, high fertility may lead to greater poverty, at least in the short term, due to the high dependency ratio, although households may feel that this is compensated for by the long-term material gains that children are able to provide, as well as by the enhanced social status. As was the case in pre-industrial Europe, in many developing countries, particularly in rural areas, social status often increases with family size, because it is more linked to the total stock of assets, such as land, livestock and dwelling size, than to any per capita measure (Lipton, 1983). However, the importance of total assets in determining household status, can have negative effects on children’s wellbeing.<sup>21</sup>

High fertility may also cause greater poverty, because parents, by having many children, impose unaccounted costs on themselves, their children or society. Firstly, parents may bear greater costs from high fertility than expected, because of the constantly changing market signals in periods of rapid change (for instance, children’s work contribution may turn out to be less valuable than expected) and because, if poor, they may have greater difficulty in accessing the necessary information. Where there are high fertility preferences, some family members, particularly mothers and daughters, often bear a disproportionate share of responsibility, while others such as fathers and elders, often largely derive the benefits of children, such as labour and security (Caldwell and Caldwell, 1987). Secondly, children may be adversely affected by high fertility if each child receives less resources as a consequence, and therefore achieves lower levels of health and education. Thirdly, other community members might be affected if high societal fertility creates excessive pressure on vulnerable natural resources, thus compromising their sustainability.

Overall, therefore, members within or beyond the household might suffer as a consequence of parents having many children. To what extent are children penalised by the high fertility choices of their parents? Do parents have many children because of the possibility of passing some of the costs – in terms of forgone health and education – onto their children, or to obtain extra labour power? Section 3.1 discusses how these questions have been addressed in empirical research.

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21 For instance, in some societies in Uganda, family wealth can be a poor predictor of child education and nutrition, because some farming families typically allocate their surplus to buy more cattle, rather than increase child per capita consumption or education (Martin Greeley, personal communication).



## 2.3 The macro route

It is sometimes argued that the household or other micro context is not the appropriate level for the analysis of the negative impacts of population growth, since negative effects are more likely to be transmitted not within, but across, households (Anand and Morduch, 1999). For example, the high fertility of a household can have adverse consequences for other households by increasing the pressure on environmental resource use or leading to congestion in services and infrastructure. Such problems may, in turn, have a negative impact on all children, including those of parents who have limited fertility. It is therefore important that such linkages are captured by looking beyond the household, at society as a whole.

The demographic context can impact on childhood poverty, first, by affecting total resources available to an economy, their distribution and society's capacity to invest in future generations. A particularly perverse mechanism is when high population growth leads to downward pressures on wages, not only by increasing the number of adult workers, but also (in the absence of sufficient resources for education) by creating a large pool of child workers who undercut adult wages, further exacerbating poverty.<sup>22</sup>

Moreover, the overall demographic structure of a society affects the state's ability to tax and provide public services, the type of norms governing resource distribution and thus notions of fairness and equity. A change in demography may shift the terms of the trade-off between different policy objectives – for instance, an ageing society may be more concerned about adequate old-age support than about appropriate investment in its youngest members. In the following discussion, the crucial mediating role of population age structure and the importance of timing considerations are discussed.

Demographic variables exercise their effects at the macro-level through size and age distribution effects. For instance, an increase in population growth, resulting from either a decrease in mortality or an increase in fertility, will affect poverty through a greater population size and a younger population age structure. Although the effect of population size has attracted the greatest attention from Malthus onwards, following concerns about the prospects of feeding an increasing population, the effect of age structure is arguably more relevant from a child welfare perspective.

The dependency ratio (the ratio of non-working people to working people)<sup>23</sup> is bound to vary during the demographic transition, increasing in the first phase when mortality rates decline, dropping when fertility starts to decline, and then rising slightly again when fertility has reached

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22 Formally, such concepts would translate into variants of 'child labour trap' models, as depicted for instance in Basu (1999). Two equilibria can be predicted. In the first, where fertility is high, children work but when they become adults, their wages will not be high enough to educate their own children, both because their human capital is low and because the supply of labour is high. In the second equilibrium, where fertility is lower, children go to school and earn sufficiently as adults to send their own children to school, generating a virtuous cycle.

23 The usual definition of dependency ratio as the ratio of children and old people over working age adults, fails to recognise that many children and old people are economically active, especially in the developing world.

replacement levels. It is when the dependency ratio increases that the welfare of children may be most at risk. Countries either have to increase the productivity of the working age population or make some dependants work, if they want to maintain living standards. Where increased productivity is not feasible (at least in the short term), these societies are bound to experience a mixture of rising poverty, especially among the great number of young dependants, and increases in child labour. Therefore, a young age structure may lead to a possible deterioration in child welfare.

Poor countries in the early phase of the demographic transition have very young populations. For instance, almost half of the population in most countries in Sub-Saharan Africa, and up to 40 per cent of the population of many other countries, is below 15 years of age.

The length of time within which the effects of demographic transition are analysed is crucial, because the longer the period, the greater the likelihood that other factors, such as technology, policy and individual responses will compensate. In fact, the disagreements between pessimists and revisionists arise partly because the former restrict their analysis to the short term, while the latter allow for a longer time frame, within which institutions, policies and technologies will have had time to adjust. For instance, the emergence of new technologies which are labour-intensive, policies which favour the rural sector, and functioning labour, credit and insurance markets, will enable a society to absorb the impact of a rise in population, and minimise the negative effects on the poor. Moreover, accommodating technological, institutional and policy change will lay the conditions for a decline in population growth.

Unfortunately, markets, governments and institutions which could bring about the necessary compensating mechanisms, are often the least likely to function in the countries where they are most needed, ie, the poorest countries (Birdsall and Sinding, 2001). These countries will be most exposed to the negative consequences of any demographic change, and also benefit most from improvements in the policy and broader institutional environments.

## **2.4 Concluding remarks**

Demographic factors and variables related to child welfare are likely to affect one another in a complex relationship, where causal influences work in both directions. Empirically, it is hard to disentangle such effects because of their interdependence. In this paper, the focus is on those elements – fertility and child mortality rates – within the demographic context, which are most likely to impact on childhood poverty and be amenable to policy interventions.

The demographic context can affect childhood wellbeing at the micro- and macro-levels. At the micro-level, the demographic characteristics of a child's household and family are likely to impact on the resources accruing to the child, both by affecting the total resources available to the household, and the norms governing their distribution. Large families may be detrimental to childhood wellbeing if the emotional, material and social resources for each child are diminished and if there are no

compensating mechanisms from the rest of society (including support from non-resident family members). Lower fertility may benefit children if the conditions exist for a trade-off between child 'quality' and quantity, eg, for parents to increase the amount of investment in each child when they decide to have fewer children. However, there are many conditions (eg, increased parental agency, social acceptance of low fertility, modern contraceptives, improvements in healthcare, reduced mortality risks, employment opportunities, enhanced women's status within the family and society) which may take long to materialise.

At the macro-level, population growth can affect childhood poverty by impacting on the growth and distribution of an economy's total resources and by affecting the capacity of the state to impose tax and provide an adequate quantity and quality of public services. It also affects the sustainability of local environmental resources, on which children's wellbeing, especially in poor and large families, crucially depends.

Having presented the framework to understand the main links between demographic factors and childhood wellbeing in this section, the next section discusses some of the empirical evidence which illustrates these links, and which have attracted most attention and debate.

# 3 The relationships between family size, population growth and childhood poverty: empirical evidence

## 3.1 The micro-level

Empirical studies of the relationship between (childhood) poverty and high fertility at the household level are often so focused on the concept of income-poverty that they tend to override all other considerations. Therefore, Birdsall and Sinding (2001: 15) forcefully argue that ‘[t]here is little debate that poverty and large family size go hand in hand’. Similarly, Lipton (1983: 8) notes that ‘almost every study, at whatever level of disaggregation, for either a particular group or for a total population, shows the incidence of poverty and mean household size increasing together’.

However, a negative association between family size (to be read as ‘household size’ in this literature) and (childhood) poverty is unquestionable only when focusing on income-based poverty because poverty at the individual level is measured by dividing a household’s overall income (or consumption) by the number of household members.<sup>24</sup> Such a per capita measure is thus, almost inevitably, inversely correlated with household size.<sup>25</sup>

Estimates of per capita consumption however disregard important intra-household distribution issues and overlook the fact that poor children may also be found in non-poor households (Fields, 1994). Moreover, the notion that households have well-defined boundaries is misleading; the household may thus not be the most relevant unit for assessing childhood poverty, if a child is simultaneously a member of a number of distinct or overlapping households, whose resources s/he may be entitled to. The different implications of alternative units of analysis for measuring poverty and income distribution have been demonstrated in the literature (Greenhalgh, 1982) and suggests the need to focus on individual-level indicators and to move from household to family economics (Lloyd, 1999). Furthermore, estimates of per capita consumption do not take into account the possibilities that a larger household may be more efficient in both production (due to task specialisation and risk-reducing diversification of activities) and consumption (lower per capita

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24 Adjustments of per capita consumption based on the age and gender of each household member make the poverty indicator more realistic but do not change the picture substantially.

25 Just to cite one example, in rural China, the probability of a household falling into poverty increases from 8.9 to 12.9 and then to 18.4 per cent, as household size increases from two to four to six members, respectively (Shi, 2001).

incidence of fixed costs such as housing, food and other purchases).<sup>26</sup> Finally, large households may be culturally valued in many contexts and thus enhance wellbeing. Overall, therefore, the evidence of a negative association between per capita income-poverty and high fertility should be qualified – ie, it is a powerful message, but unlikely to present the whole picture.

The objective of the following sub-sections is to examine evidence of the relationship between high fertility and various dimensions of childhood poverty other than per capita income. One would ideally want to assess the relationship between the number of children in the same consumption unit, often the household, and childhood poverty. However, not all studies are precise and consistent in this respect, sometimes focusing on overall family size in societies where large households are not always those with the greatest number of children.<sup>27</sup>

### **3.1.1 Evidence on household resource dilution**

The main argument used to support the thesis that large family size is detrimental to household poverty and childhood poverty in particular, is that a large family has to ration their scarce resources among many children and therefore has less resources per capita. Family resources may include not only income, but also access to public services, parental time, and a mother's physiological and nutritional resources, all of which are critical for a child's development. In this section, evidence for the impact of resource dilution in several dimensions of childhood wellbeing – nutrition, morbidity, risk of mortality, education and work – are identified. The next section discusses the counter-evidence.

#### **Nutrition**

Most studies examining the impact of family size on child malnutrition provide evidence of a negative effect when stunting or long-term chronic malnutrition is considered (measured by a child's height-for-age). However, the evidence is less strong in the short term, where malnutrition is measured as weight-for-height (Lloyd, 1994b).<sup>28</sup>

Wherever child nutrition and fertility are modelled as causing one another, as in a study based on data from the Philippines, there was a significant switch away from larger families towards fewer, better

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26 In other words, large households may exhibit economies of scale in production and consumption. Although the practical relevance of the latter in poor households is often dismissed (Eastwood and Lipton, 2001), especially in transition economies where larger households are indeed poorer (Fox 2003), the issue seems to deserve further investigation for the poorest Asian and African countries. Anand and Morduch (1999) show with data from Bangladesh that, when allowing for even modest economies of scale in consumption, smaller households may be regarded as poorer, not richer, than large households.

27 Some households may be large because of several generations or even non-kin residing together.

28 Both measures of malnutrition are derived as standard deviations from the mean for children of the same age and sex in a North American reference population.

nourished children. Parental education was identified as the most powerful factor for determining both (Horton, 1986). Although this finding is broadly consistent with the ‘quality-quantity’ trade-off model, parents do not appear to choose an average ‘quality’, but rather to allocate resources unequally among children according to birth order, with later children being the most disadvantaged. Interestingly, discrimination in access to food does not seem to follow any gender patterns, in either the Philippines or other countries, including in South Asia, where the unequal treatment of girls is most common, but mainly restricted to healthcare.<sup>29</sup>

### *Infant mortality*

High fertility might decrease chances of infant survival, as it often implies an early start to childbearing, short birth spacing, and more births up to the end of reproductive life. Adolescent childbearing is linked to a greater chance of complications during delivery and to infant nutritional deficiencies, due to incomplete maternal physical and emotional development, which both increase the risk of neonatal death. Short birth spacing decreases the chances of infant survival because it increases maternal depletion and increases competition for nutritional resources, especially maternal milk, both of which have implications for a newborn’s weight and later development. Therefore, extensive analyses of developing countries show that an infant born within 18 months of a previous birth has, on average, double the probability of dying than an infant born two years or more after (Hobcraft, McDonald and Rutstein, 1985). Finally, high-parity births (ie, later births) are at risk if the mother is at the end of her reproductive life, when delivery may be difficult and hazardous.

There are two main problems with this type of evidence. Firstly, the association between low maternal age at first birth, short birth spacing and high-parity births, on the one hand, and increased risk of infant mortality, on the other hand, may in fact be due to a third set of factors which causes the other two (ie, a spurious correlation). More specifically, the low socio-economic status of mothers may be the real cause of greater child mortality, early childbearing and all the other patterns responsible for increased risks of infant survival (Bongaarts, 1987).<sup>30</sup>

Secondly, it is not high fertility per se, but the reproductive patterns that are normally associated with it – eg, short birth spacing – which are responsible for impairing child survival prospects. Therefore, a fertility decline that is, for instance, accompanied by the abandonment of traditional practices that ensure healthy birth spacing, such as breastfeeding and post-partum abstinence, may actually counteract the advantages of smaller family size for a child’s survival chances (Lloyd, 1994b). This observation has important implications for the design of family planning programmes which should, if aimed at enhancing infant survival, encourage both a delay in the timing of first births and sufficiently long birth spacing, rather than simply promoting fertility decline per se.

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29 However, differences in health status among children may still determine differences in malnutrition, as poor health lowers the efficiency of food’s conversion to body’s mass and energy. The reason for gender discrimination in healthcare, but not nutrition, is still puzzling for researchers. It may be that while parents may be unwilling to withdraw food from their daughters, a daughter’s illness is likely to be downplayed and, thus, a trip to a health centre delayed.

30 Potter (1988) provides a critique of this perspective.

## *Education*

Many studies of the effects of family size on children's education point to a negative impact because of the dilution of resources. Lloyd's (1994a) review of 14 studies found that both measures of children's performance at school and the level of parental investment in children's education, are mainly negatively related to the number of siblings. Among more recent studies, Bhat (2002) found that illiterate mothers in India who have many children are less likely to send them to school than those with fewer children and, thus, less likely to make the 'quantity-quality' transition. Hausmann and Székely (2001) showed that in 13 Latin American countries, on average, 21-year-olds in households with six or more children, have two years less education than children in households with one to three children.

These dilution effects can operate either directly, eg, children with more siblings receive fewer resources for their education, or indirectly, eg, through less resources per child for nutrition and health. It is an established fact that children who are malnourished or have poor health have less regular school attendance and perform less well at school.

Some studies find that the educational advantages of a small family are mainly limited to higher levels of education. In countries like Vietnam, where primary enrolment approximates 100 per cent, there is no significant association between family size and education at this level, although it does arise in secondary and tertiary education (Ahn et al., 1998).

Education has become a crucial instrument for socio-economic advancement and even poor and illiterate parents are increasingly compelled to invest in their children's education, also in order to maximise the support the children will be able to give them in old age (Kabeer, 2000; Bhat, 2002). At the same time, state support for education has decreased in some instances, or has not kept pace with increasing demand. Resorting to private education to fill the gap, or sending children to distant schools, entail costly strategies which parents are only willing, or able, to make for a few children. In countries such as Thailand and the Philippines, the fertility transition was certainly spurred by parents' high educational aspirations and the high costs of schooling. The education-related reason behind the desire for fertility limitation has long been noted in India (Caldwell, et al., 1982) and seems to be increasingly significant (PROBE Team, 1999). Bhat's (2002) analysis shows that first-born daughters have the most to gain from these rising educational aspirations, since they would be the most likely to forgo schooling to take care of younger siblings in large families.

## *Child labour*

Child labour is another factor to be considered in the relationship between family size and childhood wellbeing. Firstly, children's work in the household may be regarded as a consequence of high fertility, because the chance that a child does household work increases with family size.



Indeed, there is significant evidence that children, particularly girls, with more siblings work longer hours on average than those with fewer siblings.<sup>31</sup> This is a cause for concern when children's work interferes with their educational prospects.

Secondly, child labour may affect household income and child consumption. If children are viewed as contributors rather than only as consumers, then large family size may not imply diminished per capita consumption. Thus, a judgement of the effects on overall childhood wellbeing becomes even more difficult in such cases. On the one hand, work may increase a child's status within and beyond the family and enable her to access greater resources. On the other hand, a child might be caught up in an exploitative relationship, even when working for family members, where s/he is seen principally in terms of what s/he can contribute, and where any wages earned may go directly to the parents. In such cases, a child's overall welfare may decline rather than improve.

### 3.1.2 Counter-evidence on dilution effects

Although the literature points to important resource dilution effects at the household level, the evidence is not unambiguous. Whenever relevant demographic and socio-economic characteristics of household members as well as broader contextual variables are also included in the analysis, the positive relationship between family size and various dimensions of childhood poverty becomes weaker and, sometimes, statistically insignificant. Moreover, it does not hold across time and space. Maternal status, the role of the extended family and the larger institutional and policy contexts are among the most important factors to be considered, and will therefore be discussed next.

A child's access to resources within a household is strongly related to the mother's status, as defined by existing age and role hierarchies. In Mali, the children of senior and more powerful women, such as the household head's wife, are less likely to be malnourished than those of junior and lower status women, such as daughters-in-laws (Castle, 1995). This is irrespective, to some degree, of the household's overall income. Some malnourished children were actually found in households otherwise described as non-poor, showing how fertility can be loosely related to factors affecting a child's exposure to poverty.<sup>32</sup> A child may be more vulnerable in a household where there is a rigid hierarchy among several women, than in a household with the same number of children, but where there is either one wife or where, if there are many women, there is greater equality among them. In this respect, the widespread incidence of polygyny in West Africa might be a greater risk to children's wellbeing than high fertility.<sup>33</sup>

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31 Andvig (2001) reviews studies of children's work within the family context.

32 Such findings also illustrate the weakness of the concept of household poverty for making inferences on child poverty.

33 There are contrasting views among demographers on whether polygyny is positively related to fertility.



The extent to which family members at large support each other is another crucial factor. If responsibility for children does not rest only with household members, but is shared among a wider network of kin, as is the case in many parts of Sub-Saharan Africa, then the number of children may be immaterial to the amount of resources accruing to each child. In fact, a larger family may induce a greater sense of obligation on the part of kin, or more extensive networks on which to draw. Both imply a greater, not lower, chance of resource in-flows.

This conclusion is supported by a study comparing data on the nutritional status of children in three Latin American countries (Brazil, Colombia and the Dominican Republic) and three West African countries (Ghana, Mali, and Senegal) (Desai, 1992). While the presence of other siblings, particularly those under-five, has a significantly negative impact on the nutritional status of children in Latin America, the effect in West Africa is much weaker. The role played by extended family members in child-rearing in West Africa, including the practice of child fostering and other types of non-maternal care, implies that childhood poverty is less closely related to household size and average income than in Latin America, where household boundaries are less fluid.

As far as the larger institutional and policy contexts are concerned, analysis of Demographic and Health Survey (DHS) data for 16 countries shows that the effect of family size on children's physical growth, as measured by height-for-age, varies according to the extent to which parents, rather than extended family or the state, bear the costs of rearing children (Desai, 1995). The relationship is thus found to be weaker in Sub-Saharan Africa where, unlike other parts of the world, extended family obligations are very strong and the state had, until recently, also provided free primary education and health.

Since this situation has been changing, significant consequences can be expected for children. With the introduction of user fees in many essential public services and reduced state intervention due to shrinking budgets, parents may increasingly feel the burden of supporting many children. Moreover, greater economic difficulties may mean that the extended family may not always be able to provide assistance. Eventually, parents may therefore decrease their fertility. However, in the meantime, children from large families are the ones most likely to bear the impact of such changes. Child vulnerability may therefore increase in high fertility settings when public resources are withdrawn from services that are essential to childhood wellbeing and that poor families are likely to use.

### ***3.1.3 Unequal distribution of resources among siblings***

Even if evidence of household resource dilution effects is questioned as the previous section shows, the negative effects of high fertility on childhood poverty is still evident because of the greater scope for discrimination among siblings allowed by large families. By concentrating available resources on a subset of children, often those perceived as more likely to succeed, parents might actually maximise the benefits from and, at the same time, pass on the costs of, high fertility. Selected investment in children has recently attracted great attention in the literature. The question

of relevance here is whether discriminatory practices are more likely to emerge in larger families. One way in which large households may induce selected investment in children is by reducing per capita resource availability below subsistence levels in already poverty-stricken households,<sup>34</sup> to the point of inducing them to focus attention and resources on the healthiest children, who have the highest probability of survival. Evidence in this regard from the poorest parts of Brazil (Scheper-Hughes, 1992) and South Asia (Dasgupta, 1993) suggests that this may occur in a variety of contexts.

The argument is often advanced that high fertility may increase the chance of selected neglect of children, because it raises the number of higher-parity births, who are often unwanted and, as a consequence, discriminated against. In some instances, indeed, children born later are more unwanted than children born earlier, have to compete with more siblings for resources than older siblings did at the same age, and are less likely than first-born children to receive special investments (such as education) (Lloyd, 1994b). In India, as a result of withholding resources from high-parity girls, their mortality is significantly higher than that of their siblings of either sex. For example, Das Gupta (1987) found that child mortality rates were 53 per cent higher for girls born to mothers who already had one or more surviving daughters than among all other children.

However, in other contexts, first-born children may be the most penalised, and the greater the number of subsequent siblings, the greater may be their burden of responsibilities. In most Sub-Saharan African societies, obligations towards children are shared between parents and other sets of relatives, with older siblings often raising their younger siblings, working to provide them with resources, such as education, which they themselves did not enjoy when they were young (Bledsoe, 1994). Chains of sibling support, although vital in maximising a family's overall chances of success, often mean that older siblings are disadvantaged. Such parity discrimination interacts powerfully with gender discrimination, suggesting that first-born daughters are more likely to be withdrawn early from school, in order to help with rearing the younger children, especially if they are boys.<sup>35</sup>

If first-parity children are discriminated against, the thesis that high fertility causes greater discrimination by raising the proportion of unwanted children, is untenable. This is further supported by two observations. Firstly, it is not generally true that high fertility societies have a greater proportion of unwanted children. For instance, the percentage of unwanted births is much lower (ten per cent) in Sub-Saharan Africa where fertility is higher, than in Asia and Latin America where about 20 per cent of births are unwanted.<sup>36</sup> Secondly, recent evidence has questioned whether unwanted children fare worse. In a comparative study of five countries, unwanted children received less care (as measured by several indicators) only in Peru, whereas differences were not significant in countries as diverse as Bolivia, Egypt, Kenya and the Philippines (Marston and Cleland, 2003).

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34 As argued in Section 2.2, poor households may have incentives to have many children, even if this means a short-term decline in resources, and thus, at least immediate, greater poverty.

35 Bhat (2002) discusses this for India and Lloyd and Gage-Brandon (1994) for Ghana.

36 Figures from various studies quoted in Marston and Cleland (2003). Also, over time, a country undergoing demographic transition might, at first, experience an increasing proportion of unwanted births, because desired family size declines at a greater rate than the ability of couples to regulate their fertility.

An alternative explanation for the observed positive association between high fertility and selected investment in children, is that the number of children in a family and expenditure on each child may be jointly determined decisions. In other words, expenditure per child is a result of the child's gender and parity order, as determined by prevailing norms, rather than a result of family size. At the same time, the existence of discriminatory norms allows parents to afford a large family since, as noted earlier, some children will bear much of the burden of high fertility. Hence, the positive association between family size and discrimination, with family size being both a cause and effect of childhood poverty – specifically, the poverty of a particular set of children. If this is the case, it is the underlying discriminatory norm, rather than high fertility per se, which is at the root of the problem.

This point is starkest when considering the perverse effects that fertility decline may produce in the presence of unchanged norms, such as son preference. In China, pre-natal sex-detection technologies such as ultrasound have been used extensively by mothers to selectively abort (ie, if the foetus is female) and keep fertility low, while at the same time, satisfying their preference for sons. The extensive use of such prenatal discriminatory methods is evident from the decreasing female/male sex ratios at birth and the peculiarly high ratios of aborted fetuses of women already having daughters (Croll, 2000).

The effects of family size on childhood wellbeing are likely to be inaccurately identified, if empirical models do not take into account the fact that parents may jointly decide about both family size and expenditure per child, and that these two decisions affect one another.<sup>37</sup> More importantly, from a policy perspective, it means that an externally driven fertility decline may not induce parents to spend more on each child, precisely because expenditure decisions are outcomes of a complex interaction between socio-economic status and existing norms.<sup>38</sup>

If selective investment in children is a core problem, it is imperative to identify the factors sustaining it, especially when it occurs along gender lines, which appears to be the most persistent and harmful. Female discrimination is a feature common to many societies, including Europe. However, it has generated the greatest concerns in South Asia because of its distinctive implications.<sup>39</sup> Neglect of girls from an early age has resulted in excess female mortality, especially among infants and young children. This has led to extraordinarily low, and historically unique, female to male sex ratios, a phenomenon captured by the powerful expression of 'missing women' (Drèze and Sen, 1990).<sup>40</sup>

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37 Clearly, it is difficult to establish the extent of joint determination in practice. In some instances, it may indeed be the case that fertility outcomes temporally precede decisions about resource investment in children. For example, when control over fertility or child survival is limited, and there is high uncertainty over outcomes, parents may see the benefits of delaying choices as much as possible, eg, deciding on children's schooling only when a child gets to school age. In these instances, a causal link between fertility and child investment would be more detectable (Bhat, 2002).

38 This is not always the case. In China, cogent one-child policies have led parents to invest more resources in their only child, as discussed later.

39 There are many important variations not only within South Asia, but also within countries in the region. For instance, within India, Andhra Pradesh has a much higher incidence of both infant and child mortality than Kerala, and much of this difference can be accounted for by the lower chance of survival for girls than for boys in Andhra Pradesh (Masset and White, 2003).

40 The (female to male) sex ratio in India and Bangladesh is 927 and 945, respectively, per 1000 men (Drèze and Sen, 1989). The low sex ratio in South Asia is particularly disturbing when one considers that in most parts of the world, the sex ratio is above 1000 because girls are biologically stronger than boys (for instance, the ratio is 1063 in Western Europe). Agnihotri (2000) examines excess mortality of girls in India based on the recent Census data.

Discrimination against girls, especially when so pronounced as it is in East and South Asia, is the outcome of the strong marginalisation of women in these societies, and of the consequent low value parents give to girls (Das Gupta, 1987).<sup>41</sup> Such structural marginalisation may arise for various reasons, such as economic inequalities, where men command higher incomes than women (Rosenzweig and Schultz, 1982), or to prevalent patrilocal and virilocal residence and marriage patterns, ie, where sons remain in the family home after marriage, but daughters move to their husband's home (Cain, 1984). In India, differences in family structure, the caste and religious composition of communities, as well as women's rights of ownership, work and inheritance within the larger society, explain much of the variation in gender discrimination across states (Das Gupta, 1987).

All the features just discussed suggest that investment in boys, in societies characterised by a structural marginalisation of women, is likely to be higher, more long-lasting and more certain than that in girls. The pervasiveness of gender discrimination also explains why discrimination is not only confined to large or poor households, and why all types of families might have an incentive to invest more in boys than in girls and, thus, capture what are perceived to be greater returns.<sup>42</sup>

Improvements in the position of girls thus require dramatic changes in women's economic and legal rights, in women's perceptions of their own worth and value and, particularly, in the social structural features (such as patriarchal family systems) that marginalise women's position.

### 3.2 The macro-level

The last section has highlighted how evidence of a causal link between large family size and compromised child welfare is mixed, although the vulnerability of children of mothers with inferior status within the family, or of children of a particular birth order or gender, seems to be greater in large families. In this section, the effects of population growth will be considered at the macro-level, where the indirect effects of each household's fertility behaviour on other households within the society are captured.

The problem from our point of view is that, although several macro studies have empirically analysed the impact of population growth or high fertility on economic growth and poverty, none has specifically focussed on childhood poverty outcomes. In the following review, an attempt is made to highlight, where possible, the implications of the findings for childhood wellbeing.

It is important to point out that, while the revisionist position seemed to dominate until recently, more substantive evidence of the negative effects of population growth on economic growth, poverty and the environment, has recently emerged possibly as a result of more accurate data collection and

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41 In some rare instances, gender discrimination can work the other way around. Some nomadic Central Asian societies invest more in girls' than boys' higher education, because of the perception that girls are better suited for office work, whereas boys are destined to work in farming, herding or trading, for which formal education is less crucial (Rachel Marcus, personal communication).

42 Das Gupta (1987) provides evidence from Punjab that gender discrimination (and excess mortality of girls) is not only confined to the poorest households.

sophisticated models. This review of empirical work considers the impact on the four dimensions which have attracted the most attention – viz. per capita income growth, distribution, public resources and environmental resources.

### **3.2.1 *Impact on per capita income growth***

The recent understanding of the impact of population growth on per capita output growth is that it was minimal in the 1960s and 1970s, but was negative, statistically significant and great in the 1980s and 1990s for most developing countries (Kelley and Schmidt, 2001). Possible reasons for the recent emergence of negative effects for poor countries might be their accelerating population growth and the impacts of structural adjustment programmes, which have curtailed the flexibility of both policies and institutions to provide compensating mechanisms against the negative effects of population growth.

Recent economic-demographic models explicitly include population age structure, where an increase in fertility is allowed to have differential effects across the life cycle – typically negative in the short term, due to the greater number of dependent children, and positive later on, because of the increase in the proportion of working adults. The negative impacts of fertility growth dominate in studies by both Kelley and Schmidt (1995), analysing data from 86 countries<sup>43</sup> for the period 1960-95, and Eastwood and Lipton (1999), whose data cover 41 developing and five transitional countries for the same period.<sup>44</sup>

Although per capita income is only weakly related to childhood wellbeing (Sen, 1999), the average resources in a population are an approximate measure of the feasibility of planned improvements in poverty measures. It is true that, within a context of low growth, very poor countries facing rapid population growth have a narrower margin for improving children's wellbeing. Although this is a useful starting point to set the context, it is by no means sufficient.

### **3.2.2 *Impact on distribution***

High population growth may be harmful to the poor because it leads to a depression of wages and upward pressure on consumer prices. While wages in Europe's past suffered to the benefit of rents and profits (see Section 1), in contemporary developing countries, the main difference in income distribution is between unskilled and skilled labour, rather than between labour and capital. During the demographic transition in Brazil, being part of a large age cohort implied a reduction in unskilled, but not skilled, wages, which clearly had implications for the poorest sections of the population (Behrman and Birsdall, 1988).

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<sup>43</sup> The selected countries were market-oriented economies from all world regions, whose population exceeded one million in 1960.

<sup>44</sup> It should be noted that most models assume that children do not work; hence, the result of greater child poverty associated with higher dependency ratios. Clearly, this is an imperfect hypothesis given that many children in the poorest countries work from a very early age, although they are not likely to be net producers until they are adults or, at least, adolescents (Cain, 1982).

Eastwood and Lipton (1999) find that the distribution effect of a fertility decline, through a reduction in wages and lower per capita public resources, can be as great as the per capita income effect. In particular, slower population growth has the greatest benefits in high fertility, low-income countries. This may not be so for other categories of countries, such as less poor countries or countries where population growth occurs in the context of relatively low fertility and mortality rates (Cassen, 1994).

Evidence comparing regional experiences within countries also confirms that fertility reduction may reduce geographic inequalities. Within Brazil, the poorest north-east has benefited more, proportionately, from the fertility decline than the richest south-east (14 per cent decline in poverty against eight per cent) (Paes de Barros, 2001). However, the differential in poverty levels between the two regions is still great, because households in the north-east have a greater dependency ratio than those in the south-east.

### 3.2.3 *Dilution of public resources*

High population growth may lead to resource dilution in public services and infrastructure that are fundamental for children, such as health, education, transport, water and sanitation. Evidence of the extent to which higher population growth leads to lower per capita quality and quantity of services is strongest in relation to education.

Cross-national studies of school expenditure and enrolment rates in the 1960s and 1970s found that countries where the greater proportion of the population was children of school age, tended to have lower educational expenditure per child (Schultz, 1987). Even if such countries could increase enrolment rates, decreasing teaching salaries and expenditure for infrastructure and books, translated into lower education quality and, thus, into lower educational attainments (Cox and Jimenez, 1991). In the small states in the South Pacific, countries experiencing rapid population growth tended to have lower provision of health services as well as lower educational attainment (Alhburg, 1988).

Where population growth has declined significantly, the beneficial effects on children's education appear substantial. For example, in Thailand, where fertility declined dramatically between the 1960s and 1990s, the size of the school age population levelled off rather rapidly, and eventually declined, thus releasing resources for expansion of education to those who had not had access before. For instance, pre-primary education expanded by using existing primary school facilities, while lower-level secondary classes were offered at a growing number of existing rural primary schools (Knodel, 1993).

However, not all countries witnessing slower population growth have experienced improvements in educational outcomes, because good and efficient government policies are necessary ingredients for positive results to emerge. Wherever the education sector remains weak and inefficient, slower population growth plays an insignificant facilitating role, as a comparative study of education in Asia has shown (Kelley, 1996).



On the other hand, Kelley (1996) suggests that, contrary to the common belief that education in developing countries suffers with rapidly expanding populations, most developing countries have successfully increased, rather than decreased, educational investment and opportunities (eg, increased education level per student). Governments have managed to achieve this by reorienting their education strategies by, for example, focusing on primary and secondary education rather than tertiary education, and by enhancing efficiency and cost-effectiveness in schools as evidenced, for example, by higher student-teacher ratios. However, the question of whether countries might have made greater progress had their population growth been lower cannot be addressed.

### 3.2.4 *Impact on environmental resources*

Environmental problems are almost always associated with resources that are regenerative (eg, renewable natural resources), but which are in danger of exhaustion from excessive use (Dasgupta, 1993). Population growth may have a negative impact on such resources if more forests are cut for fuel, if there is greater pollution of water streams and ponds, over-fishing, and increases in both the intensive and extensive margin of agriculture. For instance, reducing the fallow periods might prevent the land from regenerating its nutrients, while farming on hillside and other marginal areas might lead to soil erosion. In order to cope with the poor soil quality, farmers may start to use commercial fertilisers which can have adverse effects for the ecosystem.

The erosion of natural resources, in turn, leads to a deterioration in the living standards of the people whose livelihoods mostly depend on these resources, and who are often the most vulnerable and poorest sections of society, especially those living in marginal areas. Children are likely to be particularly affected, both in present and future generations. In many poor societies in Sub-Saharan Africa and South Asia, boys and girls contribute to their household economy from the age of about five by gathering fuelwood and fodder, fetching water and collecting wild fruits (Dasgupta, 1993). In drylands, such resources may be located many miles away from the village, which makes these activities particularly time-intensive and tiring for young children. If natural resources are depleted, children may have to walk even further to collect the same quantity as before, and work longer hours which has detrimental consequences for their health, physical development and chances of education.<sup>45</sup>

Although it is indeed often the case that poor, fast growing populations encroach on existing environmental resources and test their sustainability, the relationship between population, poverty and the environment is more complex. Human activities may affect the ecosystem and natural resources in a variety of ways. Neo-Malthusian interpretations have been vigorously challenged on the grounds that a greater number of people also means more labour and resources for protection,

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<sup>45</sup> Chen (1983) provides an interesting review of the links between improved water supply and health benefits among the poor.

rather than only for depletion. For instance, people living on the margins of forests in West Africa have developed complex and varied relationships with their environment that often lead to an increase in the forest cover (Leach and Fairhead, 2000).<sup>46</sup>

Moreover, poverty is not only a result of environmental degradation, but also a causal factor when it induces migration into marginal areas which are unsuitable for supporting the livelihoods of a large number of people and create extreme dependence on natural resources. This suggests that appropriate policies that attack poverty directly can affect the impact of a given population on natural resources. For instance, poor people in semi-arid areas of Sub-Saharan Africa tend to save by investing in cattle, which imposes an additional strain on grazing land, especially during periods of drought (Dasgupta, 1993). If, however, those communities had better access to alternative forms of capital, credit and savings, investment in cattle would be limited, and more sympathetic to the needs of the ecosystem.<sup>47</sup>

A comparative study of the Philippines and Costa Rica (Cruz 1992) also demonstrates that policies are crucial in mediating the relationship between population and natural resources. Although population density in the study areas in Costa Rica was lower than in the Philippines, soil degradation was much worse because of policies that encouraged the local population to convert forests into cattle pastures. Policies that expand income opportunities, especially for women, were found to be beneficial for the environment because they provided alternative livelihood possibilities to people who used to rely on natural resources.

In conclusion, the causes and consequences of environmental degradation do not lend themselves to easy generalisations. Adequate income opportunities and policies that give people incentives for protective, rather than destructive, practices can improve the environment and minimise the negative effects on children, at least as much as those which aim to do so by reducing population growth and density.

### **3.2.5 Counter-arguments to negative macro population effects**

The evidence of the negative effects of population growth on economic growth, poverty, quality and quantity of public services and natural resources seems to be indisputable for poor countries with high fertility rates. However, it is important to qualify such evidence – not to deny the existence of such negative effects, but to demonstrate the need for more reliable data before definitive conclusions are reached.

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<sup>46</sup> Gardening and other farming practices in the forest savannah transition zone, the creation of 'islands' of forest in the savannah, and the planting of trees in fields and fallows, are among the practices that people in various parts of West Africa have adopted, with positive effects on forest cover (Leach and Fairhead, 2000).

<sup>47</sup> Dasgupta (1993) reports a number of telling instances from various parts of the world of public failure causing erosion of local common property resources.



One problem is the extensive use of cross-sectional data, ie, data of different countries at one point in time, to prove the effects of population growth where longitudinal data, ie, time-series data which capture processes better, are needed. Although there are valid techniques which help to identify true, from spurious, causal connections in cross-sectional data, it is impossible to draw precise inferences about a dynamic process, such as population growth, from cross-sectional data. As time-series data become increasingly available, this issue needs to be addressed.

The second issue concerns unobserved variables, or variables that are difficult to measure and include in empirical analysis, but which may affect both population growth and childhood wellbeing and, if taken into account, change the interpretation of the relationship between the two. Among these variables, the role of the state is significant, both for its notable absence from macro empirical work and its obvious importance in population matters (McNicoll, 2002). For instance, the example in Section 3.2.3 about improvements in child education in Thailand could alternatively be explained by the strong resource commitment of the Thai government to education, and by its implementation of policies which, deliberately or not, contributed to decreasing fertility rates. The early land reform is an example of such an intervention since it provided the incentive for many families recently entitled to a small plot of land, to reduce fertility in order to avoid excessive fractionalisation of the land over the generations. Therefore, it is possible that the main explanation for both lower fertility rates and enhanced children's education in Thailand is the role of the government rather than a causal relationship between demographics and childhood wellbeing.

### **3.3 Concluding remarks on micro- and macro-level evidence**

Evidence at the micro-level fails to support the association between family size and childhood poverty at all times and in all places. Firstly, such an association may be dependent on how poverty is measured. Although a negative relationship might emerge, its magnitude does not appear significant because the amount that parents invest in their children is linked to the broader socio-economic and cultural context in which these investments are made, as well as to the type of family structure and organisation. The degree of development in a society, the level of state subsidies for child services, cultural norms (dictating, for example, how widely resources are shared in extended families and how a child's interests are balanced against the interests of the corporate family), and the stage of the demographic transition, all help shape the relationship between family size, child investment and child welfare.

Secondly, the detrimental effects of high fertility on childhood wellbeing may be due more to the unequal way in which resources are allocated in larger families than to pure resource dilution effects (ie, lower per capita resources). In other words, norms governing resource allocation among family members according to their gender, age, and status within the family hierarchy, may be more relevant causal factors of childhood poverty than large family size. In fact, the existence of such norms may even provide the incentives for high fertility since, when parents are able to pass the costs of high fertility onto a subset of their children, then high fertility strategies become economically and socially sustainable. This would call for policy interventions that are able to break the cycle between social norms, high fertility and childhood poverty, rather than just reduce population growth.

Even if micro studies point to households with many children as contexts where children may be at most risk, policies to lower fertility rates may not be the obvious response, because demographic variables experienced at the micro-level do not translate immediately into macro population factors (Lloyd and Desai, 1991). For instance, large families with many children do not always indicate a greater number of children per woman (ie, high fertility), but may instead be the result of polygynous marital arrangements or the presence of foster children. In these types of large families, children may not necessarily be poorer. In Africa, polygyny has always been associated with male wealth, and foster children are more likely to circulate from lower- to higher-status households.<sup>48</sup> Understanding how household structure and organisation impinge on children's wellbeing appears in these circumstances to be more crucial than focusing on fertility levels only.

Evidence at the macro-level seems to be more reliable. Evidence reviewed in the previous section shows that high fertility is likely to be detrimental to economic growth, society's distribution of resources, per capita availability of public services and natural resources. Such effects can be particularly negative in very poor and high fertility countries, thus raising the question of the appropriateness of policies aimed at promoting fertility control among the population.

However, few studies have analysed how high fertility impinges on childhood wellbeing through these macro-level channels, and policy implications must therefore be drawn carefully. High population growth can possibly reduce child education by negatively affecting the quality and quantity of schooling infrastructure. On the other hand, the extent to which children would benefit from greater economic growth and improved income distribution across families, presumably by lower fertility rates, depends crucially on the degree to which both state policies and intra-household allocation mechanisms are favourable to children. Recent research confirms that improvements in infant and child mortality and in child health are linked less to economic growth than to efforts in allocating public expenditure to enhance the coverage and efficiency of immunisation programmes and healthcare in general (White, 2002). As discussed in the next section, correcting for 'wrong policies' may sometimes be a faster and more effective way of improving childhood wellbeing than simply lowering fertility rates.

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48 Isaac and Conrad (1982) and Antoine and Guillaume (1986) discuss it with respect to Côte d'Ivoire, and Bledsoe and Isiugho-Abanihe (1989) for Sierra Leone. Although researchers and policy-makers often assume that foster children fare worse than non-foster children, this is by no means universal (Engle, Castle and Menon, 1996). Fostering remains a complex phenomenon in Sub-Saharan Africa, with multiple implications for child wellbeing, and defies generalisations (Serra, 1997).

## 4 Policy implications

This section analyses the implications for policy of the evidence reported in the previous sections and, by drawing from the experiences of countries in the last decades, highlights the relevant contexts in which different interventions may or may not be beneficial to childhood wellbeing. The task of analysing the impacts on childhood poverty of efforts to reduce population growth and family size across a number of countries is fraught with several difficulties.

Firstly, multiple factors beyond the demographic domain, also contribute to improvements in child welfare (as shown in Section 2, Figure 1). Secondly, even when the demographic context does matter, policies are not always the main factors affecting it, given the co-existence of different causal factors (eg, behaviour at the individual or household level) influencing any demographic change. Thirdly, policies are sometimes the problem rather than the solution. There is evidence that inappropriate policies, such as those which penalise agriculture or provide incentives to over-use natural resources, or ill defined property or user rights for poor people, may be the real explanations for the alleged deleterious consequences of population growth (McNicoll and Cain, 1990). In such cases, slowing population growth does not solve the problem; instead correcting harmful development policies is likely to have a more rapid and effective impact on poverty reduction. This is a point to which we will return later.

In the rest of this section, we will first derive the policy implications of the last section's empirical findings by examining how different contextual variables (Section 4.1.1) and timing considerations (Section 4.1.2) affect the relationship between the demographic context and childhood wellbeing. In the second part, the content of policies is analysed more specifically, by reviewing evidence of the effects of different types of population policies on childhood poverty across various geographical contexts. Attention is drawn to the distinction between family planning programmes on the one hand, and other policies, such as labour market policies and microfinance, which can also have a demographic impact, on the other hand.<sup>49</sup> The selection of policies for discussion is dictated mainly by the availability of evidence of the effects on childhood poverty. Some important interventions in poor countries, such as social funds, although likely to affect childhood poverty, are therefore not reviewed because of a lack of evidence.

### 4.1 The role of the context and timing of policies

#### 4.1.1 Contextual factors

The extent to which an acceleration of the demographic transition benefits childhood wellbeing depends on the country's stage of development and on the characteristics of the wider economic, policy, social and cultural context. A number of relevant aspects are considered below.

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<sup>49</sup> Population policies in this wider meaning have been defined as 'deliberately constructed or modified institutional arrangements and/or specific programmes through which governments influence, directly or indirectly, demographic change' (Demery, 2003: 3).

### *Socio-economic development and poverty levels*

A minimum level of socio-economic development is crucial for lower fertility and smaller family size to have a positive impact on childhood wellbeing. For example, in societies without schools or appropriate health structures, even parents with a few children will not be able to adequately increase their investment per child. Where labour markets are poorly functioning and upward mobility is constrained, there is little possibility of reaping returns from investment in 'child quality'. These opportunities increase over time if the right policies are in place. Evidence from Taiwan, Nicaragua and Malaysia found that child education increases with lower fertility in a sample of current children, but that was not the case for their parents' generation for whom there were limited educational and economic opportunities.<sup>50</sup>

Geographically, there are also predictable differences in the way that the 'quantity' and 'quality' of children interact with one another. The relationship between lower fertility and increased educational attainment has been found to be significantly stronger in the more developed countries of South-East Asia (eg, Thailand and the Philippines) and in the whole of Latin America, than in countries in South Asia and Sub-Saharan Africa and, in general, also in urban than in rural areas (Lloyd and Desai, 1991). Differences in the degree of development are as important as those in family structure (as discussed below) across these settings.

If the 'quantity-quality' trade-off becomes relevant only when the returns to increasing the resources invested per child are high enough to counteract the costs, and when children's future opportunities in the labour market are adequate, there are clear implications for state intervention. In order to reduce childhood poverty through the demographic route, expansion of education and reforms of the labour market need to be undertaken alongside conventional population interventions in order to create the context for a move towards fewer children whose overall levels of wellbeing may be higher.

It is to be noted, however, that the relationships between socio-economic development and fertility, and between fertility and childhood poverty, do not follow a linear pattern. Societies in periods of economic crisis, during which household livelihoods are badly affected, such as the former socialist countries in Europe and Asia during the transition, may also witness a decrease in fertility, due to a lower propensity of young people to marry and have children, because of an uncertain future (Fajth, 2000). Such decreases in fertility are not, predictably, accompanied by a reduction in childhood poverty. On the contrary, all transition economies have experienced different degrees of increases in childhood poverty, mortality rates, child labour, lower education enrolments, deteriorating health, greater proportions of abandoned children and, in Russia, a worrying increase in the suicide rates of young people (ibid). Such evidence should therefore strike a note of caution against drawing simplistic conclusions about the relationship between socio-economic development, fertility levels and childhood poverty.

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50 Lloyd (1994b) provides references to a number of studies supporting this evidence.

### *Risks and security*

To poor people, security, which implies a reduced variability of risk, may matter more than improvements in average income. Poor people lack the assets to cope with negative shocks, and a sequence of shocks may force them to cut back on food consumption and sell their few assets, with lasting impacts on their physical development and long-term economic prospects. If reduction of risk is so important, many choices including those with implications for children, may be determined by this objective.

For example, work by Bledsoe (1990, 1994) among the Mende in Sierra Leone suggests that the strategy of limiting family size and thus devoting greater resources to each child, may be self-defeating if uncertainty is high. A child may die, the quality of education received may be poor, and employment impossible to find, even for those who are highly educated. Both the family and surviving children may suffer as a consequence. Instead, having many children presents more opportunities and increases the likelihood of at least one child 'making it' in life. If this happens, all members may benefit since a successful child will help the whole family.

This interpretation is likely to be applicable in many other settings where chance-related factors may be more important in determining a child's future success than the amount of resources spent on her upbringing and education. The implications for policy are clear. Reducing risks, notably the risk of child death, but also those affecting all aspects of people's livelihoods, and providing greater opportunities to cope with risk, may be the two most important interventions. In addition, expansion in education provision and technological and economic development favouring demand for better skills, will increase returns to education, reduce the risk associated with this investment, and thus provide the right incentives for parents to make the transition to fewer 'high quality' children.

### *State support for children*

The state is crucial for mediating the impacts of high population growth on childhood poverty. There is evidence that, at any level of development, the greater the extent to which the state subsidises services and infrastructure that are particularly beneficial to children, the less significant is parents' constraints in child investment. This is particularly relevant in the case of education. Where education is free, as primary schooling was up to the 1980s in many developing countries, the number of siblings is of less significance in determining children's participation in education (Desai, 1995).

The distinct impact of different levels of state support on fertility is evident in those countries where governments use positive discriminatory measures. Malaysia represents an interesting case, with the government's decision (enshrined in the 1971 New Economic Policies) to practice positive discrimination in favour of ethnic Malays by subsidising their education. This has had a notable impact on the differential fertility rates across ethnic groups (Sudha, 1997). In 1957, the total fertility rate of Indians was the highest (8.0), followed by that of Chinese (7.1) and then Malays (6.1). By 1986, the country's fertility rate had declined, but proportionately more among the Indians (3.0) and the

Chinese (2.7) than among the Malays, whose fertility was the highest (4.7). Clearly, this group could both afford to continue to have many children and to educate them because the state shouldered most of the education costs (an example which also suggests that the effects of education on fertility are not as uniform across different contexts as is often claimed).

That high population growth has a less significant impact on childhood poverty in more interventionist states, has important implications for those countries where the state is withdrawing from social sectors and government budgets are shrinking.<sup>51</sup> It suggests that in periods of change, the state needs to consider the implicit trade-off between reduced fertility and greater child vulnerability when withdrawing subsidies. Although expansion of user fees in health and education might promote a decline in fertility, by shifting the net costs of children from the state to parents, this seems an 'anti-poor' and unequal way of doing it, since the negative impact will be greatest on the poorest children. Other types of interventions that promote smaller families may be more appropriate, such as those that increase women's employment prospects, as they not only increase the opportunity costs of mothers' time but also support the poorest children.

Some governments have missed the opportunity of capturing the beneficial effects of declining population growth on childhood wellbeing, by lowering per capita expenditure on children (eg, in education) during periods of fertility decline, and using the decrease in the number of school children as a justification. For instance, Brazil has shifted part of its budget from education to health (Potter, 1996) reflecting similar trends in the US, where lower fertility and greater old age dependency attracted similar kinds of budget shifts.

### *Women's status*

Women's status has received considerable attention as a significant factor in demographic behaviour and outcomes. However, it is important that policies incorporate understandings of local values and customs. For instance, women's status is dependent on access to resources which are mediated by spousal arrangements; however, the type of mediation depends on the specific context. Controlling for parental education, household wealth and family size, children born to mothers in consensual (eg, common law) unions in Latin America are significantly more likely to be malnourished than children born to mothers in formal marriages (Desai, 1992). This is not, however, the case in West Africa, where women and children tend to provide much of their own food, so that a reduction in the father's contribution has little negative impact.

In South Asia, women with a higher status (defined as access to financial resources and absence of both purdah restriction and physical abuse by husbands and mothers-in-law) are better able to make positive investments in their children, thus increasing their children's chances of survival during infancy and thus their likelihood of attending school (Durrant and Sathar, 2000).

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51 The dramatic failure of the state and the abandonment of many social programmes during the transition in Eastern Europe in the early 1990s generated a sudden deterioration in children's living conditions (with long-lasting effects), marked by increases in child mortality, incidence of illnesses, abandonment and suicide rates (Cornia and Sipos, 1991).



A study of gender discrimination among young children and the excess girl mortality in India also concludes that policies to enhance women's status have the best chance of addressing high fertility and childhood poverty in the medium to long term (Agnihotri, 2000). In this study, the empowerment of women through access to the labour market is significant for enhancing girls' life prospects. Clearly, measures to promote women's economic contribution are effective for children's wellbeing only if they are accompanied by women's greater visibility, power and cultural value, and if there are adequate arrangements for childcare.

### *Culturally-determined gender norms*

The social norms and shared cultural values that influence gender and generational relationships are crucial mediators of the impacts of high fertility on childhood poverty.

Traditional norms, which tend to promote high fertility, in some instances translate into biased practices against women and children. Anecdotal evidence shows that large families, comprising several generations or polygynous unions, are not only more likely to have high fertility, but also to assign individual rights and duties according to a strict hierarchy defined by age, gender and status.<sup>52</sup> In these contexts, decisions might be male-dominated and less child-oriented. Since adults have multiple obligations towards their kin, children may receive less time and attention, and have responsibilities and duties towards elder members (Lloyd, 1994b). Girls, in particular, may be withdrawn from school, work longer hours and marry early.

Moreover, in traditional settings, the emphasis may be on maximising the welfare of the family rather than the individual, particularly in a context of high risk, since the family is critical for protection. In such environments, differential investment in children, where some children are sent to school, others trained in a manual skill, and others made to work at home or in the labour market, responds to the goal of diversifying risk, rather than to the needs of individual children.<sup>53</sup>

The question arises about whether the correlation between large families and lower investment in children, especially girls, arising from cultural factors, suggests that the best policy response is to lower fertility. Will parents with fewer children raise them differently? Evidence reported in Section 3.1 suggests that the answer is not always yes. Interventions aimed at reducing population growth in order to enhance childhood wellbeing therefore need to take account of the following. Reducing fertility will not automatically translate into greater childhood wellbeing, and the 'optimal' family size may vary across different societies and over time, depending on the supply of resources and on the norms governing their allocation to particular children.

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52 Processes of fertility decline are often (although not invariably) accompanied (or preceded) by processes of family 'nucleation', in both the material and emotional senses (Caldwell, 1976).

53 On the other hand, it could also be argued that if children's task specialisation is required, this is positive, since it would allow children to be treated differently, and do what they have an aptitude for.



Changing existing discriminatory practices may in the longterm be more effective than aiming to compensate for discrimination by direct targeting.<sup>54</sup>

#### *4.1.2 The timing of policies*

Timing is critical in determining the type and intensity of impacts of any policy intervention. In the demographic sphere, the delicate balance between the sequence of mortality and fertility decline makes timing considerations particularly crucial.

#### *The stage and speed of the demographic transition*

Although family size may, in some settings, be an important determinant of investment per child, fertility reduction interventions are not all that matters, since family size is also an outcome of mortality rates. Only when the chances of child survival and the rates of return to child investment are high enough – ie, when the mortality transition is well advanced – will a decline in fertility make parents increase the resources invested in each child. If fertility declines too early, childhood wellbeing will not necessarily improve because parents will not expect their investment to pay off. The stage of the demographic transition is, therefore, important for determining the content of population-related policies.

East Asian and African countries represent two contrasting cases. China's impressive improvement in life expectancy achieved during the 1970s (Drèze and Sen, 1995), was instrumental in sustaining its rapid fertility decline, which could not have occurred only through the government's aggressive one-child policy. Similarly, all the East Asian countries which achieved relatively rapid fertility decline during the 1960s and 1970s, did so only after mortality had sufficiently declined.

In contrast, African countries with mortality rates that are still high, appear less ready to make progress in the fertility transition, which is both widespread and long-lasting. Massive family planning campaigns may induce some parents to reduce their family size, but will poor people be willing to invest more on each child if they lack access to resources, which guarantee their day-to-day survival? Both on rights and demographic grounds, it is imperative to further promote the mortality transition in these countries, and particularly reduce infant and mortality rates through massive investment in preventive and curative health, and in water and sanitation facilities.

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54 The positive impacts of programmes of free meal provision to children, for instance, are known to be counteracted by the fact that parents are then less concerned with child nutrition, presuming it to be taken care of by the programme. Instead, interventions that provide child health and education may enhance children's life prospects, future employability and value to the household in ways that may help to change intra-household relationships.

### *The notion of 'demographic window' as a one-off opportunity*

Population age structure, as already noted in this paper, is a key factor when analysing the benefits and costs of population change. Countries undergoing a fertility transition are bound to experience a constant decrease in the dependency ratio up to a point, after which the dependency ratio slightly increases due to the ageing population (Bongaarts, 2001). The turning point is a key stage since a large group of working-age people is then supporting relatively few older and younger dependants. This 'demographic window' is a unique opportunity for countries to invest in growth and poverty reduction, but requires efficient and timely interventions, since this opportunity disappears within the next generation as the dependency ratio increases. In other words, the demographic window only occurs once and lasts for a generation.

Taking advantage of the demographic window can explain about one third of the economic miracle of the East Asian 'tigers' (Williamson, 2001). Because of the demographic context being favourable to investment in human capital and infrastructure, both at the state and family levels, all major poverty indicators, including those of childhood poverty, improved during the same period. However, other countries, for instance in Latin America, did not take sufficient advantage of relatively favourable demographic conditions by implementing the necessary policies to promote growth and reduce poverty. These varied circumstances strike a note of warning for sub-Saharan African countries and in Asia, Pakistan, Nepal and Laos among others, which are a long way from the opening of the demographic window (UNFPA, 2003a).

Unfortunately, especially in Africa, the all-pervasive impact of the HIV/AIDS pandemic, with premature deaths of young adults, is curtailing the potential opportunities of the demographic window before it even occurs. However, it is imperative that the institutional and policy settings are able to take advantage of this opportunity when it comes. Rather than only focusing on fertility decline in these countries, governments and donors should be looking at policies to sustain and reinforce the positive benefits of the fertility transition – in terms of greater investment in child nutrition, health and education. Positive policies for making the most of the demographic transition are discussed below.

## **4.2 Types of policy**

This section examines some interventions that have a recognised effect on population growth particularly by affecting fertility, and assesses what the available evidence suggests about potential positive (or negative) effects on children's wellbeing. After considering family planning programmes, and reproductive health interventions in general, a few policy interventions for which there is some conclusive evidence of the effects on child poverty, are discussed in some detail.

### **4.2.1 Family planning programmes**

Family planning programmes across the world have a variety of objectives, methods, coverage and effectiveness, determined by, among others, the social and cultural context, the government's attitude towards population issues, and the aid agencies supporting them.

Following the 1994 International Conference on Population and Development, there has been, among aid agencies, a greater emphasis on programmes linking population policies to poverty reduction and human development agendas, particularly those that empower women. Family planning programmes, at least in principle, have consequently been broadened to 'reproductive health interventions', which should provide access to a range of family planning methods, enable women to go safely through pregnancy and childbirth, provide infant care, and prevent and treat reproductive and sexually transmitted diseases. However, the reality may be different, because family planning may only mean contraception, often of the irreversible type such as sterilisation.<sup>55</sup>

As far as the positive impacts of family planning on child welfare are concerned, the first impact to note is the potential for decreased infant mortality through delayed first birth and adequate spacing between births (see Section 3.1). However, such beneficial effects may be considerably delayed as the number and characteristics of users change over time. For instance, when contraceptive prevalence is very low, additional users are likely to be concentrated among the highly educated and high-income group, among whom infant mortality rates are already low. However, in the longer term, when the social composition of contraceptive users starts to change, and the poor 'catch up' with the higher income groups, the consequences for child survival will become more tangible (Potter, 1988).

In addition, family planning programmes have a recognised effect on childhood wellbeing through the ideational changes that they bring about, which often challenge traditional family systems that are characterised by gerontocracy and gender discrimination. The 'nucleation' of the family has long been recognised as a powerful factor in fertility decline and increased investment in children (Caldwell, 1976). An extreme example of this is the one-child policy in China, which has massively raised demand for healthcare by parents who are anxious to ensure that their only child is always healthy (Young and Prost, 1985 cited in Potter, 1988).

Other beneficial effects of family planning concern sexually active adolescents. Increased concern is being shown about adolescent pregnancies because of the potentially harmful health effects to babies born to mothers who are not physically fully developed, and also because of the consequences for the young mothers themselves who generally have to leave school and miss the opportunity of getting a higher education. Early pregnancy exposes many young girls to a harsh life, especially when they are objects of social ostracism. Education is often proposed as the main solution to the problem.

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55 Female sterilisation is still the world's most common method of birth prevention. A global survey of reproductive health among married couples found that one-fifth rely on female sterilisation (tubal ligation) to control their fertility (United Nations, 2002). In Brazil, India and China, a third or more of all married women have been sterilised, and the practice is on the increase in Latin America where indigenous women are now being targeted. Although sterilisation is purported to be undertaken freely by the women concerned, evidence shows varying degrees of pressure exercised by practitioners, bordering on, in several cases, violation of human rights. In the face of the obvious trade-off between reversible and irreversible methods of fertility controls, women's preferences have too often been subordinated to ruthless governmental aims to get certain cost-effective results.

However, it cannot be the only solution when one considers the high school drop out rates that are due to early pregnancies. Other initiatives such as sex education, information and communication campaigns, and allowing schoolgirl mothers to return to school, also need to be provided. Moreover, increased primary education is not enough to affect age at first birth; only girls' secondary and further education appears to be significant (Gupta and Mahy, 2003).

### *Demand and supply interventions: which matter more?*

The 1974 and 1984 International Conferences on Population and Development proposed two contrasting strategies for lowering population growth in developing countries, namely socio-economic development and family planning respectively. For decades, the debate has been about whether demand or supply factors matter more in bringing about fertility decline. The first position emphasises the point that parents will not want fewer children unless greater educational and employment opportunities, and industrialisation and urbanisation, change the constraints that they face by decreasing the costs of children and, at the same time, raising the rate of return on quality. The second position points to the fact that increased contraceptive prevalence, whenever it has occurred, has contributed to substantially reducing fertility. The UNFPA and other agencies that promote the use of family planning, claim that organised family planning programmes lead, rather than merely respond to, changing fertility behaviour.<sup>56</sup>

Indeed, experience shows that even at low levels of socio-economic development, low incomes, limited education and few opportunities for women, family planning programmes can help initiate the reproductive revolution. Low-income countries such as Bangladesh, Indonesia, Sri Lanka and Kenya have achieved sizeable fertility declines as a result of well-organised national family planning programmes (see Box 2).

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56 Counter-factual projections by UNFPA show that without family planning programmes, total fertility for developing countries in 1980-85 would have been 5.4 children per woman instead of 4.2. Furthermore, as of 1990, there would have been 400 million more births without family planning programmes. These programmes also reduced infant mortality rates by roughly ten deaths per 1,000 infants (World Bank, 1993).

## Box 2 - Fertility decline in Bangladesh

Bangladesh achieved a remarkable reduction in fertility in a very short time (from 6.3 children in 1975 to 3.3 children in 1994-96). However, fertility levels have since stabilised. Bangladesh is the poorest country (besides Tajikistan) to have a total fertility rate of under five births per woman. No other country has reached such a low fertility rate in just two decades, in the context of high mortality rates, especially infant mortality (94 per thousand live births in the 1970s), and relatively low life expectancy (58 years) (Caldwell et al., 1999). Most of the fertility decline took place as a result of extensive family planning programmes, with prevalence of birth control methods (both modern and traditional) rising from 7.7 per cent in 1975 to over 53 per cent. Very little socio-economic or demographic change seems to have taken place during the fertility decline, leading to the conclusion that increased contraceptive use was the main causal factor (Cleland et al., 1994).<sup>57</sup>

Precisely because of the way in which fertility decline took place, relevant dimensions of childhood poverty were not reduced. School enrolment rates are very low and child labour is still widespread (ibid). Aspects of family welfare that are of relevance to children, such as per capita income and a high incidence of landlessness among the poor, have also not improved significantly. Improvements in children's wellbeing have, of course, occurred in other areas, such as the immunisation rate (which peaked at 69 per cent in the late 1990s from a rate of only two per cent in 1985) and infant mortality (down to 66.4 per 1000 live births in 2000).

That fertility rates have stabilised above replacement levels suggests that more profound changes are needed in society for fertility to decline further in Bangladesh, changes that are taking a long time to occur, because the country is still agricultural and largely impoverished, and because education levels among women of reproductive age are still low. Moreover, further fertility decline by itself will not achieve a reduction in childhood poverty, nor will it be sustainable without greater expansion of education, health services and employment opportunities.

However, the problem is that without further socio-economic development, fertility seems to stabilise at a point higher than replacement levels (see Box 2), and many of the potentially beneficial impacts for children are lost. Moreover, it appears that contraceptive use increases faster in countries with higher income levels, and in those experiencing rapid improvement in social indicators, such as the infant mortality rate, and female education, and increased urbanisation.<sup>58</sup>

57 The view that Bangladesh's fertility decline was only caused by supply factors is, however, disputed (Caldwell et al., 1999).

58 Female education is the most important of these indicators because, besides increasing contraceptive use, it contributes to delayed marriage, higher female status and reduced infant mortality.

In conclusion, it is the coexistence of both supply and demand interventions which can, by initiating more sustainable processes, promote the type of fertility decline that also has the greatest positive impacts on child welfare.

#### **4.2.2 Safety nets and targeted programmes**

Advocates of policy efforts to lower population growth argue that, unless fertility declines, neither parents nor society will have sufficient resources to enhance children's nutrition, health and human capital. However, the parental 'quantity-quality' calculation can be modified by targeted public interventions which enhance the returns to each child for parents. Safety nets and similar programmes, besides directly reducing poverty by providing immediate transfers, can also affect childhood poverty indirectly, eg, by affecting parents' decisions regarding fertility and resource investment in children (according to the framework proposed in Figure 1).

For instance, reforms that introduce or increase minimum pensions may lower the value of children as security assets for poor parents and, therefore, not only reduce the number of children, but also shift parental investment towards more beneficial terms for children. When parents' dependence on children's future transfers is high, children's mobility may represent a threat to the enforcement of intergenerational 'contracts' and parental economic interests, to the point that parents may be less inclined to promote children's higher education or occupational training which would increase the likelihood of children moving away (Basu, 1999). Unfortunately, there is no reliable evidence that pension reforms have caused changes in fertility behaviour, although the potential is clear. In most countries – for instance in Latin America during the 1970s and more recently in South-East Asia – the introduction of state pensions has followed demographic changes, as a response to the urgent needs created by a progressively ageing population. For this reason, two other examples are discussed below – ie, food-for-education and family assistance – as they provide interesting contrasting evidence on the potential demographic impact of targeted programmes.

#### ***Food-for-education in Bangladesh***

Food-for-education (FFE) programmes have been introduced in a number of countries to encourage parents to send their children to school. The programme works on the premise that parents who are willing, in principle, to send their children to school, might be unable to do so because of the direct and indirect costs (eg, forgone child labour) involved. By giving food or vouchers to families enrolling children in school, the programme aims to shift the terms of the cost-benefit calculation in favour of schooling choices. The provision of food and increased child schooling should in turn help the family out of poverty and give such children a chance to be better-off as adults and have children who are better fed and more educated.

Programme impact evaluations have shown that the FFE programme introduced in Bangladesh in 1993 led to greater enrolment and class attendance rates, especially among girls (Ahmed and Del Ninno, 2002; Ahmed and Arends-Kuenning, 2003). Although it is too early to evaluate whether these

children will, as adults, be more likely to make the ‘quantity-quality’ transition, these kinds of interventions appear to be effective in helping families out of poverty. Well-administered FFE programmes help parents escape the vicious cycle where if they have too many children they cannot educate them, and if they cannot educate them, there is no incentive to lower fertility.

### ***Family assistance in transition economies***

Safety nets in transition economies in Central and Eastern Europe and Central Asia (also known as CECA countries) exhibit mixed features – from near-universal coverage characterising programmes in the former centrally planned economies – to targeting, similar to the Western European model, aimed at poverty reduction. Due to sharp decreases in GDP and increased inequalities, absolute poverty increased in all CECA countries, but while recovery was already in place in Eastern Europe by 2000, living standards in Slavic and Central Asian countries continue to be below those of 1990 (Fox, 2003). Since families with children are, in general, more likely to be poorer than childless families, family assistance, eg, benefits given in cash or kind to children or families with children, is widespread.

The poverty reducing potential of such benefits is varied. In Hungary, poverty would have been a third higher without child benefits (Fox, 2003). However, leakage is high in this universal programme, and only 20 per cent of the expenditure related to this programme went to the bottom quintile. In poorer countries, such as Belarus, Ukraine and Uzbekistan, where public funds earmarked for child and other benefits are much lower, and thus overall poverty impact limited, means-testing is used and targeting is more effective (so that 54 per cent of expenditure goes to the poorest 40 per cent in Uzbekistan). Finally, where benefits are neither universal nor means-tested (Bulgaria) or where administration is poor (Russia and Moldova), expenditure seem to be regressive (ibid).

Although at current expenditure levels (usually less than one per cent of GDP), child allowances do not appear to reduce poverty effectively in the short term, their value may lie in their pro-natal objectives. Indeed, many of these programmes continue to receive widespread support because they promote higher fertility in societies where fertility levels are very low. Such support to children enhances the prospects of the future generation of workers and, therefore, reduces dependency burdens and poverty in future generations. This is another example, different to Bangladesh because of the context of low fertility, of public programmes being successful in aligning *parental* cost-benefit calculation with societal concerns.

### **4.2.3 Microfinance programmes**

Microfinance programmes, by promoting self-employment activities, are likely to affect participants’ decisions about the quantity and ‘quality’ of their children. However, the effects are not predictable and can have other outcomes. On the one hand, self-employment activities lead to greater disposable



income, and should thus lead to greater resources accruing to children. Moreover, participants, especially women, may have fewer children if their self-employment prospects increase because of the greater demand on their time. On the other hand, working mothers may need children to replace them in household work which might lead to a decline in children's education.<sup>59</sup>

In order to make programme impacts more favourable not only to income generation but also to children's 'quality-quantity' substitution, several microfinance programmes, which are specifically targeted at women, have family planning, mother and child health, or schooling components. These additional elements are designed to change parents' cost-benefit calculations and bring about increased self-awareness and confidence which are now regarded as equally crucial in making the fertility transition.

Therefore, the Grameen Bank, for instance, the most famous and largest microfinance institution in Bangladesh, where about 94 per cent of the membership is women, has implemented along with its financial services, several programmes aimed at promoting social development, and has encouraged its members to run nursery schools. Such features have been shown to have a positive impact on schooling, but mainly of boys, given still great prevailing gender biases. Recent surveys show that 57 per cent of school-age sons of Grameen borrowers are enrolled in school versus 30 per cent of the sons of eligible households that are not Grameen borrowers.<sup>60</sup>

An important way in which microfinance can influence children's wellbeing is by enhancing female empowerment, especially in those programmes that specifically aim to alter traditional gender roles. The relationship between women's status, fertility and children's schooling is complex, but most studies show that greater control over money, freedom of movement and participation in decision-making lead to women's greater control over reproductive matters. Since women are often more responsive to issues of fertility regulation and spacing than men, this also leads to lower fertility. Schuler, Hashemi and Riley (1996) show that women's access to credit provided by the Grameen Bank and Bangladesh Rural Advancement Committee (BRAC), which together serve nearly three million female clients, enhanced contraceptive use by improving women's empowerment indicators, such as economic security and contribution to family support, freedom of mobility, and relative freedom from domination by the family.<sup>61</sup>

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59 Basu (1993) presents evidence for northern India, in which increased mother's labour force participation may negatively affect child welfare by increasing child household work and responsibilities at home.

60 Some studies on impact argue that this is simply due to 'bias selection', eg, the circumstance that households with a greater propensity to send children to school may also be those which are more willing to take up microfinance loans (Mordoch, 1999).

61 As with other impact studies, such results can be questioned because they are subject to selection bias (ie, women who are more likely to be empowered self-select into the programme). However, the fact that the magnitude of the effect increases with the duration of women's involvement partly counters this objection.

Of course, microfinance may induce women to make the fertility transition through channels other than empowerment, eg, by raising aspirations and facilitating the diffusion of ideas about smaller family size. Within these programmes, improving household lifestyle and practising family planning are often regarded (by both staff and clients) as contributing to the observed result.

In conclusion, microfinance programmes can lead to both lower fertility and improved child wellbeing, but such positive results are unlikely to be a by-product of simply lending to poor people. Appropriate components such as education, health, knowledge of reproductive rights, and self-awareness need to be built into a programme.

#### **4.2.4 Labour market interventions**

There is a two-way relationship between fertility levels and labour market conditions. On the one hand, according to Malthus' argument, and supported by Lipton (1999) and others, higher fertility and greater population growth create downward pressure on wages, thus penalising the asset-less poor. On the other hand, fertility may depend on wages, specifically on the returns to women's education in the labour market, because women with a lower wage forgo less income when withdrawing from the labour force (ie, the opportunity costs of their time are lower), and may thus decide to have more children than women commanding higher wages. For instance, in Latin America, fertility is highly sensitive to labour market conditions so that, wherever the income gap between uneducated and educated workers is smaller, the differences in fertility between poor and rich is also less significant (Hausmann and Székely, 2001).

Thus, fertility differences due to differences in wages in the labour market can impact on the resources accruing to children. The wage differential between educated and uneducated mothers intersects with disparities in their labour participation and fertility rates: mothers who are less educated and less active in the labour market devote less resources per child. Their inability to sufficiently educate their children transmits current inequalities to the next generation.

This evidence from Latin American countries is particularly relevant because, although fertility rates declined on average from six to 2.9 children during the period 1960-96, the demographic transition has spread unevenly through the population, today displaying huge variation across different socio-economic groups. However, the point is bound to be valid for many regions in the world, especially, though not exclusively, with the spread of formal labour markets. Fertility cannot be properly understood without simultaneously looking at women's labour participation decisions, the impact on fertility levels, on the education of their children, and thus on future labour market conditions.

If education was the only factor determining the opportunity costs of women's time, with differences in education translating into corresponding disparities in wages, then promotion of schooling would be the only policy necessary. However, this is not typically the case, especially in the imperfect labour markets in developing countries. Women with the same education may command very different wages if they operate in separate markets and different economic contexts. In addition, cultural and institutional factors (affecting, for instance, patterns of household work, availability of infrastructure,

acceptable forms of alternative childcare) may suggest different values attached to women's contribution to the household, thus further reflecting the opportunity costs of women's time. These additional considerations highlight the importance of institutional variables in determining returns to women's work, and the need for appropriate policy interventions (eg, promoting low-cost, high quality childcare).

Interventions aimed at increasing women's labour participation and their remuneration might reduce childhood poverty, either directly or indirectly. Direct effects operate by enhancing women's status and position both within the household and society, and thus possibly increasing the level and type of resources accruing to children. Moreover, increased female labour participation may mean a decreased need for child work to complement household income, and thus enhance the educational prospects of children.<sup>62</sup> This last argument can, of course, also be used to promote male employment, since children often enter the labour force, because the main breadwinner (often the father) has a low income or is unemployed. Lower child work participation may in turn contribute to raising adult wages and thus create a virtuous cycle (see Footnote 20). Indirect effects of women's increased participation occur through the associated decline in fertility, with the consequent possibility for increased investment in each child. Interestingly, effects through fertility decline may not be the greatest, especially in the short-term. In Latin America, the relationship between greater female labour force participation and lower fertility is spurious, and mainly due to the greater role of education, which affects both (Hausmann and Székely, 2001). In West African societies, increasing female labour force participation does not diminish fertility if household chores and childcare can be attended to by other people in the household, such as foster children (Serra, 1997).

In any event, the fact remains that in virtually all settings, children of mothers who participate in the labour force, have more education than those of mothers who are not in the labour force. Therefore, positive effects on children's education can be expected by increasing women's access to the labour market.<sup>63</sup>

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62 However, women's employment does not always have a positive impact on children. In her study of slums outside Delhi, Basu (1993) found that when wages start from very low levels, a rise in female wages may induce women to go out to work, but also to take daughters out of school to substitute for the mother's time in the household. Thus, the relationship between mother's employment participation and child education may be negative for sufficiently poor households, especially when the returns to schooling are perceived as being very low.

63 There is a debate, which dates back to the industrialisation period in England, about whether children suffer because of working mothers' daily absence from the home. Although a child's affection deprivation is difficult to measure, it seems that the quality of childcare does not generally diminish when mothers work outside the home (Garret et al. 2001). Family members often step in and, in any event, the positive effects of maternal care are better transmitted through quality rather than quantity. Mothers who work may have more self-esteem and even be able to take better care of children.

### 4.3 Conclusions

This paper argues that demographic factors should be given more prominence as influencing determinants of childhood poverty.<sup>64</sup> Theoretical arguments and empirical evidence seem to suggest that high rates of population growth may compound the problems of childhood poverty, particularly in countries which are both very poor and growing fast. In many cases, a causal relationship can be identified at the macro- and micro-levels, between high population growth and increased childhood poverty, which would call for population-related interventions. But which interventions? When population-related policies are discussed, the focus is on programmes (particularly family planning) aimed at reducing fertility. However, a fundamental component of population growth, as well as of demographic transition, is mortality decline, a factor that is often excluded from consideration. Mortality decline, promoted by wide and far-reaching health policies, may contribute to driving down fertility and speeding up the fertility transition. Family planning programmes in contexts of high and unpredictable mortality levels, have little chance of making a permanent impact. In particular, reduction in infant mortality rates, besides being a worthwhile goal in itself, would convince parents that they need to plan fewer births to have their desired family size. Therefore, fertility-reducing interventions need to be accompanied by continued efforts to reduce mortality rates where these are still high.

Furthermore, not all reduction in fertility is desirable. For instance, the decline in fertility recently attributable to the exceptional HIV/AIDS prevalence in Southern Africa, is not a positive phenomenon.<sup>65</sup> It is particularly worrying for children's wellbeing because they are among the largest group of victims of the HIV/AIDS pandemic. In such contexts, policy efforts must focus on providing assistance to these young victims of the epidemic, as well as trying to avert the spread of the infection.

Main conclusions follow which draw on the discussion and analysis of this paper.

A) The link between family size and childhood poverty:

- The factors that may jeopardise child welfare within the family are often context-dependent, such as intra-household relationships, rather than universal, such as the fertility level. Where family structure and mother's access to resources within and outside the household are powerful determinants of child welfare, fertility may only be a weak causal factor.
- Child welfare may be most at risk in large families, because of discriminatory practices across age and gender lines, rather than because of diminished per capita resources. Thus, while fertility reduction interventions are promoted, the wellbeing of vulnerable children (such as girls or high-parity children) within households also needs to be closely monitored.
- The possibility that poverty and fertility rates reinforce each other or, in other words, that quantity and 'quality' of children are simultaneously determined, cannot be ruled out in many

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<sup>64</sup> More generally, it is imperative that policy-makers pay greater attention to children when assessing the implications of a wider range of contexts and policies. The PRSPs could be a significant framework in which this could be done; however, Marcus and Wilkinson (2002) argue that this opportunity has not been sufficiently exploited.

<sup>65</sup> Among the channels through which HIV/AIDS prevalence can depress fertility are greater widowhood and divorce, reduced coital frequency and increased amenorrhoea.

settings. Unless an obvious causal link between high fertility and childhood poverty is identified, policy interventions to reduce childhood poverty should address the likely causes of both poverty and high fertility rates, such as low parental education and low employment opportunities. In the long term, such structural interventions are more important than fertility reduction per se.

- Intervention is justified wherever there is a divergence between the costs and benefits of high fertility, in particular, when the costs of high fertility are borne by children themselves through lower nutrition, less education and more labour, and by women through the harmful impacts on their health.

#### B) The link between aggregate population growth and childhood poverty:

- Evidence suggests possible negative overall consequences of families' high fertility choices on economic growth, the share of national income accruing to the poor, public services and local natural resources.
- It could be argued that high population growth also increases childhood poverty, since the above-mentioned effects are likely to result in lower childhood wellbeing. However, there is insufficient empirical evidence of the precise links. Even the apparently uncontroversial findings that greater population growth reduces the quality and quantity of children's education, have been challenged.
- Although economic growth needs to be promoted in poor countries, this is not sufficient to reduce childhood poverty, in the absence of appropriate mechanisms within society and families to channel resources to children. Increases in public spending and investment in crucial services (health, education, sanitation, water) appear instead to be more fundamental. Integrated interventions, combining population, education and environmental components, for instance, by promoting reduced family size and natural conservation, can be a useful way to address the interconnections.

#### C) Family planning:

- Family planning programmes may help reduce childhood poverty, but the effects through decreased fertility may be small and take a long time to occur. The effects through the child and maternal health components, however, may be more direct and short-term. An immediate increase in the availability of essential services for child survival in the crucial initial stage of life is likely to translate into greater and more timely benefits for children.
- Family planning programmes need to bear in mind that the objectives of delaying the first birth and ensuring appropriate birth spacing, are as crucial to improvements in child survival chances, as the reduction in overall fertility.
- Ideational changes, induced by the information and education campaigns built into some family planning programmes, can have equally important effects on childhood wellbeing as on fertility

reduction. These aspects appear to be particularly important in very traditional settings where poor child outcomes are associated with the rigid hierarchical relationships along age and gender dimensions that often exist in large families.

D) Accompanying interventions:

- Interventions that increase the efficiency of health and educational programmes are very effective in reducing childhood poverty, as they act both directly and indirectly (eg, through the demographic route) – hence they are defined as ‘win-win’ policies (Birdsall, 1994).
- Labour market interventions and microfinance programmes can be effective in reducing childhood poverty if they reduce differentials in incomes and employment opportunities (including self-employment) among women and encourage them to invest part of the gains in their children’s wellbeing. Successful programmes and interventions are therefore those which include additional components, such as education, mother and child health, family planning, legal counselling and advocacy.
- Policies aimed at reducing population growth may be effective as supplements to direct interventions to reduce childhood poverty, but they are not sufficient by themselves because they only induce slow, gradual and supplementary change in childhood wellbeing.

The following presents some implications for selected regions of the world.

**Central Asia:** Most countries in this region, such as Azerbaijan, Tajikistan and Kazakhstan, face daunting population and development challenges, due to worsening economic conditions, greater numbers of people falling below the poverty line, the HIV/AIDS pandemic (the rate of increase in HIV infection in 2002 was the fastest ever experienced anywhere), and a crumbling health infrastructure (UNFPA, 2003c). The demographic situation in the region is peculiar since, although population growth is low (in some countries such as Kazakhstan even negative)<sup>66</sup>, other characteristics are typical of countries much earlier in the demographic transition. For instance, in rural Tajikistan infant mortality rates are 94 per thousand, maternal mortality rates are on the increase (120 per 100,000 live births), and young people’s access to reproductive services is inadequate (so that abortion rates are worryingly high) (ibid). These countries will require much assistance from the international community in order to restore their health services and reduce poverty.

**Latin America:** With the population for the whole region growing at a rate of 1.5 per cent, contraceptive prevalence levels for modern methods (at 60 per cent) above the world average, and just one out of thirty countries ranked as least-developed (Haiti), this region appears to have none of the problems of demographic transition countries. However, due to systemic high inequalities, there is a wide variation in fertility, infant and overall mortality rates, education and health among

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<sup>66</sup> Rural families continue to be large – often having six or more children.



different socio-economic groups. Differentials in access to sexual and reproductive health information and services (particularly family planning, ante-natal care, safe delivery and the prevention of sexually transmitted infections) are more tied to income levels than in other regions (UNFPA 2003c). Interventions therefore need to be targeted at low-income groups, indigenous and other vulnerable sections of society, in order to reduce the still unacceptably high indicators of maternal mortality and teenage pregnancies, and address the rising challenge of the HIV/AIDS epidemic, particularly high in the Caribbean region.

**South-East and East Asia:** A number of countries in these regions, eg, the poorest South East Asian countries, Lao and Cambodia, still exhibit relatively high infant mortality rates (97 and 83 respectively) and fertility rates above five per woman of reproductive age (UNFPA, 2003c). The worrying indicators of maternal mortality, education and literacy (women's illiteracy is above 40 per cent) confirm the need to prioritise interventions in basic human development. Except for countries in an intermediate position, such as Vietnam, most countries have virtually completed their fertility transition, although population is still likely to increase over the next two decades, especially in China, as a result of the momentum effect (ie, large cohorts of people that are now of reproductive age). In these countries, there are no specific population-related interventions that can be advocated, since fertility is almost at replacement levels and life expectancy has increased steadily. However, improvements in maternal and child health are urgently needed in the most rural and deprived areas, especially within China, where childhood poverty is still very high.

**South Asia:** This region is more than halfway through the demographic transition, with sharp regional variations. Although a previous decline in fertility has been accompanied by improvements in childhood wellbeing, fertility has failed to decline in some countries (eg, Pakistan and Nepal) and among the poorest classes (eg, India). Clearly, income level is not the only relevant aspect (since Pakistan has among the lowest number of income-poor in the region). Greater government commitment to improve the reproductive health of the population and increase general education levels is a fundamental component of demographic changes favourable to children (Drèze and Sen, 1995).

Moreover, fertility decline brought about by family planning programmes, but occurring in the presence of unchanged traditional norms, may have perverse effects on childhood wellbeing. Evidence from India shows that the tradition of son preference is still strong, leading to unacceptable excess female mortality rates and low female to male sex ratios at birth, resulting from the widespread abortion of female foetuses. Rather than focusing on the objective of lowering fertility per se, policies should now aim to increase the welfare of the poorest children.

**Sub-Saharan Africa:** The challenges facing this region are the greatest since, not only is the demographic transition the least advanced, still exhibiting high fertility and mortality rates, and poor mother and child health, but the devastating impact of the HIV/AIDS pandemic is also making it even more difficult to make progress on both the demographic and human development fronts. Despite the HIV/AIDS induced mortality and low life expectancy, the population is growing at 2.5 per cent



per year, faster than any other region. Family planning programmes by themselves will not be enough to sustain the whole process of demographic transition, although they may be effective in meeting the demand for birth spacing and reducing fertility by the higher socio-economic classes (as was the case in Kenya). Massive investment in social services and infrastructure is needed to ensure the elimination of excess mortality due to preventable diseases, and the improvement of the overall health and life expectancy of the population. Reduction in mortality rates, accompanied by increased education programmes, will then be able to sustain fertility decline by raising the proportion of unwanted births and thus increasing the demand for contraception. It is telling that Africa, with the highest fertility (5.7 births per woman), also exhibits a relatively low proportion of excess births (ten per cent). Parents still only have a limited demand for contraceptives because of the risks involved in limiting family size in a setting characterised by high uncertainty. Not surprisingly, cultural norms sustaining the preference for high fertility in the extended family setting are still very strong (Caldwell and Caldwell, 1987).

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*Directors: Dr Caroline Harper and Professor David Hulme*

This paper examines the links between childhood poverty and population factors at both micro- and macro-levels and considers the significance of historical European experiences of demographic change and improvements in child wellbeing for the South. It finds that the relationship between poverty, population trends and childhood poverty is very context- and culture-specific, with macro-level relationships appearing much clearer than those at micro-level. Overall, the poorer the country and the higher the fertility level, the greater the beneficial effects of a decrease in fertility rates on children's wellbeing. However, policies aimed at reducing population growth are not necessarily the most effective route to reducing childhood poverty; family planning programmes should be implemented alongside wider development programmes in order to achieve substantial improvements in childhood wellbeing. The paper also notes that when reduced fertility and mortality result in the highest possible ratio of working to non-working population, a demographic window opens up – a one-off opportunity to invest in child wellbeing. Making the most of this requires a policy emphasis on human capital and infrastructure investment, as has taken place in parts of East Asia.

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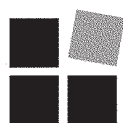
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