## Discussion Paper.

Pro Poor Growth and Gender.

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## Pro Poor Growth and Gender: What can we learn from the Literature and the OPPG Case Studies?

Discussion Paper by Stephan Klasen, University of Göttingen to the Operationalizing Pro-Poor Growth (OPPG) Working Group of AFD, DFID, BMZIGTZ/KfW and the World Bank

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# Pro Poor Growth and Gender: What can we learn from the Literature, and the OPPG Case Studies? 

## Abstract

This paper examines to what extent gender gaps in education, health, employment, productive assets and inputs can affect pro poor growth (in the sense of increasing monetary incomes of the poor). After discussing serious methodological problems with examining gender issues in the context of household income poverty, the paper considers theory and evidence of the impact of gender inequality on pro poor growth. While there is a considerable literature demonstrating impacts of gender gaps on growth, there is much less information on the impact of gender gaps on inequality. The paper then examines the 14 countries included in the OPPG case studies and finds that the pro poor growthrelevant gender issues differ dramatically between the country cases so that no blanket analysis can be done. In addition, there is considerable evidence that low gender inequality contributed to pro-poor growth in the case study countries. Finally, the study identifies five clusters of countries with similar gender issues and associated policy priorities.

## I. Introduction

1. This paper examines the question to what extent gender inequality affects the ability of countries to achieve high rates of pro poor growth. ${ }^{2}$ This is to be done by analyzing the relevant literature on gender and pro poor growth, examining the analysis of gender issues in the 14 Operationalizing Pro Poor Growth country case studies, and by consulting the gender strategies of the 14 case study countries.
2. Before embarking on the analysis, it may be useful to motivate such an analysis. We might be interested in gender issues as they relate to pro-poor growth for two potential reasons. ${ }^{3}$ The first one is a well-being concern asking whether both genders have equally benefited from economic and human development as well as poverty reduction. Large gender disparities in important indicators of development should be of concern to us as they may hold back progress on overall development ${ }^{4}$ and

[^0]compromise progress on gender equity which has been accepted as a major development goal by the signatories of CEDAW and the signatories of the UN Millennium Development Goals. On a more operational level, identifying such gender gaps would allow policy-makers to target those suffering from such gaps for priority interventions. Secondly, we may be interested in gender as an 'agency' concern (see Sen, 1990 and 1998), i.e. to what extent have the two genders been able to contribute to the development process and how can their respective contributions be strengthened to allow for greater pro poor growth. In this paper, we will report on both of these issues, although the emphasis will be on the latter, i.e. the agency concern.
3. The rather narrow focus of the definition of pro-poor growth for the OPPG case studies (in particular its sole emphasis on household incomes as the relevant metric) causes a number of serious methodological problems for analyzing gender issues in relation to pro poor growth. Among them are the difficulties of analyzing income poverty disaggregated by sex, the problems associated with studying intrahousehold resource allocation, and the invisibility of many contributions of women to well-being, when this narrow metric is considered. Discussing this and proposing a few remedies will be the focus of section 2 .
4. Section 3 will study the literature on gender and pro poor growth, trying to distill the most important ways how gender inequality will affect economic growth and income distribution, the two constituent elements of pro-poor growth. Section 4 will then assess the situation concerning selected gender issues in the 14 case study countries (Bangladesh, Bolivia, Brazil, Burkina Faso, El Salvador, Ghana, India, Indonesia, Romania, Senegal, Tunisia, Vietnam, Uganda, and Zambia). This will be done using quantitative information on selected gender issues, relevant literature, and the discussion from the OPPG case studies. For reasons that are partly (but not entirely) related to the methodological problems described above, the information regarding gender issues is very thin in the case studies. This section will also attempt to distill lessons about the influence of particular gender on the observed record of pro poor growth. Section 5 will then include a discussion of policy implications and will compare these issues with the relevant country strategies.

## II. Gender Inequalities and Income-Based Poverty Measures: Methodological Problems

5. The indicator chosen for the OPPG case studies was the Ravallion and Chen (2003) measure of Pro Poor Growth, based on household income (or expenditures) per capita. This measure takes the average of income growth rates by centile up until the poverty line, or, alternatively, integrates the area under the growth incidence curve up to the poverty line. The growth incidence curve lines up the households (aggregated in centiles) from poor to rich and then plots the growth rate by centile.
6. Using this approach, three methodological problems immediately appear for an analysis of gender issues in pro-poor growth. First, due to the inability to observe intrahousehold resource allocation of incomes and the associated problems of public goods within households (goods that are used by everyone whose consumption cannot easily be ascribed to an individual member), it is impossible to say anything about the distribution of household incomes among its members. Thus it is always assumed that the entire household is poor (including all its male and female members) or the entire household is non-poor (Marcoux, 1998; Klasen, 2004; World Bank, 2001). Given this assumption, reporting poverty rates by sex will be largely
uninformative ${ }^{5}$ and thus we know little about the true extent of sex differentials in income poverty. ${ }^{6}$ The only possible and informative gender-related analysis of income poverty is then to investigate whether the sex of the household head influences the incidence or depth of income poverty. This is, however, only a small subset of possible gender differentials in well-being one could investigate. This is a problem unique to the use of the household income indicator as the poverty metric. If one adopted a broader view of well-being such as Sen's capability approach (e.g. Sen, 1998), this problem would be much less severe as many capabilities and functionings (such as health, education, integration, mobility, etc.) can be measured at the individual level and thus gender differentials within households can be identified (see Klasen, 2004). Many severe gender inequalities relating to well-being (and agency), such as excess female mortality, gender gaps in education, health, or access to productive resources, will only be readily discernible in such a perspective.
7. A second serious methodological problem is associated with the fact that a focus on household incomes seriously underestimates and misrepresents the contribution of many women to well-being within households (see Waring, 1988; UNDP, 1995; Blackden and Bhanu, 1999). In poor countries, many women (and some older girl children as well) are engaged in non-market production that is not captured in the standard income concept used in household surveys. They nevertheless produce valuable outcomes, such as better health, education, and nutrition of their families and children. Neither their contribution nor the outcome of their contribution is directly visible in an income-based concept of pro poor growth. It will only show up indirectly if the outcomes of household production (such as health, education, and nutrition of its members) lead to increases in earned incomes. Also here, these problems could, in principle, be tackled. Through the use of time use surveys, one could get a sense of non-market production and including non-income measures in an assessment of poverty would then allow an analysis of the outcomes of these contributions.
8. A third problem is closely related, but not identical to the one just mentioned. It can be the case that the income contribution both sexes make to a household has an important impact on household decisions affecting important well-being concerns such as investments in education and health of children. In a household income focus, only the input is visible while the outcome, better health and education is not visible and so an important part of the contribution is not measured. As discussed below, there is a large literature that demonstrates that greater bargaining power of women (brought about, for example, by greater control over incomes) significantly increases investments in health and education of households which remain largely invisible in a perspective concentrating on incomes only.

[^1]9. As a result of these shortcomings, two problems will appear. We can say relatively little about the relative well-being of women and men using the income indicator. And we cannot say very much about the contribution of women's market and non-market work on poverty viewed in a broader dimension. It is likely that these methodological short-comings have contributed to the rather sparse information on gender issues in the case studies.
10. Given the voluminous terms of reference for the case studies and the particular emphasis on MDG1 as the central focus of this work, such a focus on income poverty was understandable. As an extension of this work, however, it is perfectly possible to partially remedy this serious short-coming by adapting the instrumentarium of the growth incidence curve and the rate of pro poor growth to non-income indicators. As shown in Klasen (2004b), one can draw growth incidence curves and calculate rates of pro poor growth for non-income measures of poverty just as easily as it can be done for income indicators. For illustration, Figure 1 shows a growth incidence curve (we use absolute growth rather than percentage growth rates) by sex for the indicator average education of adult members of the household for Bolivia from 1989-1999. It shows that educational growth was experienced by males and females at all levels of initial education (except at the very bottom and in the $7^{\text {th }}$ and $8^{\text {th }}$ decile), but that the growth incidence curve differs by gender and is not uniform across initial education levels. Such a growth incidence curve could then be compared to an income-based growth incidence curve and the relationship between incomes and non-income dimensions of poverty, disaggregated by gender, could be much more easily analyzed at all points of the income distribution. ${ }^{7}$

Figure 1: Absolute Change of Average Education for Males and Females in Bolivia by initial levels of education, 1989-1998


Source: Grosse and Harttgen (2004).

[^2]
## III. Literature Review and Conceptual Framework: Gender and Pro-Poor Growth

11. Pro poor growth is influenced by its two constituent parts, economic growth and inequality reduction. Both can have an influence on the rate of pro poor growth and thus we need to examine to what extent gender differentials affect either. ${ }^{8}$ Given the methodological problems described above, some of the effects will be rather indirect (e.g. the impact of gender gaps in education on education levels of the next generation which will promote income growth in the next generation). If one considered non-income dimensions of poverty as well, as I have argued above, some of the linkages described below would be much more direct.
12. There have been a number of theoretical and empirical studies that find that gender inequality in education and employment reduce economic growth. The main arguments from the literature, which are discussed in detail in Klasen $(1999,2002)$ are briefly summarized. Regarding gender inequality in education, the theoretical literature suggests that such gender inequality reduces the average amount of human capital in a society and thus harms economic performance. It does so by artificially restricting the pool of talent from which to draw for education and thereby excluding highly qualified girls (and taking less qualified boys instead). Moreover, if there are declining marginal returns to education (and imperfect substitutability between males and females), restricting the education of girls to lower levels while educating boys at higher levels means that the marginal return to educating girls is higher than that of boys and thus would boost overall economic performance (Knowles et al., 2002; World Bank 2001).
13. A second argument relates to positive externalities of female education, i.e. positive effects that are not captured by the beneficiaries themselves (who, of course, also profit from higher education). ${ }^{9}$ Promoting female education or earnings is known to reduce fertility levels, reduce child mortality levels, and promote the education of the next generation. Each factor in turn has a positive impact on economic growth. As argued by some authors (e.g. Lagerlöf, 2003, Galor and Weil, 1996, World Bank, 2001), these effects can be large enough to ensure that some countries are trapped in a low level equilibrium with large gender gaps in education or earnings, high fertility rates and low investment in each child, and consequently low levels of per capita incomes. ${ }^{10}$ This would be particularly relevant for low income countries that have not entered the demographic transition (this applies to a significant number of countries in sub-Saharan Africa) and might be stuck in such a low level poverty equilibrium, partly due to high gender inequality.
14. In addition, some authors have emphasized that low gender gaps in education will help initiate the demographic transition which will lead to a constellation of age cohorts in a population, known as the 'demographic gift', that imply a large share of working age people, compared to the declining cohorts of the young and not yet large cohorts of the elderly. This phase of the demographic gift can lead to higher savings, investment, and worker/capita ratios, all of which would boost per capita GDP (Bloom and Williamson, 1998).

[^3]15. A third argument relates to international competitiveness. Many East Asian countries have been able to be competitive on world markets by also relying on femaleintensive export-oriented manufacturing industries. In fact, a significant share of their high growth was based on the use of such export-oriented female-intensive manufacturing industries (although it is not clear how important this strategy was in explaining the overall growth experience of these countries). In order for such competitive export industries to emerge and grow, women need to be educated and there must be no barrier to their employment in such sectors. Moreover, some authors have argued that the large prevailing pay gaps also added to the competitiveness of female-dominated light industry (Seguino, 2000). According to them, the combination of low gender inequality in education and employment opportunities, combined with significant pay gaps, supported the emergence of these export-oriented industries (Seguino, 2000; for a related discussion, see also World Bank, 2001; Cagatay and Özler, 1995; Standing 1995). ${ }^{11}$ To the extent that this is the case and that the high demand for female labour will only slowly reduce the pay gaps, ${ }^{12}$ there appears to be at least a short-term trade-off between gender pay gaps and economic growth (though not between gender gaps in education and employment and growth).
16. A fourth argument is that gender gaps in employment impose a similar distortion on the economy as do gender gaps in education. It artificially reduces the pool of talent from which employers can draw upon, thereby reducing the average ability of the workforce (Klasen and Lamanna, 2003). In a related model by Esteve-Volart (2004), gender gaps in access to managerial positions and employment more generally distorts the allocation of talent and the production and productivity of human capital, all of which serves to reduce economic growth.
17. A fifth argument relates to the importance of female employment for their bargaining power within families. There is a sizable literature that demonstrates that female employment and earnings increase their bargaining power in the home (e.g. Klasen and Wink, 2002; World Bank, 2001; Sen, 1990). This not only benefits the women concerned, but their greater bargaining power has been shown to lead to greater investments in the health and education of their children, thus promoting human capital of the next generation and therefore improving the potential for economic growth (e.g. Thomas, 1997; World Bank, 2001).
18. A sixth argument relates to the access to productive assets and inputs. In situations where women and men undertake different and/or separate productive activities (as is the case in agriculture in much of Africa but also in non-agricultural activities in many developing countries), differential access to productive assets and inputs constitutes a distortion in the sense that 'women's activities' are under-resourced and under-capitalized while 'male activities' are (comparatively) over-resourced and overcapitalized. Due to declining marginal returns and/or the loss associated with talented women being starved of economic resources, such a distortion reduces aggregate output (e.g. World Bank, 2001; 2005; Udry, 1996).
${ }^{11}$ The empirical validity of this claim is open to question. The analysis by Seguino is based on a small sample of countries, she is using non-standard empirical methods (a growth-accounting rather than a standard growth regression framework with very few variables) the importance of female-dominated manufacturing in the overall growth experiences is not conclusively demonstrated, and the database for cross-country analyses of pay gaps is weak and generally quite unreliable. Thus it is not clear how important the fairly sizable gender pay gaps were for high growth in these countries.
${ }^{12}$ There is some evidence that the gender pay gaps have been reduced, but remain substantial (Tzannatos, 1999).
19. A seventh argument relates to governance. There is a growing literature that has suggested that women are less prone to corruption and nepotism than men (World Bank 2001). Improving access to women to the workforce and decision-making bodies is therefore likely to improve governance in business and government. Similarly, there is a literature arguing that policies to achieve greater female political participation (such as quotas as in the case of India) can promote a number of investments of particular importance to women such as investments in time-saving infrastructure and human capital which in turn can promote economic growth (Duflo and Chatthopadhyay, 2003; World Bank, 2001).
20. Turning to distributional effects, it is not a priori clear how gender inequality could affect the distribution of household incomes or the so-called inter-household income inequality, which is the only income inequality we can study. This is due to the fact that females live in poor and non-poor households alike. ${ }^{13}$ This is in contrast to other societal cleavages (such as race or ethnicity) which typically contribute to significant inter-household income inequality due to the fact that those groups tend to live in different households and differences in incomes between those groups will immediately translate into inter-household income inequality. Thus it is likely that gender differentials, even where they exist within households, are likely to have a smaller impact on overall income inequality than other ascriptive characteristics such as race, language, or ethnicity due to the co-habitation of both sexes within households. In any case, due to the problems discussed above, we cannot get a good idea of these intrahousehold income inequalities in the first place so that this issue cannot be examined here any further.
21. At the same time, one might think of two ways in which gender issues might affect the inter-household distribution of incomes. The first gender issue is that the household formation, in particular marriage, can significantly affect the income distribution of a country. To the extent there is what economists have called 'positive assortative mating' (Becker 1981), i.e. that females with high education and income earning potential will tend to marry males with similarly high education and income earnings potential, such a trend will magnify inter-household income inequality. Strengthening of such trends can then lead to rising income inequality as appears to have been the case in many industrialized countries (e.g. Danziger and Gottschalk, forthcoming, Gregg and Wardsworth, 1996). Such positive matching, particularly along the dimension of education, also appears to be of great importance in developing countries. In fact, the correlation in education levels between spouses appears to have increased in a number of countries (Quisumbing and Hallman, 2003; Fafchamps and Quisumbing, 2004). It is also relevant in the sample countries. For example, the correlation coefficient between the level of educational attainment of spouses in Bolivia was 0.71 in 1989, and 0.68 in 1998, clear signs of strong positive assortative mating with the associated tendency to increase income inequality. ${ }^{14}$ While this tendency is only partly amenable to policy interventions, it is quite clear that more inclusive educational systems that are open to students of different backgrounds, classes, and abilities can contribute to lowering the high income, education, and class correlation of spouses.
22. A second way how gender issues could affect the distribution of household incomes relates to differences in gender gaps among rich and poor households. If gender gaps (e.g. in education, employment or access to productive inputs) are larger among

[^4]poorer households, a closing of the gender gap would disproportionately increase incomes among the poor and thus serve to lower inequality. Similarly, if it is the case that poor households have much larger families due to low education, earnings potential, and bargaining power of women, then this will magnify inter-household income inequality. This issue has been examined by Kremer and Chen (2002) who find that differential fertility can have a significant impact on income inequality and can leave poor households stuck in a poverty trap of poor (female) education, and large families. Addressing these gender gaps would then not only improve economic growth, but also reduce inequality.
23. At the same time, the effect of closing gender gaps could also increase inequality, if the gender gaps are larger among richer households or if the policies to close them are more effective among them. For example, it is easily conceivable that richer and more educated women would benefit first from policies to promote employment for women, which could then be beneficial for economic growth but actually increase inequality. Consequently, if one wants to ensure that policies to reduce gender gaps promote growth and reduce inequality, they should be particularly targeted towards closing gender gaps among the poor.
24. On the empirical side, there is cross-country evidence that has shown that gender inequality in education reduces economic growth (e.g. Dollar and Gatti, 1999; Knowles, et al. 2002; Klasen, 2002). The effects are large enough that countries that are unable to meet the MDG for gender equity will suffer considerable consequences in term of forgone economic growth (Abu-Ghaida and Klasen, 2004). There is also some evidence (although less robust at this stage) that gender inequality in employment similarly reduces economic growth (e.g. Klasen, 1999; Klasen and Lamanna 2003).
25. In the context of the OPPG work program, the India case study (Besley, Burgess, and Esteve-Volart, 2004) provides interesting cross-regional evidence on the effect of gender gaps in access to managerial positions and employment more generally on per capita income. By examining the comparative growth record of Indian states between 1961-1991, they find that a $10 \%$ increase in the female-male ratio of managers would increase the output of a state by $2 \%$ and a $10 \%$ increase in the female-male ratio of workers would increase output by $8 \%$. While the latter effect can be observed in both the agricultural as well as the non-agricultural sector, the former is only apparent in the non-agricultural sector (see also Esteve-Volart, 2004).
26. There is also a wealth of micro evidence that points out that gender inequalities in access to productive assets (such as land, fertilizer, seeds, credit, etc.) reduce the productivity of female producers and most often by more than the same inequality increases the productivity of male producers. For surveys of this literature, see Blackden and Bhanu (1999), World Bank (2001), Bamberger, et al. (2001), and World Bank (2002). To the extent that this gender inequality is particularly severe among poor producers, it also increases poverty directly (beyond the indirect impact of such inequality on growth and thus on poverty), although the size of this effect has not been quantified (which would surely be a worthwhile exercise). Indirect evidence by Ravallion and Datt (2002) from India suggests that there could be an important effect here: they find that female literacy was the most important determinant of the poverty impact of non-farm rural growth in India in the last three decades. Similarly, there is evidence from Bangladesh pointing towards the role access to credit for females can play in reducing poverty by strengthening the productive roles of women (see Khandker, 1998 and World Bank 2001).
27. In addition, there is overwhelming cross-country and micro evidence that gender inequality in education reduces leads to higher fertility, higher child mortality, higher
undernutrition, and lower educational investments (e.g. Schultz, 1997; Klasen, 1999; Smith and Haddad, 1999; World Bank, 2001, Abu-Ghaida and Klasen, 2004). The effects are quite large. As shown by Abu-Ghaida and Klasen (2004), if countries were able to eliminate gender inequality in educational enrolments by 2005, they would reap considerable benefits in terms of these indicators. To the extent that these factors in turn influence economic growth, they are part of the reason why gender inequality in education reduces economic growth and thus increases poverty. Since these indicators are also development goals in their own right, promoting gender equality in education would reduce 'education-poverty', 'health-poverty', and 'nutrition-poverty'. Also here, it would be worthwhile to investigate to what extent these effects of gender inequality in education on these development outcomes are larger (or smaller) among the poor. But given the empirical finding that gender gaps in education are larger among the poor than the non-poor, it is clear that policies to boost enrolments would particularly help poor women which would, through the effects described above, have particularly beneficial effects on poor households.
28. Furthermore, there is a lot of evidence showing that women's bargaining power has a significantly positive impact on investments in children's education, health, and nutrition (e.g. Thomas, 1997; World Bank, 2001; Lundberg, Pollak and Wales, 1997; Murthi, et al. 1995). Women's bargaining power is, in turn, heavily influenced by their employment status, their education, and their access to unearned incomes (e.g. inheritances, remittances, state transfers; World Bank, 2001, Sen, 1990; Murthi et al. 1995, Klasen and Wink 2002; 2003). Improving the bargaining power of poor women would therefore lead not only to beneficial effects on the women themselves, but one would be able to reap considerable externalities in terms of improved outcomes for their families.
29. Finally, there is some evidence that women's empowerment is associated with improved governance and reduced corruption, as women tend to have a lower propensity to engage in such behaviours (e.g. World Bank, 2001). This may be one of the reasons why gender gaps in education and employment are associated with lower growth (e.g. Klasen and Lamanna 2003; Sauer, 2001). There is also some evidence that greater female participation in political decision-making at local levels can improve investments in priorities of women policy-makers which in turn might are likely to improve the contribution of women to economic growth (Duflo and Chattophadyay, 2003).
30. Regarding the impact of gender inequality on income distribution, there have been fewer empirical investigations. There is some evidence with regard to the fertilitypoverty nexus described above. Given that the poor are the ones burdened the most with large families, it has been found by Eastwood and Lipton (2001), Kremer and Chen (2002), Klasen (2004c) and Bourguignon (2001) that income distribution has been influenced significantly by the differences between fertility decline among rich and poor households which in turn is related to large gender gaps (or simply low absolute achievements) in female education and female bargaining power (see also Klasen 2003). Data from the Demographic and Health Surveys (shown in Figure 1 in the Appendix) also suggest clearly that in virtually all the case study countries, richer and more educated households have much lower fertility rates and that low female education is indeed associated with much higher fertility and greater poverty. The differentials are large. In Uganda, for example, the fertility gap between rich and poor households is 4,4 children, which in turn is heavily influenced by low female education among poorer households (see Appendix Table 2 and also Klasen, 2004c and World Bank, 2005).
31. Thus the literature powerfully demonstrates that improving gender equality in education, employment, access to productive assets, and greater female bargaining
power improves growth and other valuable development outcomes. There is also some evidence suggesting that gender differentials among poor households are serving to magnify overall income inequality through the fertility and bargaining power effects described above; marriage market effects driven by positive assortative matching similarly serve to magnify inequality although this issue has not been investigated sufficiently in many developing countries. Similarly, the linkage between gender equity and overall inequality reduction (in income and non-income dimensions) has, however, not been investigated sufficiently. More theoretical and empirical work in this area (using micro and macro approaches) would certainly be worthwhile.

## IV. Gender Issues in the Case Study Countries

32. When discussing gender issues in the case study countries, it is first useful to categorize the different countries according to the relative importance of certain gender issues. This will be done by examining a mix of well-being and agency indicators which were chosen based on their importance for poverty reduction, as well as their availability for cross-country comparisons. While we will examine clusters that combine a combination of indicators, it turns out that we are largely describing regional differences in these gender-related indicators. In Figures 2-7, we show regional averages of the indicators, in Figure 8 available data on the poverty of female and male-headed households, and Figures 9 we discuss the best and worst performer according to the indicators chosen. In the appendix (Figures 2-8) we show the individual country data for all indicators.
33. A first group of countries can be classified as having high (and only slowly falling) fertility, low but improving female education, slowly falling gender gaps in education, low gender gaps in mortality, higher incidence of female-headed households and generally higher poverty of such households (see Figure 8), and high female labour force participation in the informal and agricultural sector. Outside of the formal and public sectors, women play a significant economic role, but are burdened by high fertility, high overall mortality, and significant gender gaps in access to productive assets and inputs which lower their productivity. Also, due to their reproductive and productive roles, combined with poorly developed household infrastructure (access to water, fuel, markets), they suffer from acute time poverty which further reduces their ability to contribute to economic activities (see Blackden and Bhanu, 1999; World Bank, 2005. Female-headed households have to struggle particularly as they are often dependent on uncertain remittances from absent male members. All countries in Sub Saharan Africa fit this description to varying degrees. Among the differences to mention with likely implications for pro poor growth is the speed of fertility decline, which is very low in Burkina Faso and Uganda, somewhat faster in Senegal and Zambia, and relatively rapid in Ghana (see Appendix Figure 3). In addition, the AIDS affected countries (Uganda and Zambia) have the added feature that females are more affected than males so that the biological life expectancy advantage of females is diminishing (Uganda) or even disappearing (Zambia). This is not only negatively affecting women, but will also affect their ability to contribute to economic growth. ${ }^{15}$ The gender gap in education has decreased the least in the Francophone countries and the overall expansion of education differs greatly between Uganda (with a fast expansion and a rapid closing of gender gaps) and Zambia (with falling enrolment rates and little progress in diminishing the gaps in achievements). Female-headed households differ in importance (e.g. lower in West than in East and Southern Africa) and they appear to be less poor in the Francophone countries, and poorer in the
[^5]Anglophone countries of Eastern and Southern Africa. Female labour force participation rates are high but have not increased in recent decades. Further increases are only likely in combination with a greater fertility decline and better employment opportunities in formal economy.
34. A second group of countries combine sharply falling fertility, significantly improving female education from a situation with very high gender gaps, considerable gender gaps in mortality which are slowly decreasing, and low female labour force participation rates. Female-headed households are generally rare and do not significantly affect overall poverty rates. The countries that would fit this category are Tunisia, Bangladesh, and India. Also here, it is important to make distinctions. The speed of the fertility decline and the reduction of gender gaps in education and mortality has been much faster in Tunisia and Bangladesh than in India, where the progress has been slower and much more uneven. As shown in Figure 8 in the appendix, the gender gaps in mortality are particularly large among poor households in India and Bangladesh. Also, Tunisia and Bangladesh have experienced rising female labour force participation, including rising employment in an export-oriented light manufacturing sector (World Bank, 2001, 2004). In India, such a sector is also emerging, but still plays a smaller role on a national scale. Overall, the statistics there report a decline in female labour force participation rates in recent years. ${ }^{16}$
35. A third group of countries combine falling fertility with high female education and low gender gaps in education or health and mortality. Female labour force participation has been rising rapidly in recent years from low levels, with females entering all parts of the formal and informal labour market but continue to be burdened with considerable employment and pay discrimination. Female-headed households are more common and not generally worse off than other household types. The three Latin American countries would fit this description. Differences among these countries include the type of female labour force participation, which in El Salvador includes a heavy orientation of female-dominated light manufacturing while it is more oriented towards services and informal sectors in Brazil and Bolivia. Also, the gender gaps in education were initially larger in Bolivia and El Salvador so that the closing of the gaps in enrolments will take longer to close the gaps in achievements. Quite clearly, the most important gender issue in these countries is in the labour markets where females continue to face significant barriers to employment, equal pay, and promotion opportunities.
36. A fourth group of countries combine sharply falling fertility levels, rapidly rising female education from a moderate level and the sharp reduction of gender gaps there, low gender gaps in health or mortality, high and rising female labour force participation rates driven by big opportunities for female employment in export-oriented manufacturing (but also in agriculture). The two South-East Asian countries of Vietnam and Indonesia fit this story the best. The biggest difference among the two is related to the transition process in Vietnam. While women appear to gain from export-oriented activities in the private sector, they are also disproportionately affected by lay-offs from the public sector. Also, the share of female-headed households in Vietnam is reported to be quite large, which is likely to be an aftereffect of the high male death rates during the Vietnam war and thus is likely to affect particularly older generations; in other countries in the region (including Indonesia) the share of female-headed households is low.

[^6]37. Romania stands alone in the fifth category of a transition country from Eastern Europe. While it shares some features with Vietnam, another transition country (such as the lay-off of females from state industries, the fall in the political representation of women during the transition process, low initial gender gaps in education and employment), one should treat the Eastern European transition countries as a category all of their own. There are no gender gaps in education, fertility is very low (usually far below replacement), gender gaps in mortality favour females, female labour force participation is very high. Here the main issues centre around often higher rates of female unemployment, some employment and pay discrimination in the labour market, and social protection policies.
38. From this characterization, the question arises as to what the contribution of gender issues to pro-poor growth has been in these five clusters of countries. We will first examine this in relation to the discussion of section III and then compare this with an analysis of the gender discussion included in the case study countries. Following from the discussion above, we would expect the most important gender effects to relate the growth performance of countries, but there could be some distributional issues as well. Regarding the growth performance, we would expect that all countries experiencing sharply declining gender gaps in education should benefit in terms of higher growth as it improves the pool of talent from which to draw for production. There should be significant impacts in terms of furthering growth of the rapid fertility decline under way in some of the countries, which in turn is likely to be significantly affected by improvements in access to education for females. As such, we would expect particularly high gender contribution to growth in categories 2, 3, and 4 , with more moderate effects in category $1 .{ }^{17}$ The combination of a rapid closing of the gender gaps in education in these clusters with rapid fertility decline is particularly noteworthy here.
39. Secondly, we would expect that countries that are reducing barriers ${ }^{18}$ to female employment in the formal sector should reap considerable benefits in terms of higher economic growth. The export-oriented policies in the countries in clusters 2 and 4 should lead to a rising female contribution to growth, albeit from a different level (with category 2 starting from a low level, and 4 from a much higher level). Clearly, barriers and discrimination in female labour market access and pay should continue to reduce the growth potential of economies which would be particularly a problem in categories 1 and 3, but would appear to be a problem in the remaining clusters to a lesser degrees.
40. Third, we would expect reduced gender gaps in access to assets and productive inputs to play a particularly important role in promoting agricultural production in the countries in Africa (cluster 1) where women play a large (and largely separate) economic role. In non-agricultural activities, greater equity in access to assets and productive inputs should improve economic performance in those countries where the differential are largest which surely includes clusters 1 and 2 (but also the others to a lesser extent).
41. Regarding household income inequality, we would expect that the fertility linkage should play a large role. Countries that are just entering the fertility transition and have large differentials of fertility by income group could face increasing income

[^7]inequality as a result of the forces described above. Countries further along the transition or where the transition has also reduced the fertility rates of poor households could expect a boon in terms of reduced household income inequality and thus higher rates of pro poor growth.
42. Similarly, to the extent that the gender gap are largest among the poor (which appears to be the case in many cluster 1 countries, but not so much in cluster 2 countries where the gaps appear to be larger among better-off households), closing gaps in access to education, assets, and productive inputs might also reduce inequality.
43. What do the case studies tell us about the importance of gender issues relating to pro poor growth? Beginning with the first cluster of countries, the following issues are particularly emphasised in the case studies. First, an important emphasis in this group of countries is on the role of women in the agricultural sector, which is the largest sector as far as employment is concerned and where women play a particularly significant role. In particular, most case studies report that women are an underutilized resource in agriculture. They often have little or no formal control over land, have reduced access to fertilizer, credit, and other vital inputs, often play little role in cash crop production, and are therefore unable to produce as productively as males. From the discussion above, it is clear that such inequality in access to productive resources is inefficient and should reduce economic growth, and thus poverty reduction. In fact, in the case of Burkina Faso, this inefficiency was formally determined in a study by Udry (1996). ${ }^{19}$ A related issue is the impact of agricultural reforms and the impact on male and females. Given the importance of women as agricultural producers, the reforms that increased the incentives for agricultural production (e.g. abolition of marketing boards, devaluations, reduction or elimination of export taxes, freeing up of marketing and input supplies) are likely to have aided women as producers, as is discussed in the Zambia case study.
44. A second cluster of issues related to gender inequality in education. Here all countries report declines in the gender gaps in enrolments which should, according to the discussion above, serve to improve growth and poverty reduction through the direct and indirect channels described above. A particular worrying sign is, however, that the improvement in the gap has been brought about in part by declines in male enrolment rates, particularly in Zambia and Ghana (see also Abu-Ghaida and Klasen, 2004). This suggests that the economic crises in these countries have had negative repercussions for overall education levels but that girls have done relatively better.
45. Three important issues regarding women's contribution are discussed in some of the case studies. First, women seem to be facing severe constraints in access to formal sector employment in most of the case study countries. These barriers relate to access to employment as well as pay, and are due to a combination of economic, cultural, and institutional barriers. ${ }^{20}$ They are also related to educational gaps but persist despite them in a number of countries (e.g. Ghana, Burkina Faso, Uganda, Zambia). Thus also here women appear to be an under-utilized resource; interestingly, one case study (Zambia) notes that this has shielded women from the unfavourable developments in formal employment and wages that was associated with the economic reform processes and the protracted economic crises. Second, the burden on women's time is raised in one case study (Ghana) but not discussed in great detail but is likely to influence the productive contributions women are able to make to growth and poverty reduction. Here the role of local infrastructure (particular,

[^8]roads, water and fuel access) will play a key role in freeing women's time for more productive activities which should have beneficial growth effects (Blackden and Bhanu, 1999). Lastly, the role of AIDS is discussed in one case study (Zambia) but should be emphasized more in the countries that are affected (which at least includes Uganda). Women appear to have a higher incidence of HIV/AIDS and thus their productive contribution will invariably suffer. In addition, women play a large role as carers for people affected by AIDS which draws them away from other productive activities.
46. Turning to the second group of countries, gender issues appear to be particularly important and relevant to pro poor growth as there are quite large gender gaps in a variety of indicators, and as women have played an increasingly important role in the economy. Also, the role of public policy in strengthening the contribution of women is particularly relevant here as it appears to explain some of the differences within this group of countries. All three countries exhibited considerable gender bias in mortality in the past, but it has been declining recently (Klasen and Wink, 2003). The improvements in Bangladesh and Tunisia were particularly large and were aided by significant efforts to boost female education and increase the bargaining power of women (Klasen and Wink, 2003). In India, the progress is more moderate and more uneven; this is related to poor progress in female education, and employment as well as the increasing spread of sex-selective abortions as a way to influence the sex composition of one's off-spring. Closely related is the development of the gender gap in education which was very large in all three countries. Also here, Tunisia and Bangladesh have been able to make very large gains, while the progress in India is also again more moderate. Here government policies, such as the food-for-education programs and the subsidies for girls to go to secondary school in Bangladesh, have particularly helped in closing the gender gaps in education. Action in India was much less even and thus the impact was lower. The pay-off of these investments, in terms of reduced fertility levels is impressive. As shown in Figure 2, Tunisia and Bangladesh reduced their fertility levels much faster than other countries, including India. Lastly, Tunisia and Bangladesh both have experienced significant increases in female labour force participation rates in recent years, including a rapid expansion of female employment in light manufacturing (see also World Bank 2004). This was aided in both contexts by export-oriented policies and policies to invite foreign direct investment in export-oriented light manufacturing industries. While there are serious questions about pay and working conditions, these developments are likely to have a direct impact on growth and also should over time raise the bargaining power of women within families which could strengthen priority investments in human capital (World Bank, 2001). In this context, the significant expansion of credit access for poor women in Bangladesh is likely to have further increased their ability to participate in the economy.
47. While the average record in India is more varied, differentials within India show that improvements in women's access to education and employment can promote growth and poverty reduction. As shown by the India case study, states with higher education spending succeeded in reducing the gender gaps in education more; those states also had the higher poverty elasticity, so that their education spending paid off in terms of poverty reduction. There is a similarly large gradient in labour force participation across Indian states. While in South-Eastern states female labour force participation rates are high and rising and have recently benefited from the growth of the IT-intensive service industry, in Northern India they remain low. It appears that the costs to these gender gaps are significant; the India case study reports evidence that a $10 \%$ increase in the female-to male ratio of total workers would increase real output per capita by 8\% (Besley, Burgess, and Esteve-Volart, 2004). A last interesting finding from India is that the reservation of seats for women in local government appears to have had a significant impact on the investment decisions of
women and have particularly helped to promote issues that women have found to be particularly important (such as time-saving infrastructure).
48. Turning to the third group of countries, gender differentials in health or education are small and disappearing, fertility rates are low and therefore the potential of women to play an active role in the labour force is particularly high. This potential has only partly been realized so far. While in El Salvador there was a rapid expansion of female employment, also in export-oriented (maquila) manufacturing, the expansion of female formal sector employment in Brazil and Bolivia was lower, although the female labour force participation increased considerably there as well. In El Salvador, the situation was significantly influenced by the high male war deaths as well as high male emigration rates which sharply increased the rate of female-headed households and women's employment. In all three countries, the formal labour market appears to provide significant barriers in terms of employment and pay discrimination so that many women continue to be relegated into low value informal sector activities or domestic service and other low-wage service occupations. Alongside the increasing economic roles of women appears to be a strengthening of women's political representation, particularly in El Salvador and Brazil.
49. In the fourth groups of countries, female employment has played a particularly important role in furthering economic growth. In both countries, gender gaps in education are low, female education levels are high, and female employment is high or has been rising rapidly. There are few gaps in health and mortality, and fertility rates have come down dramatically. In addition, women have greatly contributed to the growth performance of these countries. They have played a particularly important role in the expansion of export-oriented manufacturing industries which have become an important source of the growth of these countries. The high demand for female labour also appears to have reduced wage discrimination in Vietnam, while there is no corresponding information for Indonesia. It has also induced considerable migration of women to these export-oriented jobs which has contributed to a decline in regional inequality in Vietnam. In both countries, however, significant barriers and problems exist in terms of access to employment, pay, and working conditions for women in the modern sector. Thus despite recent improvements, the participation of women in the modern sector is still not remotely on an equal footing. In Vietnam, the downsizing of state-owned enterprises has put further pressure on women as they were disproportionately affected by the lay-offs. This effect was, however, fortuitously mitigated by growth of export industries and should now be coming to an end. In contrast to India, in both Vietnam and Indonesia, there appears to have been a worsening of the political representation of women. In Vietnam, this is due to the lower representation of women at the local level and in Indonesia, the recent democratisation has displaced women from the political system, a finding also prevalent in many transition countries (Klasen, 1993).
50. In Romania, the lone country in the fifth category, women have similar education to men, have relatively high labour force participation rates, and fertility rates are very low (far below replacement). There are significant gender gaps in mortality favouring females which have increased during transition and appear to be related economic and social factors particularly affecting male mortality. Labour market discrimination appears to be relatively low, but there is a significant gap in male and female employment rates which is higher than elsewhere. Women and men have been hurt by the decline in GDP, and it may be the case that the reduction of female employment is a response of women to this crisis and their worse access to employment. In addition, female-headed households are considerably poorer, which is related to the low level of public support for widows and single mothers.
51. Unfortunately, none of the case studies directly tackle the question of gender inequality and the inter-household income distribution. The role of household formation in generating inter-household inequality is not discussed nor is there a discussion about the role of differential fertility between rich and poor women and its impact on pro-poor growth. Some of the discussion below will be able to suggest some possible effects here.
52. What messages can one distil from these discussions which are, unfortunately, limited by the inconsistent and sparse information provided in the case studies? If we focus on the agency aspect of gender issues, the case studies and the associated discussion show that women can make a significant contribution to economic growth and poverty reduction. This can only happen, however, if they are given the opportunities to contribute productively. This first of all requires fertility decline and improvements in female education. Countries that have adopted export-oriented growth strategies appear to have particularly adept at harnessing female labour for the promotion of growth and poverty reduction. But also here, success has been hampered by remaining gender gaps in education and discrimination in access to employment. Whether the existing pay gaps might have been way to increase the competitiveness of female labour and thus improve growth as argued by Seguino (2000) or whether they were a barrier that preventing more women from joining the labour force is difficult to say without a careful investigation of this particular issue in a country context as the cross-country evidence on this is weak and beset with methodological and data problems. But there is also great potential for women to contribute through agricultural and self-employment activities to growth and poverty reduction. But this will only contribute to growth if women gain equal access to credit, modern inputs, have secure property rights, and be able to control the proceeds of their labour. Public support in these matters is likely to be important, as is support for labour-saving infrastructure that would free up women's time for more productive activities (Blackden and Bhanu, 1999).
53. We want to end the discussion with some suggestive correlations between pro poor growth and important gender indicators. Given the endogenous nature of these variables, one cannot definitively infer causation, but the results may be suggestive nevertheless (see also Dollar and Gatti, 1999 and World Bank, 2001). These are shown in various correlation diagrams in Figure 10 in the appendix. On the y-axis we always report the rate of pro poor growth as calculated by the authors of the case study and on the x-axis, we report particular gender indicators. The first and the third diagram show that high rates of pro poor growth are associated with low levels of initial fertility (in 1980) and high rates of fertility decline (between 1980 and 2000). It thus appears that high initial fertility significantly limits the opportunities for pro poor growth. This would support the contention that high fertility is a barrier to economic growth per se and might also have distribusional consequences (see below and Klasen 2004c). The fourth through the sixth diagram show that the higher the ratio of female to male secondary education in the initial year, the higher female literacy, and the faster the reduction of the gender gap in adult literacy, the faster was the rate of pro poor growth. It thus appears that investments in female education are significantly associated with higher rates of pro poor growth. Similarly, as shown in the second diagram, pro poor growth was faster, the larger the life expectancy gap favouring women was. ${ }^{21}$ Lastly, the last diagram shows that expansion of female labour force participation is associated with higher rates of pro poor growth, suggesting that female employment can make a significant contribution to pro-poor

[^9]growth.
54. We also separately investigate the correlations between the seven indicators just discussed and growth and changes in inequality, the two constituent elements of propoor growth (figures not shown here). As expected from the discussion above, the seven indicators of gender gaps have a much larger growth effect while their impact on distributional change is very small and hardly ever significant. Thus it is the impact of gender gaps on economic growth (rather than on distributional change) that is largely driving the correlations shown below. Interestingly, the one exception is fertility decline. The countries with the largest fertility decline observed a significant increase in inequality. This suggests that in those countries the fertility decline disproportionately affected the non-poor and enabled them to improve their incomes while it has not had a large impact on the poor yet. One would expect that further declines in fertility would be concentrated among the poor and then serve to lead to declining inequality.

## V. Conclusions and Policy Issues

55. The theoretical discussion and the findings from the case studies clearly indicate that successfully addressing gender gaps and removing gender-specific can make a significant contribution to pro-poor growth. While in some countries, women have been able to contribute significantly to pro-poor growth, in all countries there are particular gaps and problems that limit their contribution. It appears that four items are particularly important as contributions to pro-poor growth. First, a growth strategy that is associated with rising labour demand for women; here, strategies focusing on export-oriented manufacturing or services for export (tourism or IT services) appear particularly promising. They need to be complemented with strategies that improve female access to employment to benefit from these opportunities. Second, removal of gender gaps in education is particularly critical for women to be able to grasp these opportunities and contribute to growth through direct and indirect means.
Fortunately, there has been great progress in most regions of the world in this area. Third, improving access to productive assets and inputs will of particular importance for improving agricultural performance in Africa and non-agricultural performance in most developing regions. Lastly, supporting policies (female education, reproductive health and family planning policies, policies to strengthen female bargaining power, etc.) to promote a fertility decline in high fertility countries to enable women to participate more fully in economic growth (see Klasen, 2004c). Ensuring that fertility decline reaches the poorer segments of the population would be particularly important as it would not only boost growth, but also reduce inequality. At the same time, the priority issues to be addressed in terms of gender inequality differ greatly between regions.
56. In Africa, the three main issues to receive attention are strengthening women as producers in agriculture which would involve more secure property rights and access to land, and better access to credit, modern inputs, and other means of production. This is an area that should also receive far greater support from donors whose involvement in agriculture has been declining in recent years. The second issue to focus on would be a reduction of barriers to female participation in formal labour markets. The third issue is to improve female education, reproductive health and family planning services in order to promote the onset of the fertility transition, particularly among poor households. In the second cluster of countries, it is critical to consolidate and continue the progress made in reducing gender gaps in health and education, particularly in India, where much remains to be done. Moreover, greater opportunities for female participation and pay in the formal labour market will be of critical importance. In Latin America, the main constraint to women's contribution to
pro poor growth appears to lie in their reduced access and discriminatory treatment in the labour market. Removal or these barriers should further enable women to participate in the labour market, particularly if the countries provided opportunities for export or service-oriented production. Also in Vietnam and Indonesia, the main remaining barrier appears to be the labour market which still awards much lower pay for women and often forces them to work under very poor working conditions.
57. It may be useful to compare these findings with the national gender strategies in the various countries. Unfortunately, it appears that the national gender strategies are remarkably similar across the country case studies for which they are available (10 countries), paying little attention to the country-specific gender issues that are of particular importance. Also, the gender country strategies are as much about improving female well-being as they are about strengthening their agency so that not all of their content is relevant for the discussion here. All of the strategies call for elimination of all gaps in education, greater female empowerment at all levels, better reproductive health services, elimination of discrimination of the girl-child, and an end to violence against females. Some of the strategies have further provisions to tackle inequalities in labour markets in the regions where we identified them to be major problems (Romania, Indonesia, El Salvador). Also, some strategies rightly emphasize reducing remaining gender bias in education and health (e.g. India, Bangladesh). But none of the African gender strategies say much about the strengthening the role of women as producers or their barriers to formal sector participation. The emphasis on labour markets in the Latin American and the East Asian case studies is also rather minor. It appears that they are following more an international template rather than a careful analysis of country-specific issues. Only the Bangladesh country strategy appears to be firmly rooted in the context of the country and calls for particular measures to strengthen well-being and agency of women, including changes to existing crop policies, better access to credit for female producers, greater access for women in formal labour markets, improved conditions of work for young women, etc. But in general the strategies do not provide a clear sense of priorities for the individual countries to tackle gender issues in order to promote pro-poor growth.
58. Confronting this list of priorities with the discussion of gender issues in the PRSPs also shows some discrepancies. As shown by Whitehead (2003), gender issues have not been thoroughly addressed in most PRSP processes and the inclusion has usually focused on health and education issues. Careful discussions of gender issues in agriculture, export-oriented growth strategies, or labour markets more generally are lacking which, as shown above, are of particular importance in some of the case study countries.
59. As discussed in the beginning, the focus on the income dimension of pro poor growth has limited a thorough discussion of gender issues. This also related to the recommendations. If one were to take a broader view of pro poor growth, other policy issues would deserve more prominence. Most important among them is a much greater focus on strengthening women's bargaining power within households which would translate into more investment into the health and education of children and greater gender equity more generally. Among the policies to consider are femaletargeted transfer programs (such as the well-known demand-side transfer programs in Mexico and Brazil), legal and institutional changes to strengthen the rights of women within marriage and in divorce, greater protection against domestic and sexual violence (also with a view to reduce the spread of AIDS in affected countries), apart from greater access to education and employment. Similarly, strengthening women's political participation should help in empowering women and prioritising their needs which would contribute to promote pro poor growth.

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Figure 2: Total Fertility Rate


Group Definition: 1st Group: Burkina Faso, Ghana, Senegal, Uganda, Zambia; $2^{\text {nd }}$ Group: Bangladesh, India, Tunisia; $3^{\text {rd }}$ Group: Bolivia, Brazil, El Salvador; $4^{\text {th }}$ Group: Indonesia, Vietnam; $5^{\text {th }}$ Group: Romania.

Figure 3: Male vs. Female Adult Illiteracy Rate
$\square$ Male Adult Illiteracy Rate $\square$ Female Adult Illiteracy Rate


Group Definition: 1st Group: Burkina Faso, Ghana, Senegal, Uganda, Zambia; $2^{\text {nd }}$ Group: Bangladesh, India, Tunisia; $3^{\text {rd }}$ Group: Bolivia, Brasilia, El Salvador; th $^{\text {th }}$ Group: Indonesia, Vietnam; $5^{\text {th }}$ Group: Romania

Figure 4: Female vs. Male Gross Secondary School Enrollment Rates


Group Definition: 1st Group: Burkina Faso, Ghana, Senegal, Uganda, Zambia; $2^{\text {nd }}$ Group: Bangladesh, India, Tunisia; $3^{\text {rd }}$ Group: Bolivia, Brazil, El Salvador; $4^{\text {th }}$ Group: Indonesia, Vietnam; $5^{\text {th }}$ Group: Romania.

Figure 5: Female-headed Households (\%)


Group Definition: 1st Group: Burkina Faso, Ghana, Uganda, Zambia; $2^{\text {nd }}$ Group: Bangladesh, Tunisia; $3^{\text {rd }}$ Group: Bolivia (except 1980), Brazil, El Salvador; $4^{\text {th }}$ Group: Indonesia, Vietnam; $5^{\text {th }}$ Group: No Data

Figure 6: Female Labor Force Participation Rate


Group Definition: 1st Group: Burkina Faso, Ghana, Senegal, Uganda, Zambia; $2^{\text {nd }}$ Group: Bangladesh, India, Tunisia; $3^{\text {rd }}$ Group: Bolivia, Brazil, El Salvador; $4^{\text {th }}$ Group: Indonesia, Vietnam; $5^{\text {th }}$ Group: Romania.

Figure 7: Male vs. Female Life Expectancy at Birth
$\square$ Male Life Expectancy at Birth $\square$ Female Life Expectancy at Birth


Group Definition: 1st Group: Burkina Faso, Ghana, Senegal, Uganda, Zambia; $2^{\text {nd }}$ Group: Bangladesh, India, Tunisia; $3^{\text {rd }}$ Group: Bolivia, Brazil, El Salvador; $4^{\text {th }}$ Group: Indonesia, Vietnam; $5^{\text {th }}$ Group: Romania.

| Figure 8: Poverty and Female-headed households |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Share of male and female headed households |  |  | P0 |  |  | \% of Total Poor |  |  | Gini |  |  |
| $\begin{gathered} \text { Burkina } \\ \text { Faso } \end{gathered}$ | 1994 | 1998 | 2003 | 1994 | 1998 | 2003 | 1994 | 1998 | 2003 | 1994 | 1998 | 2003 |
| Male | 95,5 | 95,7 | 94,7 | 56,4 | 62,7 | 47,7 | 97,1 | 97,1 | 95,7 | 0,47 | 0,44 | 0,44 |
| Female | 4,5 | 4,3 | 5,3 | 35,6 | 41,8 | 38,5 | 2,9 | 2,9 | 4,3 | 0,50 | 0,50 | 0,51 |
|  | Share of male and female headed households |  |  | P0 |  |  | P1 |  |  | P2 |  |  |
| Uganda | 1992/93 | 1999/00 | 2002/3 | 1992/93 | 1999/00 | 2002/3 | 1992/93 | 1999/00 | 2002/3 | 1992/93 | 1999/00 | 2002/3 |
| Male | 74,3 | 72,9 | 74,1 | 55,1 | 32,5 | 37,6 | 20,2 | 9,0 | 11,0 | 9,9 | 3,6 | 4,6 |
| Female | 25,7 | 27,1 | 25,9 | 54,1 | 38,5 | 38,1 | 19,3 | 13,5 | 12,6 | 9,4 | 6,7 | 5,7 |
|  | Share of male and female headed households |  |  | P0 |  |  |  |  |  | P2 |  |  |
| Zambia |  | 1991 |  | 1991 | 1996 | 1998 |  |  |  | 1991 | 1996 | 1998 |
| Male |  | 85,7 |  | 67.9 | 78.9 | 74.9 |  |  |  | 29.2 | 29.7 | 24.7 |
| Female |  | 14,3 |  | 74.9 | 81.6 | 77.2 |  |  |  | 38.4 | 34.7 | 29.2 |
|  | Share of male and female headed households |  |  | P0 |  |  |  |  |  |  |  |  |
| Romania | 1995 | 1998 | 2002 | 1995 | 1998 | 2002 |  |  |  |  |  |  |
| Male | 77,5 | 76,2 | 74,3 | 24,5 | 30,0 | 27,9 |  |  |  |  |  |  |
| Female | 22,5 | 23,8 | 25,7 | 31,2 | 36,0 | 33,9 |  |  |  |  |  |  |
|  | Share of male and female headed households |  |  | P0 |  |  |  |  |  |  |  |  |
| Vietnam | 1993 | 1998 | 2002 | 1993 | 1998 | 2002 |  |  |  |  |  |  |
| Male | 77,5 | 78,4 | 77,58 | 61 | 40 | 31 |  |  |  |  |  |  |
| Female | 22,5 | 21,6 | 22,42 | 48 | 28 | 20 |  |  |  |  |  |  |
|  | Share of male and female headed households |  |  |  | P1 |  |  |  | P2 |  |  |  |
| Bolivia | ElH89 | ElH94 | ECH99 |  | 1989 | 1994 | 1999 | 2002 | 1989 | 1994 | 1999 | 2002 |
| Male | n.a. | n.a. | 84,86 |  | 46,23 | 42,80 | 32,87 | 33,61 | 28,31 | 26,11 | 16,06 | 15,55 |
| Female | n.a. | n.a. | 15,14 |  | 41,45 | 37,49 | 30,62 | 28,81 | 23,55 | 20,91 | 13,91 | 13,90 |
|  | Watts |  | PO |  | P1 |  | P2 |  |  |  |  |  |
| Senegal | 1994 | 2001 | 1994 | 2001 | 1994 | 2001 | 1994 | 2001 |  |  |  |  |


| Male | 46,68 | 18,77 | 79,11 | 49,71 | 32,27 | 14,38 | 16,39 | 5,72 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Female | 43,21 | 13,19 | 74,63 | 36,48 | 30,17 | 10,04 | 15,05 | 3,98 |  |  |  |  |


| Indicator | Best Performer | Worst Performer | Commentary |
| :---: | :---: | :---: | :---: |
| Female Life Expectancy (2000) | Romania and Tunisia 72 years | Zambia <br> 38 years | Low level of gender discrimination, relatively high incomes \& good health facilities in Romania and Tunisia; Zambia: AIDS epidemic, low incomes |
| Gap between Female and Male Life Expectancy (2000) | Brazil and Romania 8 years | Zambia 0 years | Brazil: Low level of gender discrimination in access to education, food and health facilities; Romania: gap mainly due to low level of discrimination and decrease in male life expectancy (known from other transition countries, esp. Russia); <br> Zambia: Women are more effected by the HIVIAIDS epidemic |
| Average female U5M in Iowest two Income Quintiles | Vietnam <br> 64,25 Deaths/1.000 | Zambia <br> 213,4 Deaths/1.000 | Vietnam: Dramatic decrease in fertility, relatively good health facilities; <br> Zambia: AIDS epidemic, insufficient health facilities |
| Total Fertility Rate (2000) | Romania 1,3 | $\begin{gathered} \text { Burkina Faso } \\ 6,5 \end{gathered}$ | Romania: questionable if low fertility rate is a success; due mainly to high degree of uncertainty; <br> Extremely low secondary enrolment rates in Burkina Faso; low female status in Burkina Faso (High differential in male and female marriage age; men control family income; women cannot buy land) |
| Absolute Reduction in Total Fertility Rate | Vietnam and Tunisia Each reduction by 3,1 | Burkina Faso and Uganda Each reduction by 1,0 | Dramatic expansions of female enrolment rates in Tunisia and Vietnam; <br> In Vietnam high female labour force participation rate; Extremely low secondary enrolment rates in Burkina Faso and Uganda; low female status in Burkina Faso and Uganda (High differential in male and female marriage age; men control family income; women cannot buy land) |
| Female Adult Illiteracy Rate (2000) | Romania 2,7\% | $\begin{gathered} \text { Burkina Faso } \\ 85,9 \% \end{gathered}$ | Relatively high investments during communist era in Romania; <br> Low investments in human capital in the past; increases in |


|  |  |  | the last 20 years but still very low level of enrolment rates |
| :---: | :---: | :---: | :---: |
| Gap between Female and Male Adult Illiteracy Rates | $\begin{aligned} & \text { Brazil } \\ & \text { 0,2\% } \end{aligned}$ | $\begin{aligned} & \text { India } \\ & \text { 23\% } \end{aligned}$ | Brazil: low level of female discrimination in access to education in the past and especially today; India: very high level of female discrimination in access to education and still high level of gender discrimination today |
| Female Gross Secondary Enrolment Rate (2000) | $\begin{aligned} & \text { Brazil } \\ & \text { 113\% } \end{aligned}$ | $\begin{gathered} \text { Burkina Faso } \\ 8 \% \end{gathered}$ | Brazil: Very strong increase in female gross secondary enrolment over the past 20 years, female suggesting strong female catch up. <br> Burkina Faso: Generally low provision of secondary education, gender biased present, but female share of secondary pupils increased to almost 40\%) |
| Gap between Female and Male Gross Secondary Enrol. Rates | $\begin{aligned} & \text { Brazil } \\ & +10 \% \end{aligned}$ | $\begin{gathered} \text { India } \\ -16,6 \% \end{gathered}$ | Brazil: Gross Numbers, questionable whether numbers in excess of $100 \%$ show better performance of girls ( $113 \%$ vs. 103\%) <br> India: still high level of gender discrimination in education |
| Female Labour Force Participation Rate (2000) | Ghana 51\% | India and Tunisia 32\% | Ghana: Due to the system of matrilineal kinship pattern (Ashanti 44\% of pop.) stronger role of females in production (land is past down from Mother to daughter) India and Tunisia: Opposite example of patrilineal societies with traditionally small role of females in public affairs or workplace |
| Change in Female Labour Force Participation Rate | El Salvador Increase from 27\% to 37\% | Romania Decrease from 46\% to 45\% | El Salvador: Increase in the female participation rate towards LA average, (changing values increased security post civil war?) <br> Romania: Transition country, decline seems rather moderate if compared to other transition countries, probably mainly due to the diminishing of SOE. |

Figure 10: Gender and Pro-Poor Growth: Some Correlations
Correlation Diagram 1: Rate of Pro-Poor Growth corr. Initial Total Fertility Rate


Correlation Diagram 2: Rate of Pro-Poor Growth corr. Annual Percentage Decline in Total Fertility Rate


Correlation Diagram 3: Rate of Pro-Poor Growth corr. Initial Absolute Life expectancy Gap (female male)


Correlation Diagram 4: Rate of Pro-Poor Growth corr. Initial Gap (Female/Male) Gross Secondary Enrollment


## Correlation Diagram 5: Rate of Pro-Poor Growth corr. Initial Female Illiteracy



Correlation Diagram 6: Rate of Pro-Poor Growth corr. Annual Percentage Decline in Female Illiteracy

$y=0,3126 x+0,017$
$R^{2}=0,0577$

| - Annual Percentage Decrease in Female Illiteracy |
| :--- |
| - Linear (Annual Percentage Decrease in Female |
| Illiteracy) |

Correlation Diagram 7: Rate of Pro-Poor Growth corr. Annual Percentage Change in Female Labour Force Participation Rate


Correlation Diagram 8: Growth Rate in Mean corr. Initial Total Fertility Rate


Correlation Diagram 9: Growth Rate in Mean corr. Annual Percentage Decline in Total Fertility Rate


Correlation Diagram 10: Growth Rate in Mean corr. Initial Absolute Life expectancy Gap (female male)


## Correlation Diagram 11: Growth Rate in Mean corr. Initial Gap (Female/Male) Gross Secondary Enrollment



Correlation Diagram 12: Growth Rate in Mean corr. Initial Female Illiteracy


Correlation Diagram 13: Growth Rate in Mean corr. Annual Percentage Decline in Female Illiteracy


Correlation Diagram 14: Growth Rate in Mean corr. Annual Percentage Change in Female Labour Force Participation Rate


Correlation Diagram 15: Annual Growth Rate GDP per Capita corr. Initial Total Fertility Rate


Correlation Diagram 16: Annual Growth Rate GDP per Capita corr. Annual Percentage Decline in Total Fertility Rate


Correlation Diagram 17: Annual Growth Rate GDP per Capita corr. Initial Absolute Life expectancy Gap (female - male)


Correlation Diagram 18: Annual Growth Rate GDP per Capita corr. Initial Gap (Female/Male) Gross Secondary Enrollment


Correlation Diagram 19: Annual Growth Rate GDP per Capita corr. Initial Female Illiteracy


Correlation Diagram 20: Annual Growth Rate GDP per Capita corr. Annual Percentage Decline in Female Illiteracy


Correlation Diagram 21: Annual Growth Rate GDP per Capita corr. Annual Percentage Change in Female Labour Force Participation Rate


Correlation Diagram 22: Annual Percentage Change in Gini corr. Initial Total Fertility Rate


Correlation Diagram 23: Annual Percentage Change in Gini corr. Annual Percentage Decline in Total Fertility Rate


Correlation Diagram 24: Annual Percentage Change in Gini corr. Initial Absolute Life expectancy Gap (female - male)




Correlation Diagram 27: Annual Percentage Change in Gini corr. Annual Percentage Decline in Female Illiteracy


Correlation Diagram 28: Annual Percentage Change in Gini corr. Annual Percentage Change in Female Labour Force Participation Rate


## Appendix

Figure 1: Relation between Education and Fertility in Sample Countries

|  | No Education | Primary Education | Secondary Education + | Total Fertility Rate |
| :---: | :---: | :---: | :---: | :---: |
| Sub-Saharan Africa |  |  |  |  |
| Burkina Faso 1992/93 | 6.8 | 5.6 | 3.1 | 6.5 |
| Burkina Faso 1998/99 | 6.7 | 5.0 | 3.0 | 6.4 |
| Ghana 1988 | 7.0 | 6.2 | 3.6 | 6.4 |
| Ghana 1993 | 6.0 | 5.0 | 2.8 | 5.2 |
| Ghana 1998 | 5.7 | 5.0 | 3.5 | 4.4 |
| Ghana 2003 | 6,0 | 5,3 | $3,0{ }^{(1)}$ | 4,4 |
| Senegal 1986 | 6.8 | 5.5 | 3.6 | 6.4 |
| Senegal 1992/93 | 6.5 | 5.7 | 3.7 | 6.0 |
| Senegal 1997 | 6.3 | 5.2 | 3.1 | 5.7 |
| Uganda 2001 | 7,8 | 7,3 | 3,9 | 6,7 |
| Zambia 1992 | 7.1 | 6.8 | 4.9 | 6.5 |
| Zambia 1996 | 6.8 | 6.7 | 4.5 | 6.1 |
| Zambia 2001/02 | 7.4 | 6.5 | 3.9 | 5.9 |
| North Africa |  |  |  |  |
| Tunisia 1988 | 4.9 | 3.9 | 2.3 | 4.2 |
| South \& Southeast Asia |  |  |  |  |
| Bangladesh 1993/94 | 3.8 | 3.4 | 2.6 | 3.4 |
| Bangladesh 1996/97 | 3.9 | 3.2 | 2.1 | 3.3 |
| Bangladesh 1999/2000 | 4.1 | 3.3 | 2.4 | 3.3 |
| India 1992/93 | 4.0 | 3.0 | 2.4 | 3.4 |
| India 1998/99 | $3,5^{(2)}$ | $2,6{ }^{(2)}$ | $2,2^{(2)}$ | 2.8 |
| Indonesia 1987 | 3.4 | 3.4 | 2.5 | 3.1 |
| Indonesia 1991 | 3.3 | 3.3 | 2.6 | 3.0 |
| Indonesia 1994 | 2.9 | 3.1 | 2.6 | 2.9 |
| Indonesia 1997 | 2.7 | 3.1 | 2.6 | 2.8 |
| Vietnam 1997 | 3.5 | 2.7 | 2.1 | 2.3 |
| Latin America |  |  |  |  |
| Bolivia 1989 | 6.4 | 6.0 | 3.3 | 5.0 |
| Bolivia 1994 | 6.5 | 6.1 | 3.2 | 4.8 |
| Bolivia 1998 | 7.1 | 5.7 | 2.9 | 4.2 |
| Brazil 1986 | 6.2 | 3.6 | 2.0 | 3.4 |
| Brazil 1991 | 5.8 | 3.6 | 2.0 | 3.7 |
| Brazil 1996 | 4.9 | 3.3 | 2.1 | 2.5 |
| El Salvador 1985 | 5.7 | 4.2 | 2.4 | 4.2 |


| Survey | Total Fertility Rate | Wealth Index Quintiles |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Lowest | Second | Middle | Forth | Highest |
| Ghana 2003 | 4,4 | 6,4 | 5,9 | 4,9 | 3,3 | 2,8 |
| India 1998/99 | 2,8 | 3,37 ${ }^{(3)}$ |  | $2,85{ }^{(3)}$ | 2,10 ${ }^{(3)}$ |  |
| $\begin{array}{\|l} \hline \text { Indonesia } \\ 2001 \\ \hline \end{array}$ | 2,8 | 3,0 | 2,6 | 2,7 | 2,5 | 2,2 |
| Uganda 2001 | 6,7 | 8,5 | 8,2 | 7,5 | 6,3 | 4,1 |

(1) Simple Average of Middle/JSS and Secondary +
(2) Measured by Illiterate, Literate < Middle School Complete, Middle School Complete, High School Complete and Above
(3) Stand of Life Index: Low / Medium / High

Source: DHS

Figure 2: Total Fertility Rate (1980/2000)


Figure 3: Female vs. Male Adult Illiteracy Rate (1980/2000)


Figure 4: Female vs. Male Gross Secondary School Enrolment Rates (1980/2000)


Figure 5: Female-headed Households (\%)


Figure 6: Female Labour Force Participation Rate (1980/2000)


Figure 7: Female vs. Male Life Expectancy


Figure 8


Data refer to 1996/97 for Bangladesh and 1992/93 for India.


[^0]:    ${ }^{1}$ I want to thank Mark Misselhorn and Julian Weisbrod for providing valuable input and background documentation and analysis for this paper. In addition, I thank Melanie Grosse and Ken Harttgen for providing all the data on Bolivia used here. I also want to thank Armin Bauer, Mark Blackden, Mayra Buvinic, Arjan de Haan, Louise Cord, Birgit Pickel, Katrin Schneider, Daniel Alker, participants at workshops on OPPG in London in December 2004 and Washington in February 2005 for helpful comments and discussion and thank the KfW, GTZ, and BMZ for providing consolidated comments from the respective organizations. Funding from the BMZ is gratefully acknowledged.
    ${ }^{2}$ Pro poor growth is operationally defined in the Ravallion and Chen sense as the mean per capita income growth rates of the centiles up to the poverty line in the initial period. For more information, refer to Ravallion and Chen (2003).
    ${ }^{3}$ See Sen (1990) and Klasen (2002) for a related discussion.
    4 This is the case if societies exhibit inequality aversion (as empirically they seem to). This insight is at the heart of the Gender-Related Development Index (UNDP, 1995). For a discussion, see Bardhan and Klasen (1999, 2000).

[^1]:    5 With such an assessment, we will classify girls and boys as poor only if they live in a poor household and therefore misclassify, for example, whether a girl in a non-poor household is so severely disadvantaged in access to resources that she should properly be classified as poor.
    6 There is considerable evidence that income is not pooled at the household level so that inequalities in market incomes are likely to translate into inequalities in access to resources within the household. Thus the assumption of equal distribution within the household is not only a simplification, but also quite likely false, particularly in cases where the bargaining power between the sexes are quite different (e.g. World Bank, 2001). At the same time, it is conceptually virtually impossible to incorporate such inequalities within the household in an assessment of income poverty. While in principle it might be possible (but empirically difficult) to ascribe the use of all private goods consumed by the household to its members (e.g. food and clothing), it is conceptually very difficult to ascribe the use of public goods to its members. Since public goods (e.g. on rent or housing expenditures, on household durables) make up a large share of spending, a full assignment of household incomes to its members will never be possible. For a discussion, see Klasen (2004).

[^2]:    7 See Klasen (2004b) for a more detailed discussion of this issue, its potential and limitations.

[^3]:    ${ }^{8}$ See Bourguignon (2003) for a careful analysis of the respective contributions of growth and inequality reduction to poverty reduction, both from a theoretical as well as an empirical point of view.
    9 Note that in this paper we are primarily concerned with gender gaps in education, and thus do not focus on absolute education levels which would, as is well known, also contribute to pro-poor growth.
    ${ }^{10}$ Lagerlöf emphasizes gender gaps in education, while Galor and Weil concentrate on earnings gaps.

[^4]:    ${ }^{13}$ Once again, if there was a systematic and sizable difference in poverty between male and femaleheaded households, then this could contribute to increasing inter-household inequality. As shown below, such a systemic and sizable difference does not appear to exist in most countries.
    Apart from household formation behavior, household dissolution trends (through divorce, death, and abandonement) can also influence inter-household income inequality.

[^5]:    ${ }^{15}$ The high incidence of AIDS also places a great time burden on women charged with caring for sick relatives.

[^6]:    ${ }^{16}$ The labour force participation rates reported by the World Development Indicators (which are drawn from the ILO) are often not fully comparable across countries as the definition of what is included differs. The most important incompatibility is the treatment of 'family workers', i.e. women working on a family agricultural or non-agricultural business.

[^7]:    ${ }^{17}$ In Romania, there was not much of a further expansion of education for women given the high initial level so that we would not expect a major effect here.
    ${ }^{18}$ These barriers include supply barriers such as gender gaps in education, formal restrictions to female employment, informal barriers such as discrimination in access and promotion, as well as cultural and social restrictions to female employment. But they also include demand barriers such as low demand for female labour which is related to the sectoral mix of the economy.

[^8]:    19 See also World Bank (2005), Klasen (2004d), and Blackden and Bhanu (1999) for further discussions.
    20 See Morrison and Jütting (2004) for a discussion of these issues.

[^9]:    ${ }^{21}$ One should note that, for largely biological reasons, we would expect a life expectancy gap favoring females of about 3-7 years in the absence of discrimination. Thus quite a few countries listed in the diagram had an advantage less than that, suggesting gender bias in mortality hurting females.

