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Introduction

The demographic transition has become a dramatic global phenomenon. It is characterised by a sustained decline in mortality and subsequently fertility, such that high and approximately equal death and birth rates eventually give way to low and approximately equal rates. Low death and birth rates are now well established in developed countries. In the developed world as a whole, United Nations (2002a) data for 1995-2000 show that life expectancy is 74.8 and the total fertility rate is 1.58. United Nations data (2002a) also show that the developing world is in the process of transition; life expectancy has increased from 47.7 to 62.5 between 1960-65 and 1995-2000. Total fertility has fallen from 6.03 to 3.11 during the same period. However, in the developing world, there are large inter-regional, inter-country, and even intra-country variations in both the timing of the onset of the transition, and the pace of change. The largest mortality and fertility declines have occurred in Asia and Latin America, where, between the early 1960s and the late 1990s, life expectancy has increased by 36 per cent and 22 per cent and total fertility has declined by 52 per cent and 54 per cent respectively. Sub-Saharan Africa lags noticeably behind; there mortality has fallen by only 16 per cent and fertility by 16 per cent. In sub-Saharan Africa, United Nations (2002a) data show that life expectancy is 47.1 and total fertility is 5.71. Within regions, there are also marked differences between countries. For example, within Asia, Figure 1 illustrates the contrasting fertility transitions in China, India, and Pakistan. China’s fertility is already below replacement level, while Pakistan’s fertility transition has only recently got underway. India represents an intermediate scenario. Intra-country demographic variation is also common. For example, it is now well known that in India, the large northern states constitute a less advanced demographic regime than the southern states (Dyson 2002).

A huge literature explaining the demographic transition now exists, and explanations are many and varied. For example, in relation to fertility decline they include the role of prior falls in mortality, socio-economic development, family planning programmes, and diffusion and ideational change. Within this literature, much has been written about the impact of women’s roles and status on both levels of and trends in mortality and fertility. There is also a large literature on the measurement of women’s status; conventional indicators include their education and employment, while more recent measures focus on their autonomy, for example, women’s decision-making powers concerning both everyday household activities as well as strategic life choices. Distinction is also made between the roles and status of women as individuals and more institutionalised forms of gender inequality. The mechanisms whereby women’s status influences mortality and fertility are complex, but improvements in women’s position are commonly seen as key facilitators of demographic change, via modification of their childbearing and care-giving behaviour. For example, female education has been shown repeatedly to have a strong depressing influence on both fertility and child mortality. Table 1 illustrates these influences using recent data from India. Moreover, there is evidence that such educational influences persist even controlling for other aspects of women’s status; for example, some studies show that women’s education and household autonomy have independent effects on demographic outcomes (Malhotra et. al. 1995), although this is not always the case (Morgan et. al. 2002). The centrality of women’s status and gender equality to the demographic transition was brought to the fore at the 1994 Cairo Conference on
Population and Development, and much of the research and policy debates that followed.

While discussion continues about how women’s position affects demographic outcomes, much less has been said about the relationship in the other direction i.e. the implications of the demographic transition for women. Outside the European/American context at least, Mason (1997) states that this relationship is as yet poorly understood. However, as low mortality and fertility are sustained in developed countries, and mortality and fertility declines are now well entrenched and are projected to continue in many developing countries, and are spreading to others, it is becoming increasingly important to consider their consequences for women. Initial reaction may well be that demographic transition is likely to have unambiguously beneficial consequences for women, and lead to reduced gender differentiation. The fact that fertility decline means that childbearing and childrearing take up a much smaller proportion of women’s lives, leaving them freer to pursue other previously unattainable activities, such as education and employment, is central to this view. Indeed, measures of gender equity tend to be greatest in societies with low fertility (Dyson 2002). But while many women may gain, further reflection suggests that numerous other effects also come into play, not all of which have positive impacts for women. For example, there are important life-cycle factors to consider; while women of reproductive age may benefit from fertility decline, this may not always be the case for girls or older women. Much also depends on the nature and stage of fertility decline, and its underlying causes. In addition, a range of other major demographic changes that typically accompany the demographic transition and can be viewed as integral components of it, such as falling family size, changing household composition and kinship structures, changes in dependency ratios and marriage patterns, population ageing and changes in inter-generational relationships and disease profiles, may affect different women in different contexts in different ways.

This paper presents a review of the evidence on the consequences of the demographic transition for women. Although we make frequent references to relevant material from developed countries, our main focus is on developing countries. We begin by presenting evidence that women gain from demographic progress, and that gender differentiation is reduced. However, we then show that this is by no means the end of the story. We discuss some of the evidence that suggests that there is not always a straightforward link from demographic progress to improvements in women’s status and gender equality.

Positive consequences of the demographic transition

Fertility decline and the roles of women of reproductive age

Dyson (2001) states that the key benefits of the demographic transition for women relate to the reduction in fertility. He argues that “in pre-transitional circumstances, with an average of five or six live births per woman per reproductive lifetime, the related facts of pregnancy, lactation, and childcare dominate women’s – much shorter – lives. In contrast, in a population that has passed through the demographic transition, roughly two (or fewer) live births per woman is the norm, and children occupy a much smaller fraction of women’s much longer lives”. In addition to the benefits of a smaller number of children, Presser (2001) emphasises the advantages of women’s ability to control the timing of these less numerous births. The compression of childbearing is evident from developing country data. For example, Figure 2 shows recent trends in age-specific fertility rates for Kenya, India and Peru using Demographic and Health survey data. It demonstrates that although fertility has fallen for women of all ages, the greatest falls have occurred in the 20-24, 25-29, 30-
34, and 35-39 age groups. Falls have also occurred among 15-19 year olds. These trends indicate increasing control of marital fertility through use of contraception and increasingly delayed childbearing through rising age of female marriage. Dyson (2001) argues that the fertility transition is accompanied by a fundamental weakening of the institution of marriage as women choose to marry later, not to marry at all, or to separate from their spouses. In many parts of Asia in particular, these trends are already apparent; in South Korea, Thailand and Malaysia, young women are “staying away from marriage in droves” (Jones 1997; 74, cited in Dyson 2001).

Women of reproductive age themselves frequently articulate the positive consequences for their lives of fertility limitation. As well as the direct health benefits of lower fertility, for many women it may well open up new educational and employment opportunities outside the domestic sphere. Bauer’s (2001) study of the demographic transition and women’s non-domestic economic roles in East Asia argues that the former has significantly and positively influenced the latter. Bauer argues that by reducing the conflict between domestic responsibilities and work, later marriage and fewer children have facilitated women’s entry into the labour market. Having fewer children is also associated with women’s greater continuity of employment, with positive implications for their earnings and occupational choice, and employers’ willingness to train them. In addition, longer female life expectancy has increased women’s willingness to work by combining with fertility decline to extend the post-child-rearing phase of women’s lives.

Trends in women’s participation in the labour force are telling; Table 3 illustrates the gains in selected East Asian countries since 1950, along with trends in fertility. Increases have been particularly significant in Indonesia and Singapore. The number of working women has tended to grow much more rapidly than the number of working men. Age-specific participation rates have also increased for women of reproductive age, and although participation still declines between the 20-24 and the 30-34 age group, the declines seem to be moderating. Many writers argue that women’s employment has, in turn, contributed much to GDP growth in East Asia. Bauer (2001) states that women’s rising labour force participation rates have fuelled the increase in labour supply in the region, and growth-accounting studies (for example, Kim and Lau 1994) suggest that the latter has been a major source of economic growth. Bauer (2001) also argues that women’s rising labour supply has helped to moderate wage growth. He states that women have played such an important role in the region’s labour-intensive, export-led industrialisation that some observers argue that the latter has been as much female led as export led. Positive trends in women’s economic status are also reported in other contexts outside East Asia.

This type of evidence on the positive consequences of fertility decline for women’s non-domestic roles is neatly summarized in Figure 3. The Figure plots the United Nation’s (2002) Gender Empowerment Measure (GEM) against the total fertility rate for a cross-section of the world’s 100 most populous countries for which both indicators are available. In doing this, we use cross-sectional data to make inferences about the relationship between the two variables over time i.e. as the fertility transition progresses. The GEM is designed to measure gender equity in economic and political activity. Overall, there is a clear negative relationship, suggesting that lower fertility is associated with increased women’s empowerment in these areas. It is also noticeable that the highest values of the GEM are clustered in countries with below-replacement levels of fertility, i.e. it seems that the stage of the fertility transition and the attainment of low fertility in particular are important in achieving high levels of gender equity in non-domestic activity.
Many writers are careful to qualify the positive story about the demographic transition and women’s non-domestic roles by pointing out that although women’s employment has increased and gender differences in earnings have declined in many countries, there is still cause for concern. Bauer (2001) remarks that the nature and quality of women’s work in East Asia often leaves much to be desired. It has been heavily concentrated in labour-intensive, low-wage, export-oriented industries such as textiles, footwear, and clothing. Moreover, women still have less job security and are still paid less than men. As Table 3 shows, United Nations (2002b) data indicate that the ratio of estimated female to male earned income in Asian countries is considerably less than 1. It is also important to note that there is not an automatic association between declining fertility and expansion of women’s non-domestic roles. Many factors may temper the relationship. For example, Mhloyi and Mapfumo (1998) find that in Zimbabwe, one of sub-Saharan Africa’s most demographically advanced countries, women’s opportunities in economic, social, and political spheres remain extremely limited despite fertility decline and improvements in female education. They state that deteriorating economic conditions in Zimbabwe have adversely affected both women and men, and that the increase in demand for contraception may in fact be poverty-driven, as many families cannot support additional children. In such circumstances, women may have less to gain from fertility decline.

Even for developed countries, some writers argue that the attainment and sustainability of below-replacement fertility should not necessarily be interpreted as the ultimate demographic indicator of gender equality. McDonald’s (2000) view is that it better reflects the co-existence of continued gender inequality in the domestic sphere, for example in relation to childcare responsibilities, with much more equal opportunities outside it, for example in the workplace, together with inadequate government policies to make motherhood and employment more compatible. He argues that in such a situation, women manage to combine both domestic and non-domestic roles by constraining their fertility to below replacement level. Chesnais (1996) and Dyson (2002) make a similar suggestion. So the relationship shown in Figure 3 may suggest too optimistic a link between low fertility and gender equality because it is concerned only with non-domestic activities. We say more about the demographic transition and women’s double roles in the domestic and non-domestic spheres later.

Fertility decline and parental investment in girls’ wellbeing

Children as well as young adult women may well also benefit from fertility decline, and there is evidence to suggest that girls may do particularly well. Although parents in developing countries may see high fertility as a route out of poverty, it is often girls who bear much of its cost, specifically the effects of the presence of many siblings in large families. For example, Lloyd and Gage-Brandon’s (1994) work in Ghana suggests that in a constrained economic environment in which parents face the cost of educating their children, older girls’ education suffers when there are younger brothers and sisters around; these girls are less likely than boys to be enrolled in school and are more likely to drop out as they are called on to help rear their younger siblings. Consequently, Lloyd and Gage-Brandon argue that high fertility reinforces gender differentiation and maintains traditional sex roles. Such negative consequences of high fertility are not always found however, as other authors in the same volume (Lloyd 1994) and elsewhere (Kelley 1996) demonstrate. For example, where education is generally undervalued or where it is not costly for parents to send their children to school, the impact of high fertility on children’s, and particularly girls’, schooling is diluted and fertility decline may not have a significant positive impact on the demand for education.
Even where Lloyd and Gage-Brandon’s (1994) findings hold true, they do not necessarily imply that fertility transition and the associated shift towards smaller family size lead to greater gender equality in parents’ investment in their children. We say more about this later. However, there is some recent evidence that does find that children, and especially girls, benefit from fertility decline. In India, the fertility decline is now being driven by the behaviour of illiterate, not educated, women (Bhat 2002). Bhat argues that the primary reason why more and more uneducated women are using contraception is because they want to limit the size of their families so that they can afford to send their children to school. This motivation for fertility limitation is nothing new in India; Caldwell et. al. (1982) reported it long ago. In other contexts also, many aspirational studies find that parents have long valued educating their children but found that the costs involved in sending them to school outweighed the benefits. But it seems that parents’ educational aspirations for their children are now rising rapidly. Specifically Bhat argues that rising educational aspirations are spreading even among uneducated parents. Other recent research in India is consistent with Bhat’s claim. For example, the PROBE study (1999) finds that nearly all parents now want to educate their children, and want to educate both sons and daughters. Kabeer (2000) argues that poor parents’ rising educational aspirations for their children reflects a growing perception that rather than being a privilege of the better-off, education is now needed by everybody to get on in a world increasingly based on literacy and numeracy. She writes that parents therefore feel increasingly obliged to invest in their children’s education, while at the same time expect that such investment will ensure the reciprocal support of them in their old age by their offspring. Bhat’s (2002) analysis shows that first-born daughters have the most to gain from these rising educational aspirations because he finds that in smaller families they are less likely to forgo schooling to take care of younger siblings.

**Other consequences of the demographic transition**

So far, we have reviewed evidence suggesting that women and girls gain from the demographic transition and its integral components, and that gender differentiation is reduced as a result of the process. In the sections below, we examine evidence indicating that the relationship between the demographic transition, women’s roles and status, and gender equality is not always a straightforwardly positive one.

**Negative consequences of fertility decline for girls**

We have already discussed some of the evidence suggesting that fertility decline and smaller family size have positive outcomes for children, especially girls. However, we also cautioned that this is not necessarily the case, and in this section we explore some of the circumstances and ways in which girls may be disadvantaged by fertility decline. We focus the discussion on the relationship between fertility decline and gender differences in survival. There is now much research to suggest that in countries with a preference for sons, girls with older female siblings are particularly vulnerable to parental discrimination in terms of survival-related resources such as health care (Das Gupta 1987). Such “selective” discrimination is related to parents’ attempts to limit the number of girls in their families once they already have one or more daughters. Research suggests that such discrimination is associated with excess mortality among these girls i.e. mortality that 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, we cannot assume that fertility decline will necessarily lessen such excess female mortality simply because it is associated with a reduction in the proportion of high parity births, those vulnerable to discrimination. In some contexts, fertility decline
may have the opposite effect. It may well disadvantage girls if desired family size falls faster than and independently of son preference, and if contraceptive methods are available to enable parents to limit family size. In such contexts, parents may be keen to try to take account of their desire for a small family and their desire for a minimum number of sons. They may be unwilling to trade off family size in order to bear their desired number of sons, and be increasingly anxious to have sons at an early stage in family formation. In such cases, the effect of declining proportions of high parity births may well be more than offset by increased discrimination against girls at each parity (Das Gupta and Bhat 1997).

In many countries especially in South and East Asia, fertility decline has occurred despite continued preference for sons (Amin and Lloyd 2002; Croll 2002). There is even evidence that contemporary transitions coexist with the emergence of new trends exacerbating son preference. For example, in South Asia dowry marriages are now seen as "the sophisticated thing to do", and appear to be spreading to places and groups where they had not previously existed (Basu 1999). The adverse implications of this trend for the desirability of daughters are clear. In China, the coercive one-child family policy has further magnified the conflict parents face between family size and desired number of sons. These fertility declines also coincide with a widening of the methods parents may use to discriminate against daughters. Most notably, prenatal sex-detection technologies such as ultrasound enable parents to find out the sex of their unborn child and abort it if it is a female. There is evidence that parents are increasingly combining postnatal methods of discrimination with these prenatal methods. While excess female child mortality persists, rising male/female sex ratios at birth, and peculiarly low ratios among aborted fetuses belonging to women already with daughters, are testament that prenatal discriminatory methods are being used (Croll 2000; Junhong 2001). The rising trend in sex ratios at birth are illustrated in Table 1 for China, South Korea, and Taiwan.

In these contexts then, fertility decline may mean that girls are increasingly disadvantaged even before birth. Fertility transitions of this sort suggest the need to move away from the view that improvements in female status and declines in the preference for sons are necessarily either prerequisites for or outcomes of fertility decline. They also illustrate that we cannot assume that improvements in women’s position, for example, their rising participation in the labour force, easily translate into improvements in girls’ position. However, there may be a silver lining to the use of sex-detection techniques and female abortions in these countries; to the extent that parents substitute prenatal methods for postnatal ones, girls who are born may actually be wanted, with positive implications for their lives (Goodkind 1996). Fong (2002) argues that in urban China where son preference is declining anyway, singeton daughters enjoy unprecedented parental support.

Fertility decline and women’s expanding roles

Even if the demographic transition facilitates expansion of women’s roles in non-domestic activities, women’s continued tasks in the domestic sphere, and the fact that they rather than men have primary responsibility for these tasks, may mean that women increasingly confront a “double burden” of work as the transition progresses. Domestic roles include bearing and rearing children, and caring for other dependents such as the elderly, as well as day-to-day maintenance of the household. We have already noted McDonald’s (2000) view that in developed countries gender equality has proceeded at a faster pace outside the domestic sphere than within it, and that below-replacement fertility is a demographic signal of this divergence. Evidence from developing countries also supports his view, and provides further confirmation that
there is not a simple relationship between the demographic transition and positive outcomes for young adult women.

Women in developing countries continue to be the prime carers of children and use of childcare facilities outside the family is limited. Moreover, having fewer children does not necessarily reduce women’s caring role, particularly in contexts where women continue to be evaluated primarily according to their roles as wives and especially as mothers. Milwertz’s (1997) account of urban Chinese women shows that although most of these women accept the government’s one-child family policy, in order to ensure that they fulfil their obligation of establishing a long-term reciprocal relationship with their offspring, they have responded to it by concentrating all their efforts on cultivating “the perfect only child”. This response, together with women’s continued responsibility for the bulk of domestic chores, has occurred alongside their expanding educational and economic roles outside the domestic sphere. This leads Milwertz, like McDonald, to argue that the latter have taken place in the absence of any fundamental change in the underlying cultural assumptions of gender relations. Instead, Milwertz argues that “women’s roles have expanded rather than basically changed”. Moreover, her interviews with the women concerned reveal that they themselves collude in this situation; not anticipating their lives to be otherwise, the women expect that they should be able to manage and fulfil their dual roles successfully.

Demographic transition, ageing, and women’s role as carers of the elderly

The discussion so far has ignored the consequences of the demographic transition for women’s role as carers of elderly dependents. However, the growth of the elderly population aged 60 and older is one of the key features of the demographic transition. Mortality decline means that larger proportions of the population survive to old age, and as the transition progresses the elderly themselves live longer. Fertility decline also results in a growing proportion of the population that is elderly. The accompanying transformation of the population age structure is striking and Figure 4 illustrates such transformations for selected world regions between 1970 and 2000 using United Nations (2002a) data. The growth of the elderly population is evident in all regions. The proportion of the population that is elderly is currently highest in developed countries. However, just as there is much variation among developing countries within the same region in terms of the progress of the demographic transition itself, so there is in terms of the proportion of the population that is elderly. For example, in Latin America, only 4.6 per cent of Nicaragua’s population is aged 60 and older compared to 17.2 per cent in Uruguay. In terms of absolute numbers, most elderly people live in developing countries, and this majority is set to increase. Moreover, the pace at which populations are ageing is much more rapid in developing than developed countries. This means that in around twenty years time, some developing countries will have higher proportions of elderly than developed countries (Randel et al. 1999).

Unlike in developed countries, ageing in developing countries is occurring in contexts where the household continues to provide the bulk of financial, physical, and emotional support for aged and infirm dependents. Publicly provided support systems are slow to evolve, and in many contexts providing care to the elderly is still perceived to be a special family responsibility (Randel et al. 1999; Heslop and Gorman 2002). This, together with the persistence of the unequal gender division of labour in domestic care-giving means that the impact of the growth of elderly dependents falls disproportionately on women, particularly wives and daughters-in-law. Demographic forces further influence the family care-giving role and the capacity to perform it in direct ways. Increasing longevity means that provision of care for elderly relatives is becoming a more protracted activity (Jiang 1995). Fertility
decline may make coping with this growing role more difficult. For example, delayed childbearing may mean that the care required by old or frail dependents increasingly coincides with that demanded by children (UNFPA 1998; 2000). Where aspirations for children are increasing, scarce resources may not stretch to provide for the needs of the older generation as well. In addition, falling fertility and the accompanying trend towards smaller families may exacerbate difficulties by constraining the number of siblings and other kin with whom women can share the care-giving role (UNFPA 1998; Heslop 1999; Randel et. al 1999). For example, Hussain (2002) points to China’s stylised case of couples having to support up to five dependents – the parents of the two spouses, each of which is an only child, and the couple’s own only child. In addition, in many developing countries, the demographic transition is being played out alongside significant socio-economic change that may interact with demographic change to further reduce households’ capacity to cope with rising care burdens. Urban migration of family members may compound the effects of fertility decline and further diminish the number of people with whom care-giving responsibilities may be shared (Randel et. al. 1999). Women’s increasing role in the labour force may also constrain their ability to look after elderly relatives. In addition, writers note that although the bulk of caring responsibilities falls on women, as women they are often ill-equipped to carry out the role. For example, Taylor et. al. (1996) point out that women in rural Uganda frequently do not have direct access to the funds required to purchase necessary medical care in the event of an illness episode in the household. The process of ageing ushered in by the demographic transition may not therefore augur well for those women and their households facing increasing elderly care burdens.

Ageing and the position of elderly women
Among the elderly themselves, ageing is also a gender issue. In developing countries, elderly women are often one of the most vulnerable population groups as they confront the multiple disadvantages associated with both age and gender. At a time when their ability to work may be failing, elderly women are less likely than men to own or have accumulated other assets on which to draw in their old age. They are also less likely to be educated than men. Aged women also have greater morbidity and disability than aged men at every age (Asian MetaCentre 2002; UNFPA 1998). Despite this, the health needs of older women are relatively neglected compared to those at other ages. This may be because although women’s health needs remain gender-specific in old age, there is a common assumption that following menopause they converge with men’s (Heslop 1999; UNFPA 1998). The menopause is not given priority as a reproductive health issue although the end of their reproductive role is a marked change for women, especially in contexts where they are primarily valued for it. (UNFPA 1998). All these factors mean that elderly women lack the characteristics that provide incentives for younger family members to look after them (Malhotra and Kabeer 2000). There is a higher incidence of chronic poverty among older women than older men (UNFPA 1998; 2000).

Ageing is also a gender issue because, in addition to the concerns just discussed, women generally outlive men, as the United Nations (2002) data in Table xx show, and they do so increasingly as the demographic transition progresses. Their longevity advantage is the result of a combination of inherent biological differences between the sexes, such as women’s lower susceptibility to heart disease before menopause, and behavioural factors, such as men’s greater use of tobacco and alcohol (UNFPA 2000). This means that women form a larger proportion of the elderly population than men - see the age pyramids in Figure 4. They are therefore more likely than men to be widowed (UNFPA 1998). Their chances of widowhood are further enhanced because women tend to marry men older than themselves and are less likely to remarry following the death of a spouse (UNFPA 1998). The proportion
of widowers among men over 60 is generally under one fifth in most countries, whereas 40 per cent to 60 per cent of women over 60 may be widows (UNFPA 1998). Widowhood adds to the disadvantages associated with age and gender that women face, and it often signals the beginning of an abrupt deterioration in women’s status and wellbeing. Widows often face the prospect of living alone; in developing countries (and developed ones) older men report living with and being cared for by their spouse at about 4 times the rate for women (UNFPA 1998). Widows frequently experience such isolation without access to their late husbands’ assets or to traditional support networks (Randel et. al. 1999; UNFPA 1998; Heslop and Gorman 2002). Childless widows who do not have the opportunity to be supported by family carers are particularly vulnerable (Malhotra and Kabeer 2002). Widowhood is therefore frequently associated with destitution and ill-health. Yi et. al. (2002) comment that the female oldest old (aged 80 and older) in China are “seriously disadvantaged in every respect save sheer survival itself.”

Not only do vulnerable elderly women become a more significant population group as the demographic transition progresses, their family relationships also alter with demographic change. As elderly women’s vulnerability is closely linked to their interaction with family members (other than their spouse) as well as to the disadvantages discussed above, changes in these interactions may have important impacts on their situation. Moreover, these impacts may not always be positive. Changes in the intra-household relationship between older women and younger adult women are an important aspect here. Das Gupta (1995) points out that in India, older women have traditionally exerted authority over younger women. Säävälä’s (2001) research shows that demographic change is disrupting this authority; younger adult women are using sterilization as a means to improve their position vis-à-vis their mothers-in-law. They may undergo the operation despite the latter’s disapproval and may use it to effectively speed up the female life-cycle so that the disparity between older women’s and younger women’s roles and status in the family is narrowed. Although younger women may gain from this trend, the implications for older women’s security are dubious.

Given that they tend to be more vulnerable and more numerous than elderly men, elderly women may also suffer disproportionally as a result of the straining of family systems to provide care for ageing dependents. Although family support remains the most common survival strategy for the elderly in developing countries (Randel et. al. 1999), as we have already discussed, demographic and socio-economic factors are affecting the capacity of families to provide care. Studies show that in many contexts there are increasing numbers of elderly people living alone or with only a spouse (Lloyd-Sherlock 2000; Malhotra and Kabeer 2002). However, at the same time, other work shows that although they may change in nature, extended family relationships are resilient to demographic and socio-economic change (Heslop 1999; Säävälä 2001). In Thailand, despite rapid fertility decline, nearly 80% of men and women aged above 60 live with one of more of their children, and others have children living nearby. Even among parents with only one child, co-residence is above 60%, and almost two thirds of parents not living with children receive food, clothes, and money from them. (UNFPA 1998). Jiang (1995) also points out that mortality decline means that the elderly are more likely to receive sustained and uninterrupted support from family members, and that this effect may more than offset any negative impact of having fewer children to care for them. Writers are also careful to point out that co-residence does not always equate with care (Heslop 1999; Malhotra and Kabeer 2002). In some cases, co-residence may well result in the transmission of poverty across generations, whereas children who have migrated away from their parents in search of work may be better able to support them via remittances (Lloyd-Sherlock 1997).
It is important to emphasise that although elderly women are recipients of family support, the latter is not unidirectional. Older women frequently provide indispensable income and in-kind contributions to their families despite their vulnerability, and such intergenerational reciprocity is often key to household survival (UNFPA 1998; Heslop 1999; Randel et. al 1999; Heslop and Gorman 2002; Malhotra and Kabeer 2002). Moreover, the demographic transition may well provide increasing opportunities for elderly women to assume importance in the family; younger women’s lower fertility and associated greater labour force participation may mean that families increasingly value the presence of an older woman look after grandchildren (Randel et. al. 1999). UNFPA (1998) cites work that shows that in the Philippines, almost 93 per cent of the elderly regularly care for a grandchild. However, although an increasing care-giving role may benefit older women in some circumstances, the elderly are sometimes overburdened with care responsibilities, and they confront specific problems as carers. For example, caring for adult children with HIV/AIDS and grandchildren orphaned by the disease often leads to desperate situations for both carers and dependants.

**Conclusion**

While the part played by women’s roles and position in facilitating the demographic transition has now been fairly extensively studied, the reverse relationship - the consequences of the demographic transition for women’s lives - has received far less attention, especially in developing country contexts. However, as the demographic transition is now progressing on a global scale, it is becoming increasingly important to address its implications for women, particularly as the evidence presented in this paper suggests that they are not always predictable.

Many women undoubtedly gain from the demographic transition, with fertility decline being the key demographic change associated with their increasing freedom to participate in education and employment. Moreover, the benefits of fertility decline are enjoyed disproportionately by women so that gender inequality in non-domestic activities frequently lessens as the demographic transition is completed. Girls may also do well as a result of fertility decline; the smaller number of siblings between whom parental investment must be shared means that there is less competition for such resources.

However, as this paper has indicated, some women may not share in these advantages because a range of factors can drive a wedge between the demographic transition and its benefits. For example, economic circumstances mean that it is by no means certain that women are able to participate more fully in the labour force even if they are freer to do so, and girls may suffer if fertility decline occurs in contexts where the preference for sons proves intransigent. Moreover, the effects of demographic change on women’s non-domestic roles do not occur in isolation from their domestic roles. As women continue to bear the lion’s share of responsibility for the care of dependants, their expanding non-domestic roles may mean that they increasingly confront a double work burden. The process of ageing that accompanies the demographic transition may exacerbate this as elderly dependants become more numerous and live longer. The effects of the demographic transition on elderly women themselves can also be ambiguous; for example, the increasing likelihood of being widowed may heighten vulnerability for some, while working daughters’ growing appreciation of having a mother around to look after her grandchildren may enhance security for others.
In general then, we may view the demographic transition as being a positive process for women, although in assessing its implications we must also take account of important life-cycle factors, the socio-economic and cultural context in which demographic change is taking place, and the nature and stage of the transition itself. As we have seen, these factors mean that we may not always be able to read through demographic progress to make unambiguous positive judgements about their implications for women and gender equality.
References


Notes

1 The total fertility rate is the average number of children a hypothetical cohort of women would have at the end of their reproductive period if they were subject during their whole lives to the fertility rates of a given period and they were not subject to mortality. It is expressed as children per woman. A total fertility rate of 2.1 is known as the replacement level of fertility, required for a population to replace itself. Life expectancy is the average years of life expected by a hypothetical cohort of individuals who would be subject all their lives to the mortality rates of a given period. It is expressed in years.

2 An excellent review of theories of fertility decline is van de Kaa (1996).

3 There are often close links between the different indicators of women’s status, for example educated women may be better placed than uneducated women to make informed decisions and to act on them.

4 Volumes on the role of women’s status in demographic change include Federici et. al (1993) and Jejeebhoy (1995).

5 Useful reviews of these relationships are Basu (2002) and Hobcraft (1993).

6 Notice that for the children’s mortality rates, the effect of female education is stronger for the postneonatal period onwards. Neonatal mortality is significantly influenced by biological factors.

7 See for example Figure 3 below.

8 See Mita and Simmons (1995) and Simmons (1996) for views from Bangladeshi women about the expected advantages of using contraception, the focus-group evidence from Family Health International’s (1998) multi-country project on the impact of family planning on women’s lives, and Säävälä’s (2001) ethnographic study of women in Tamil Nadu, India, for recent examples.

9 On the direct health benefits, it is well known that maternal mortality risk has a J-shaped relationship with both maternal age and parity and that high fertility societies are likely to have a greater proportion of high-risk births among very young women and older, multiparous women. Fertility decline redistributes childbearing into lower risk age and parity groups, although at low fertility levels there is some increase in risk associated with inevitable rises in the proportion of relatively risky primiparous pregnancies (Loudon 1992). Bledsoe (2003) also points to the health benefits of using contraception even in settings where overall fertility remains high. In rural Gambia, she argues that women’s use of contraception is “contingent” on a reproductive mishap – a miscarriage or the death of an infant – and is done by women to space births, thereby replenishing their health and increasing the chances of their next pregnancy and birth being successful. However, other work in many countries suggests that women’s fear of actual or perceived side effects of contraceptive use is a serious concern (Family Health International 1998). The association between sub-Saharan Africa’s fertility decline and high use of abortion also raises question about its implications for women’s health (Murthi 2002; Garenne and Joseph 2002).

10 Evidence for developed countries also shows that childbearing impacts on women’s earnings and occupational choice. For example, women may opt for occupations in which there are low penalties associated with temporarily leaving the market to have a child. See O’Neill (1985).


12 This exercise basically updates Dyson’s (2001) similar one, and is consistent with his findings.

13 For more on these issues, see Razavi (2000).

14 For more evidence that fertility decline may be poverty–driven, or at least occur at low levels of socio-economic development, and therefore be less likely to bring advantages for women, see Sathar and Casterline (1998) for Pakistan and Swartz (2002) for South Africa. In South Africa and sub-Saharan Africa as a whole, the possibility that fertility decline may be associated with the HIV/AIDS epidemic is a further complicating factor. The impact of HIV/AIDS on fertility is not straightforward, but most demographers agree that the net effect is negative. HIV-positive women have lower fertility than HIV-negative women for both biological and behavioural reasons, and they are more likely to be widowed or divorced, and less likely to remarry (Gregson et. al. 2002). However, low fertility that results from HIV/AIDS may not have positive outcomes.
Presser (2001) also notes that in developed countries, women still bear the bulk of responsibility for childrearing. But rather than focusing on below-replacement fertility as being a demographic response to the combination of childrearing responsibilities and non-domestic roles, Presser’s main argument is that continued gender inequality in domestic roles coincides with a growing sense of entitlement to child-free leisure time among women. Presser argues that it is this combination that explains low fertility in developed countries. She cites the example of Japan as a country having very low fertility while most women are only marginally attached to the labour force. She argues that delayed marriage has facilitated women’s higher education and has been associated with greater freedom and personal time for them. On marriage then, Presser argues that “the daily “on call” demands of childcare and the growing expectations placed on mothers for generating “quality” children are probably highly relevant in explaining low levels of fertility in Japan”.

More specifically, it is the presence of large numbers of siblings that have such effects. Therefore, even though increased child survivorship may increase parent’s incentives to invest in their children’s education (Kabeer 2000; Montgomery 2000), the resulting large sib sizes may worsen gender inequality in education. It may not be until the later stages of the demographic transition, when fertility is also falling and family size declining, that gender differentiation in education is reduced (Dyson 2001).

Kabeer’s (2000) fieldwork in Bangladesh provides an illustration; during it she noted that even farmers felt the need for some basic literacy so they were able to read the instructions on the fertiliser packet. She cites other examples of studies in which groups with low socio-economic status cite the necessity of education.

Excess female mortality has led researchers to estimate the number of “missing women” that result. See Klasen and Wink (2002) for a recent contribution.

As well as Basu’s explanation for the rise in dowry marriages, other work suggests that the trend has demographic origins. Declining mortality results in younger cohorts being larger than older cohorts, and a fall in the number of widowers looking to remarry. These effects, coupled with a norm of men marrying women younger than themselves, creates a surplus of women of marriageable age – known as the “marriage squeeze”. As bridegrooms are relatively scarce in the marriage market, dowry marriages, and the adverse implications they have for the desirability of daughters, increase (Amin and Cain 1997; Bhat and Halli 1999). This explanation of rising dowry marriages provides another mechanism whereby the demographic transition may disadvantage women. However, in the longer term, continued demographic transition in the form of fertility decline further transforms the age structure so that men eventually face the disadvantage in the marriage market.

See for example, Bauer (2001) for East Asia and Mier Y Teran (1996) for Mexico.

In addition to McDonald, writers reaching similar conclusions in developed country contexts include McKie, Bowlby and Gregory (2001) and McKie, Gregory and Bowlby (2002) for the UK and Bianchi (2000) for the USA.

As regions or countries proceed through the demographic transition, they experience a temporary bulge in the population of working age that is significantly larger than the growth in the elderly population. The bulge is associated with past high fertility rates, and together with a declining share of young dependents in the population, results in a decline in the overall dependency ratio. The temporary rise in the share of the working age population is termed the “demographic bonus” as it can provide a one-off opportunity for countries to increase their savings, investment, and economic growth rates (Bloom and Canning 2001). Even China, where much of the recent literature focuses on the implications of rapid population ageing, is currently experiencing a rise in the share of the working-age population that outweighs the rise in the share of the elderly (Hussain 2002). The demographic bonus also occurs at the household level, and may be associated with improving outcomes for children, as already discussed.

In contrast, developed countries are now confronting issues associated with the domination of publicly provided and formal social support systems (Murthi 2002; UNFPA 1998).

For China, Jiang (1995) calculates that a 40-year-old urban woman in 2030 can expect to have to care for her parents for another 17 years, 50 per cent longer than her counterpart in 1990. For a rural woman, the corresponding figure is 15 years, an increase of 40 per cent.
Similar discussions on the effect of shrinking kin networks on the ability to provide care for elderly relatives exist for developed countries, for example, see Tomassini and Wolf (2000) on Italy.

The HIV/AIDS epidemic deepens women’s plight as care-givers.

Chile is an example of a developing country that has begun to incorporate menopausal information and services in its health services (UNFPA 1998). In developing countries, where the demographic transition has frequently outpaced socio-economic development, both elderly women and men are more likely than those in developed countries to confront both the chronic, degenerative diseases associated with older age as well as persistent poverty-related diseases (Lloyd-Sherlock 2000).

However, it is also important to recognise that older men also confront a range of problems that are equally gender-specific. For example, they may be adversely affected by the loss of their “provider” role, and may find it difficult to adapt to available alternatives, often perceived to be women’s work (Heslop and Gorman 2002; Malhotra and Kabeer 2002).

As can be seen in the table, the extent of this advantage varies across countries. It is more than xx years in developed countries and only xx in India and Bangladesh. Although now no longer sufficient to tip overall longevity in favour of men, persistent age-specific excess female mortality relative to male in younger age groups limits the extent of women’s overall advantage in South Asia. Women’s longevity advantage in both developed and developing countries coexists with their greater morbidity and disability rates at older ages.

The proportion of female widows is lower than this range in Latin America and some European countries (UNFPA 1998).

For more on the plight of widows in African societies, see Potash (1986) and on Indian widows, see Chen and Drèze (1992) and Chen (2000).

For more on grandparents’ struggles in caring for grandchildren after the death of their own children from AIDS in Uganda, see Williams and Tumekwase (2001).
<table>
<thead>
<tr>
<th>Woman’s education</th>
<th>Total fertility rate</th>
<th>Neonatal mortality rate</th>
<th>Postneonatal mortality rate</th>
<th>Infant mortality rate</th>
<th>Child mortality rate</th>
<th>Under-five mortality rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>3.47</td>
<td>55.3</td>
<td>31.2</td>
<td>86.5</td>
<td>39.7</td>
<td>122.8</td>
</tr>
<tr>
<td>Literate, less than middle school complete</td>
<td>2.64</td>
<td>40.5</td>
<td>18</td>
<td>58.5</td>
<td>18.4</td>
<td>75.8</td>
</tr>
<tr>
<td>Middle school complete</td>
<td>2.26</td>
<td>33.7</td>
<td>14.4</td>
<td>48.1</td>
<td>10.5</td>
<td>58.1</td>
</tr>
<tr>
<td>High school complete, and above</td>
<td>1.99</td>
<td>24.3</td>
<td>8.5</td>
<td>32.8</td>
<td>4.4</td>
<td>37.1</td>
</tr>
</tbody>
</table>

Notes: The mortality rates are for the 10-year period preceding the survey, excluding the month in which the woman’s interview took place. The rates are specified on a per-thousand basis.

1 The total fertility rate is for women aged 15-49. 2 The mortality rate of children in the first month of life.
3 The mortality rate of children after the first month of life but before the first birthday. 4 The mortality rate of children before the first birthday.
5 The mortality rate of children between the first and fifth birthdays. 6 The mortality rate of children before the fifth birthday.
7 Middle school education is usually completed by age 14. 8 High school education is usually completed by age 18.

<table>
<thead>
<tr>
<th></th>
<th>Female labour force participation rate</th>
<th>Total fertility rate ages 15-64 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indonesia</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>6.40 (1950-55)</td>
<td>30.6</td>
</tr>
<tr>
<td>1960</td>
<td>5.42 (1960-65)</td>
<td>32.0</td>
</tr>
<tr>
<td>1970</td>
<td>5.20 (1970-75)</td>
<td>37.1</td>
</tr>
<tr>
<td>1980</td>
<td>4.11 (1980-85)</td>
<td>45.6</td>
</tr>
<tr>
<td>1990</td>
<td>3.00 (1990-95)</td>
<td>52.0</td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>2.75 (1950-55)</td>
<td>52.2</td>
</tr>
<tr>
<td>1960</td>
<td>2.02 (1960-65)</td>
<td>54.0</td>
</tr>
<tr>
<td>1970</td>
<td>2.07 (1970-75)</td>
<td>54.3</td>
</tr>
<tr>
<td>1980</td>
<td>1.76 (1980-85)</td>
<td>52.1</td>
</tr>
<tr>
<td>1990</td>
<td>1.49 (1990-95)</td>
<td>56.2</td>
</tr>
<tr>
<td><strong>Singapore</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>6.40 (1950-55)</td>
<td>22.3</td>
</tr>
<tr>
<td>1960</td>
<td>4.93 (1960-65)</td>
<td>22.9</td>
</tr>
<tr>
<td>1970</td>
<td>2.62 (1970-75)</td>
<td>31.0</td>
</tr>
<tr>
<td>1980</td>
<td>1.69 (1980-85)</td>
<td>47.4</td>
</tr>
<tr>
<td>1990</td>
<td>1.76 (1990-95)</td>
<td>54.4</td>
</tr>
<tr>
<td><strong>South Korea</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>5.40 (1950-55)</td>
<td>32.1</td>
</tr>
<tr>
<td>1960</td>
<td>5.63 (1960-65)</td>
<td>30.5</td>
</tr>
<tr>
<td>1970</td>
<td>4.28 (1970-75)</td>
<td>41.2</td>
</tr>
<tr>
<td>1980</td>
<td>2.23 (1980-85)</td>
<td>50.2</td>
</tr>
<tr>
<td>1990</td>
<td>1.70 (1990-95)</td>
<td>51.1</td>
</tr>
<tr>
<td><strong>Thailand</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>6.40 (1950-55)</td>
<td>84.2</td>
</tr>
<tr>
<td>1960</td>
<td>6.40 (1960-65)</td>
<td>82.7</td>
</tr>
<tr>
<td>1970</td>
<td>4.97 (1970-75)</td>
<td>81.1</td>
</tr>
<tr>
<td>1980</td>
<td>3.05 (1980-85)</td>
<td>79.7</td>
</tr>
<tr>
<td>1990</td>
<td>2.10 (1990-95)</td>
<td>78.5</td>
</tr>
</tbody>
</table>

**Notes**: Figures in parentheses indicate dates to which data apply if different from the dates shown in the first column.

Table 3. Ratio of estimated female to male earned income, selected Asian countries, 1990s

<table>
<thead>
<tr>
<th>Country</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>0.57</td>
</tr>
<tr>
<td>Japan</td>
<td>0.44</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0.46</td>
</tr>
<tr>
<td>Philippines</td>
<td>0.59</td>
</tr>
<tr>
<td>South Korea</td>
<td>0.45</td>
</tr>
<tr>
<td>Singapore</td>
<td>0.50</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>0.48</td>
</tr>
<tr>
<td>Thailand</td>
<td>0.62</td>
</tr>
</tbody>
</table>

Note: Estimates of female and male earned income are estimated on the basis of data on female and male non-agricultural wages, female and males shares of the economically active population, female and male populations, and GDP per capita.

### Table 4. Trend in male/female sex ratios at birth for China, Taiwan, and South Korea, 1980 - 1993

<table>
<thead>
<tr>
<th>Year</th>
<th>China</th>
<th>Taiwan</th>
<th>Republic of Korea</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>107.4</td>
<td>106.4</td>
<td>103.9</td>
</tr>
<tr>
<td>1981</td>
<td>107.1</td>
<td>107.0</td>
<td>107.0</td>
</tr>
<tr>
<td>1982</td>
<td>107.2</td>
<td>106.9</td>
<td>106.9</td>
</tr>
<tr>
<td>1983</td>
<td>107.9</td>
<td>106.7</td>
<td>107.7</td>
</tr>
<tr>
<td>1984</td>
<td>108.5</td>
<td>107.3</td>
<td>108.7</td>
</tr>
<tr>
<td>1985</td>
<td>111.4</td>
<td>106.6</td>
<td>110.0</td>
</tr>
<tr>
<td>1986</td>
<td>112.3</td>
<td>107.2</td>
<td>111.9</td>
</tr>
<tr>
<td>1987</td>
<td>111.0</td>
<td>108.3</td>
<td>109.0</td>
</tr>
<tr>
<td>1988</td>
<td>108.1</td>
<td>108.2</td>
<td>113.5</td>
</tr>
<tr>
<td>1989</td>
<td>113.9</td>
<td>108.6</td>
<td>112.1</td>
</tr>
<tr>
<td>1990</td>
<td>114.7</td>
<td>110.2</td>
<td>116.9</td>
</tr>
<tr>
<td>1991</td>
<td>116.1</td>
<td>110.0</td>
<td>112.9</td>
</tr>
<tr>
<td>1992</td>
<td>114.2</td>
<td></td>
<td>114.0</td>
</tr>
<tr>
<td>1993</td>
<td>114.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The normal sex ratio at birth is around 1.05 or 1.06.

**Source:** Croll E., 2000, Endangered Daughters. Discrimination and Development in Asia.
Figure 1. Variation in the fertility transition in Asia

Figure 2. Age-specific fertility trends, selected countries

Notes: Fertility rates are for the 3 years preceding the survey dates shown. 
Source: Demographic and Health Surveys, various countries and years, 
http://www.measuredhs.com/data/indicators/
Figure 3. Relationship between total fertility rate and gender empowerment measure, various countries, 2000

Note: Total fertility rate data are for 1995-2000, gender empowerment measure data are for 2000. 
Source: United Nations, 2002, Human Development Indicators, 
Figure 4. Population age pyramids for selected world regions, 1970 and 2000

<table>
<thead>
<tr>
<th>Region</th>
<th>1970</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>More developed regions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>