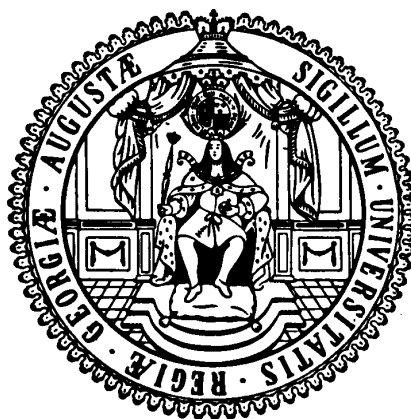


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Pro-Poor Growth and Gender Inequality

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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 an income-based pro-poor growth framework, the paper considers theory and evidence on the impact of gender inequality on pro poor growth. While there is a considerable literature suggesting negative impacts of gender gaps on growth, there is much less information on the impact of gender gaps on inequality. The paper then examines the experiences of country cases and finds that gender inequality can have a significant effect on pro-poor growth, but that the importance and type of effects differ considerably between different regions. It also appears that the effects of gender gaps on pro-poor growth operate primarily via an impact on growth rather than an impact on distributional change.

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I. Introduction

Understanding the determinants of pro-poor growth which we define here to mean the average income growth rate of poor households² has become a central focus of policy research concerned with accelerating poverty reduction in developing countries. It was also the focus of a recently concluded international research program on ‘Operationalizing Pro-Poor Growth’ (OPPG) undertaken by an international team of development economists and supported by the World Bank-DFID-AfD-BMZ-GTZ-KfW which involved cross-country-research, country case studies, and thematic analyses. This paper is based on my gender thematic paper written for that research program.

Issues of gender inequality could be of importance in the analysis of pro-poor growth for two reasons. The first one is a well-being concern asking whether both genders are benefiting equally from pro-poor growth. Large gender disparities in important indicators of development should be of concern to us as they may hold back progress on overall development³ and compromise progress on gender equity which has been accepted as a major development goal by the signatories of the UN Convention on the Elimination of Discrimination against Women (CEDAW) and the signatories of the UN Millennium Declaration including the 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) by asking to what extent males and females are able to contribute to pro-poor growth and how their respective contributions can be strengthened to accelerate pro-poor growth. In this paper, we will largely focus on the latter issue, i.e. examine the question to what extent gender inequality affects the ability of countries to achieve high rates of pro poor growth.⁴

To date, the measurement and analysis of pro-poor growth has been confined to the income dimension of poverty which causes a number of serious methodological problems for studying gender issues in relation to pro poor growth. This is discussed in section 2. Section 3 reviews the literature on gender and pro poor growth, trying to identify the most important channels how gender inequality can affect economic growth and distributional change, the two drivers of pro-poor growth. Section 4 will then assess the situation concerning selected gender issues in the 14 countries included in the OPPG research program as case studies

² See discussion below and Klasen (2004b, 2005) for a detailed discussion on the definition of pro-poor growth.

³ 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).

⁴ See, for example, Klasen (2004a) and Klasen and Wink (2003).

(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 (rather limited) discussion from the OPPG 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 conclude with policy implications.

II. Gender Inequality and Income-Based Pro-Poor Growth Measures: Methodological Problems

The measurement of poor-poor growth takes household incomes per capita as its starting point. The Ravallion and Chen (2003) measure, adopted for the OPPG work program, is based on the growth incidence curve, which plots the income growth rates of centiles (sorted from poor to rich) of the initial income distribution. Based on this curve, the measure of pro-poor growth is the average of income growth rates by centile up until the poverty line in the initial period, or, alternatively, the integral of the area under the growth incidence curve up until the poverty line.

Using this household income-based approach to the measurement of poverty and pro-poor growth, three methodological problems immediately appear for an analysis of gender issues. From a well-being perspective, such an income-based approach will not be very helpful in investigating whether both sexes are benefiting equally from growth and poverty reduction. This is due to the fact that incomes are measured at the household level and cannot easily be attributed to individual members for conceptual and practical reasons.⁵ This problem would be less severe if a broader and more outcome-oriented approach to poverty measurement, such as Sen's capability approach (e.g. Sen, 1998) was chosen as it is generally easier to measure capabilities (such as the ability to be healthy or educated) at an individual level than attribute household incomes to individuals.

More serious for our focus on the agency aspects of gender inequality is a second methodological problem. 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 in our income-based measures if the outcomes of their household production (such as better 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. Treating poverty as a multi-dimensional problem that relates to low incomes, poor health and education, poor access to vital services, etc. would then allow

⁵ The most important conceptual problem relates to household-specific public goods (e.g. housing, utilities, durable goods) the benefit from which cannot easily be allocated to individual members. Among the practical problems are that in most household income and expenditure surveys many sources of household incomes (e.g. from remittances, transfers, or own production) and consumption of private goods (e.g. food and transportation) are not reported by individual recipient or beneficiary. As a result, it is not possible to say whether certain household members are poorer in an income sense than others and thus the convention usually adopted is to assume that everyone or no one in a household is poor. For a discussion, see Klasen (2004a).

an analysis of the outcomes of these contributions and thus make visible the contributions of female household and caring labor to reducing poverty in this broader perspective (see also below).

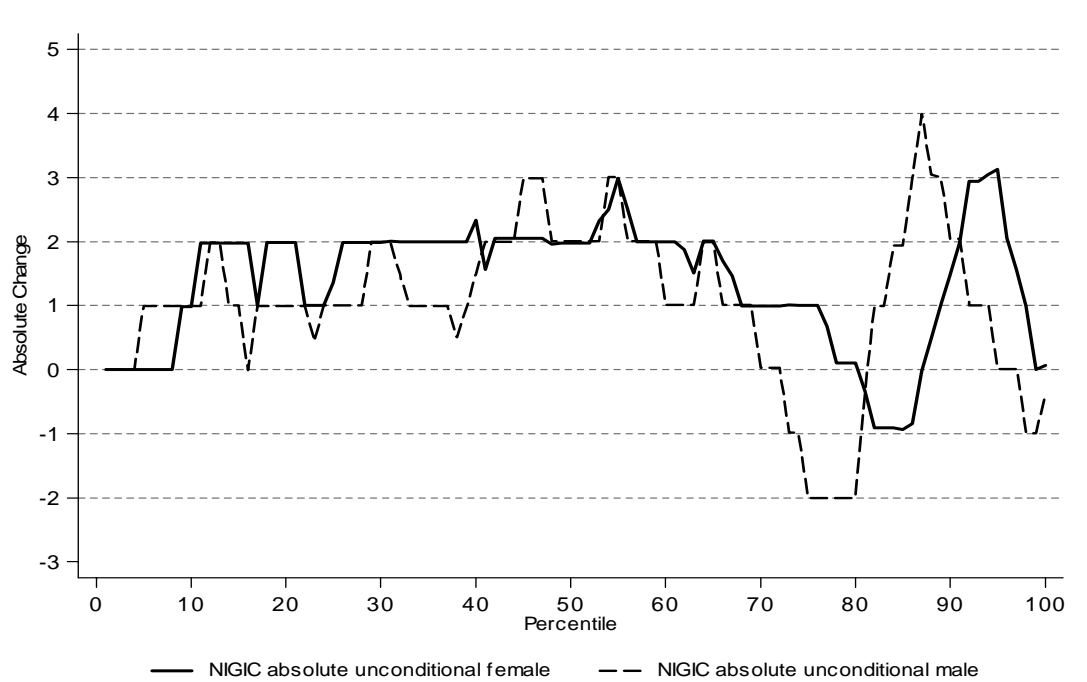
A third problem is closely related. An income-based focus on poverty measurement underplays the potentially important role of bargaining power of males and females within households for poverty reduction. The focus in such an approach is on total household income or expenditure and not usually on the contributors to this income or on the determinants of how these incomes get spent. There is a large literature showing that bargaining power of adult males and females appears to be heavily influenced by their contributions to household income. In turn, bargaining power has important impacts on the way households decide on resource allocation to goods that directly affect household welfare such as spending on food, education, and health care.⁶ In an income-based poverty analysis, this will only enter the picture if the effects of these decisions have an impact on household incomes, and thus the important contribution of gender differences in bargaining power on household decisions will only be fully visible if a broader perspective to poverty measurement was adopted.

As shown in Klasen (2005) and Grosse, Harttgen, and Klasen (2005), it is possible to remedy these serious short-coming of the income-based metric of the analysis while retaining the useful analytical tools of pro-poor growth measurement. This is done by applying the growth incidence curve and the rate of pro poor growth to non-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. Such a growth incidence curve plots the absolute increments in years of schooling between 1989 and 1998 for males and females, sorted by the percentile distribution of schooling in 1989. 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 7th and 8th decile), but that the growth incidence curve differs by gender and is not uniform across initial education levels. Such a non-income growth incidence curve (NIGIC) 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

⁶ For a review of these findings see World Bank (2001) and a particularly interesting individual study, Thomas (1997).

⁷ See Klasen (2005) for a more detailed discussion of this issue, its potential and limitations.



Source: Grosse, Harttgen, and Klasen (2005).

While it is therefore possible to study pro-poor growth in a wider dimension, the remaining discussion will be limited to the income dimension as this was the focus of the OPGG research program and, to date, of virtually all literature on pro-poor growth.

III. Gender Inequality and Pro-Poor Growth: Insights from the Literature

By definition, the rate of pro poor growth (measured in the income dimension) is influenced by distribution-neutral economic growth and changes in income inequality.⁸ It is therefore important to assess to what extent gender inequality can affect either overall economic growth or distributional change. Given the methodological problems described above, some of the identified effects will be rather indirect.⁹

Let me begin with a discussion of the potential impact of gender inequality on economic growth. Clearly, any impact will depend on the type of gender inequality and I will particularly focus on impacts of gender inequality in education, employment, pay, and access to assets and resources for self-employment in agricultural and non-agricultural sectors.

In principle, it is possible to write down models where gender inequality in these dimensions might be beneficial for economic growth. For example, starting from a Becker-type model of specialization within the household where males concentrate on market and females on non-market production, gender inequality in education and employment would be an efficient strategy as both would (through internal trade within the household) gain from the

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. See also Datt and Ravallion (1992) for a decomposition of poverty reduction into a growth and a distribution component.

⁹ For example, gender gaps in education might affect the education levels of the next generation which will in turn affect income growth with some delay. If one considered non-income dimensions of poverty as well, some of the linkages described discussed here would be much more direct.

specialization of each partner in their respective activities (Becker, 1981). In practise, it appears that the relevance of this model is open to question. In particular, females in poor countries hardly ever specialize entirely on home production but are also involved in market production (often in agriculture, the informal sector, but also the formal sector). Moreover, to the extent specialization exists, it is unclear that education for females would be inefficient given the effects female education has on the production of human capital within households (see below). There are also a number of fundamental questions regarding this modelling approach which have been discussed extensively elsewhere (see Sen, 1990; Klasen, 2003a). But ultimately, the strength of these arguments will rest on their empirical relevance which will be discussed below.

In contrast to such an approach, a range of models have shown that gender inequality in education and employment reduces economic growth.¹⁰ As argued by Dollar and Gatti (1999) and Klasen (2002) and assuming that there is an equal distribution of talent among males and females, gender inequality in education and employment is a form of distortion that artificially reduces the pool of talent from which to draw for production. In a similar 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.

A related formulation is presented by Knowles et al. (2002) suggesting that if there are declining marginal returns to education and imperfect substitutability between male and female education in production, restricting the education of girls to lower levels of education while educating boys at higher levels means that the *marginal* return to educating girls is higher than that of boys, a finding that has also been shown empirically (see Schultz, 1993). Thus such gender inequality would therefore reduce the total returns to education in a society and therefore reduce economic growth.

A second argument relates to positive externalities of female education and employment. Promoting female education and employment increases female knowledge, their bargaining power (and say over household decision), as well as the opportunity cost of their time. There is a large theoretical and empirical literature demonstrating that this serves to reduce fertility levels, reduce child mortality levels, and promote the education of the next generation (e.g. World Bank, 2001; Thomas, 1997). Each factor in turn has a positive impact on economic growth. In fact, in models by Lagerlöf (2003) and Galor and Weil (1996), the fertility effects of gender gaps in education and earnings are so large that countries can get stuck in low-income traps where high fertility, low investment in each child, and large gender gaps in education and employment reinforce each other.¹¹ This could be particularly relevant for low income countries that have not entered the demographic transition (which applies to a significant number of countries in sub-Saharan Africa) and these countries might therefore be stuck in such low-level poverty equilibria, partly due to high levels of gender inequality.

Related to these arguments, Bloom and Williamson (1998) have emphasized the timing of these demographic effects matter for growth. In particular, they argue that low gender gaps in education will help initiate the demographic transition which will lead to a temporarily favourable age structure of the population, known as the 'demographic gift', in which the share of working age people (compared to the declining number of young and the not yet large number of elderly dependents) is very high. This 'demographic gift' can boost

¹⁰ See Klasen (1999, 2002) for more details.

¹¹ Lagerlöf emphasizes gender gaps in education, while Galor and Weil concentrate on earnings gaps.

economic growth by increasing the ratio of workers to the population, and by raising savings and investment rates. The timing of the demographic transition, which is critically influenced by the levels of female education, could therefore be an important factor in promoting economic growth and Bloom and Williamson (1998) argue that it indeed accounted for a considerable share of high growth in East Asia in past decades.

A third argument relates to the role of gender gaps in education, employment, and pay in promoting international competitiveness. As argued by Seguino (2000), the combination of an educated, employable but rather poorly paid female labour force might give a country a competitive edge in the exports of light manufacturing (e.g. textiles, toys, consumer electronics) which is intensive in the use of female labour. While the sustainability of such a strategy is open to question (as the use of female labour should put upward pressure on female wages), it is argued that the export-promotion strategies of East Asia was supported by low gender gaps in education and employment but sizable gender wage gaps.¹²

A fourth argument relates to the impact of gender gaps in 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 over-capitalized. 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; Blackden et al., forthcoming, Udry, 1996).¹³

On the empirical side, there is now a preponderance of cross-country evidence suggesting that gender inequality in education reduces economic growth (e.g. Dollar and Gatti, 1999; Knowles, et al. 2002; Klasen, 2002, Yamarik and Ghosh, 2003; Forbes, 2000).¹⁴ This finding is robust to a variety of econometric specifications, data, time periods, and country groupings, so that it can be considered quite robust. The estimated effects in these papers are quite large suggesting that particularly in South Asia, Sub-Saharan Africa, and the Middle East, gender gaps in education reduced growth significantly in past decades. In Abu-Ghaida and Klasen (2004), these effects are also estimated to persist in coming years in those countries where gender gaps in education remain sizable. In line with the theoretical literature, there are several channels through which gender inequality in education affects growth. As shown by Klasen (2002), gender inequality appears to affect growth directly supporting the distortion arguments, but they also appear to have an indirect impact via demographic effects supporting the externality arguments made above. This is also in line with the large cross-country and micro evidence that gender inequality in education 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).

¹² See Klasen (2002) and Tzannatos (1999) for further discussion of these issues.

¹³ Lastly, there is an emerging literature suggesting 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.

¹⁴ There were initial findings from Barro (1991) and Barro and Lee (1994) that suggested that female education reduced economic growth (while male education increased it). It turned out, however, that their estimates were driven by econometric and data problems. For a full discussion, see Klasen (2002) and Lorgelly and Owen (1999).

There is also some cross-country evidence that gender inequality in employment similarly reduces economic growth, although these findings are much less robust at this stage due to a variety of unresolved data and econometric issues (e.g. Klasen, 1999; Klasen and Lamanna 2003). In the context of the OPPG work program, Esteve-Volart (2004) provides interesting cross-regional evidence within India on the effect of gender gaps in access to employment and managerial positions on per capita income. By examining the comparative growth record of Indian states between 1961-1991 she finds 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%.¹⁵

There is also considerable 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 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. 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).

Thus there is a substantial theoretical and empirical literature suggesting that gender inequality in education, employment, and access to productive assets and inputs reduces economic growth and thus affect pro-poor growth through this growth effect. It is now important to investigate whether we would expect gender inequality to have a systematic effect on income distribution, the second key component affecting pro-poor growth.

It is not a priori clear how gender inequality could affect the distribution of household incomes. While gender inequality in education, employment, and bargaining power surely affects the intrahousehold distribution of resources (see e.g. Thomas 1997, World Bank 2001), it is much less clear whether it also affects the income inequality between households, which is the only relevant inequality we can investigate when analyzing income poverty and income inequality.¹⁶ This is due to the fact that females live in poor and non-poor households alike and thus the impact of gender inequality on the inter-household income inequality will depend on the size and effects of gender gaps in poor relative to rich households. If gender gaps (e.g. in education, employment or access to productive inputs) are larger and have greater consequences for household incomes among poorer households, a closing of the gender gap would disproportionately increase incomes among the poor and thus serve to lower inequality. This might be plausible if, for example, it is the case that the effect of gender gaps on fertility is much larger among poor households than rich ones and as a result, poor households have much larger families with little investment in each child. As shown by Kremer and Chen (2002) this would then serve to increase inequality between poor and rich

¹⁵ 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.

¹⁶ In principle, it is likely that intrahousehold inequality in resource allocation can affect the income distribution among *individuals*. For a discussion, see Haddad and Kanbur (1990). But since poverty and inequality (and thus pro-poor growth) is always measured at the *household* level (with an implicit assumption of equal distribution), the impact of intrahousehold inequality is ignored. For a discussion, see Klasen (2004a).

households who invest much more in each of their (many fewer) children.

Conversely, there could be situations where gender gaps are larger or more consequential among the rich and they would in turn serve to lower inter-household income inequality.¹⁷ Thus it is not a priori clear that gender gaps will affect inter-household inequality, nor the direction of such effects.¹⁸

Regarding the empirical impact of gender inequality on income distribution, there have been fewer empirical investigations. There is some evidence with regard to the fertility-poverty 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 2004b).

This survey of the theoretical and empirical literature has suggested that gender inequality in education, employment, access to productive assets reduces growth and thus also pro-poor growth. It is much less clear, whether and how it affects the income distribution, the second component driving pro-poor growth. It will therefore be important now to investigate to what extent gender inequality has affected pro-poor growth through the growth and distribution channel in the 14 country case studies included in the OPPG project.

IV. Gender and Pro-Poor Growth in the OPPG Case Study Countries

When examining the relationship between gender and pro-poor growth in the 14 case study countries, it is critical to note that the gender issues that might influence pro-poor growth differ drastically between the regions. In Table 1 below, a regional classification is suggested that identifies the most important growth-related gender issues in each region, highlights some differences within regions and states recent trends in these gender issues.¹⁹

¹⁷ For example, in India the labor force participation rates among middle-class women is often much lower than among poor women. This difference in inequality in employment helps to reduce inter-household income inequality as poor households have (by necessity) two earners and richer ones often only one male earner. Conversely, policies to promote female labor force participation could then have a larger effect among richer women and thus serve to increase inter-household income inequality.

¹⁸ While the impact of gender inequality on inter-household inequality is less clear, the ways females and males form households (most commonly through marriage) will have a significant impact on inter-household income inequality. To the extent there is 'positive assortative matching' in the marriage market (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. Such positive matching, particularly along the dimension of education, 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 raise income inequality. 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.

¹⁹ In the working paper version of this paper, available at <http://www.bmz.de/de/themen/armut/arbeitsfelder/wirtschaft/Gender.pdf>, a much more detailed discussion

In the countries from Sub Saharan Africa, the relevant gender issues relate particularly to fertility, education, agriculture, and the formal labour market. All have high (and only slowly falling) fertility, low but in some countries improving female education, slowly falling gender gaps in education, high female labour force participation in the informal and agricultural sector, but low female representation in the formal sector. 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). In addition, AIDS places an extra time burden on women in the affected countries.

In line with this characterization, the country case studies emphasize some of these particular constraints. 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 demonstrated in an econometric analysis by Udry (1996).²⁰ 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 (see Thurlow and Wobst, 2004 and Blackden et al., forthcoming).

Secondly, the African case studies report declines in the gender gaps in educational 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), which means that overall human capital is declining (even it is more gender-balanced).

and quantitative information is provided to justify this regional groupings (while highlighting some important intra-regional differences).

²⁰ See also World Bank (2005), Klasen (2004d), and Blackden and Bhanu (1999) for further discussions.

Table 1: Gender and Growth Issues in Case Study Countries

Region	Countries included	Growth-Relevant Gender Issues	Differences within Region	Trends in Priority Gender Issues
Sub-Saharan Africa	Burkina Faso, Ghana, Senegal, Uganda, Zambia	High fertility, significant gender gaps in education, low levels of female education, low female share of formal employment, inequality in access to land and inputs, time poverty	Role of AIDS in imposing time burden on women and affecting human capital accumulation (Zambia, Uganda); Levels and gaps in education (lower in Uganda, Ghana); separate versus joint production in agriculture (West Africa versus Eastern and Southern Africa)	Little change in fertility (exception Ghana) and in education levels, and slow reduction of gaps (exception Uganda), burden of AIDS worsening (exception Uganda), little change in access to land and inputs.
South Asia and North Africa	Bangladesh, India, Tunisia	Moderate fertility, large gender gaps in education and employment, rising female employment in manufacturing / services	Higher female education and greater expansion of female employment (Bangladesh and Tunisia)	Strong fertility decline, sharp expansion of education, quick reduction of gaps (exception India), large expansion in female employment (exception India)
Latin America	Bolivia, Brazil, El Salvador	Moderate fertility, low gender gaps in education, high female labour force participation, but unequal access to formal sector	Important role of women in export-production (El Salvador)	Strong fertility decline, further expansion of education, large expansion of female employment
East Asia	Vietnam, Indonesia	Low fertility, low gender gaps in education, large female-participation in export industries, large pay gaps	Role of transition on employment opportunities of women (Vietnam)	Rapid expansion of female education and employment in manufacturing (including exports) and services; slight reduction in gender pay gaps
Transition Countries	Romania	Low fertility, no gender gaps in education, high female labour force participation	Depth of economic crisis affects female employment changes	Decline in female employment and relative pay

Three important issues regarding women's contribution to growth are also highlighted in 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.²¹ 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.²² Second, the burden on women's time is raised in the Ghana study (Aryeetey and McKay, 2004) and is likely to influence the productive contributions women are able to make to growth and poverty reduction. Here the role of local infrastructure (particular, 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; Blackden et al., forthcoming). Lastly, the role of AIDS is discussed in the Zambia study but should be emphasized more in the other countries that are affected (including particularly Uganda). Women have a higher incidence of HIV/AIDS and thus their productive contribution and human capital accumulation 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.

A second group of the case study countries from South Asia and North Africa (India, Bangladesh, and Tunisia) combine sharply falling fertility, significantly improving female education from a situation with very high gender gaps, and quite low (but in some countries rising) female labour force participation rates. The speed of the fertility decline and the reduction of gender gaps in education have been much faster in Tunisia and Bangladesh than in India, where the progress has been slower and much more uneven. Also, Tunisia and Bangladesh (in contrast to India) have experienced rising female labour force participation, including rising employment in an export-oriented light manufacturing sector (World Bank, 2001, 2004).

As suggested by the case studies and the discussion in the previous section, gender issues are particularly important and relevant to pro poor growth in these regions as the gender gaps in critical indicators are particularly large and consequential for pro-poor growth.²³ This is due to the fact that these regions started out in the 1960s with particularly large gaps in education, employment opportunities (and even survival), and access to assets and inputs (Klasen, 2002 and Klasen and Wink, 2003). As a result, the role of public policy in strengthening the contribution of women is particularly relevant here it can explain the different speed of improvements in the different countries. In particular, Bangladesh and Tunisia are two examples where a strong commitment to the expansion of female education and the promotion of export-industries that largely employ females appear to have paid off as these two countries show much faster improvements in these two dimensions than other countries in the region (e.g. World Bank 2001, 2004; Klasen and Wink, 2003).

Focusing on the education and employment gaps, the Bangladesh case study notes that the food-for-education programs and the subsidies for girls to go to secondary school in

²¹ See Morrison and Jütting (2004) for a discussion of these issues.

²² Interestingly, the Zambia case study 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.

²³ It is not possible to discuss the potential reasons for the large gender gaps in South Asia and North Africa in this paper. See, for example, Klasen (2003b) and Boserup (1970) and the literature cited there for a discussion

Bangladesh have particularly helped in closing the gender gaps in education (see Sen, 2005; World Bank, 2001). In contrast, action in India was concentrated in only a few regions and thus overall progress was much lower (e.g. Drèze and Sen, 1995). The pay-off to these investments, in terms of reduced fertility levels and improved economic opportunities for women is impressive. Tunisia and Bangladesh reduced their fertility levels much faster than other countries, including India. In addition, as noted by the two case studies, Tunisia and Bangladesh have experienced significant increases in female labour force participation rates in recent years including a rapid expansion of female employment in light manufacturing (Sen, 2005; Ayadi et al. 2004; see also World Bank 2004). This was aided in both contexts by the sharp fertility decline (which enabled greater female labour force participation) as well as a push to promote export-oriented policies, policies to invite foreign direct investment in export-oriented light manufacturing industries, and policies to promote employment opportunities of women. While there are serious questions about pay and working conditions in some of these industries, these developments were critical to promote women's productive contribution, and will raise the bargaining power of women with positive repercussions for their own well-being and that of their families (World Bank, 2001). Moreover, the significant expansion of credit access for poor women in Bangladesh is likely to have further increased their ability to participate in the economy (Sen, 2005). Thus the concerted push for female education and employment, accompanied by the rapid fertility decline, has made a significant contribution to the high and export-oriented growth performance of these two countries.

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 (see also Ravallion and Datt, 2002). 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, see Duflo and Chattopadhyay (2003)).

The Latin American case study countries (El Salvador, Brazil, and Bolivia) combine rapidly falling fertility with high female education. 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. 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. Quite clearly, the most growth-relevant gender issue in these countries is in the labour markets where females continue to face significant barriers to employment, equal pay, and promotion opportunities.

Due to the small gender gaps in education, the high levels of female education and low fertility levels, the potential of women to play an active role in the labour force is particularly

high. As noted by the case studies, 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 (Marquez, 2004). In all three countries, women continue to face significant barriers in terms of employment access, pay, and promotion, so that many women continue to be relegated into low value informal sector activities or domestic service and other low-wage service occupations (Klasen et al. 2004; Menezes-Filho and Vasconcellos, 2004). Reducing these barriers to formal sector employment remains the most important challenge to promote the contribution of women to pro-poor growth in these countries.

The East Asian countries (Indonesia and Vietnam) combine sharply falling fertility levels, rapidly rising female education from a moderate level and the sharp reduction of gender gaps there, high and rising female labour force participation rates driven by big opportunities for female employment in export-oriented manufacturing (but also in agriculture). 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.

In the East Asian cases, 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, fertility rates have come down dramatically, and female employment is high or has been rising rapidly. Women 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. Whether this critical contribution of females to export-oriented growth was aided by the very large gender pay gaps as suggested by Seguino (2000) is not investigated in the case studies but clearly merits further investigation. In any case, the high demand for female labour in export industries appears to have reduced wage discrimination in Vietnam and Indonesia (Klump and Bonschab, 2004; Tzannatos, 1999). 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 and pay gaps remain very large (Klump and Bonschab, 2004; Tzannatos, 1999). 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. Thus the East Asian countries on the whole demonstrate how low gender gaps in education and employment, low fertility rates, and a strategy that specifically promotes female employment can make an important contribution to pro-poor growth.

Romania stands alone in the group of transition countries from Eastern Europe. While it shares some features with the other transition country Vietnam (such as the lay-off of females from state industries) one should treat the Eastern European transition countries as a category all of their own, and 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 (see Gheorgiu et al. 2004, Klasen, 1993). Here as in other transition countries, the issue is more one of defending

women's strong position in the labour market in an era of high unemployment, emerging labour market discrimination, and shrinking budgets for childcare, rather than further promoting women's contribution.

What messages can be distilled from these country case studies? If we focus on the agency aspect of gender issues, the case studies 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. In addition, 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).

The discussion so far has centred entirely on the impact of gender issues on economic growth. Little mention has been made of the impact of gender gaps on income distribution (the second factor affecting pro-poor growth) and unfortunately this is a topic that has not been discussed at all in the case studies. From the discussion above it is also unclear whether we would expect large effects here. The one area where there are plausible effects of gender gaps on income inequality is related to the female education-fertility nexus. As shown in Table 2 below, the regions differ greatly in the fertility differential by education levels of the mother. In particular, in the African case studies, the differential is particularly large with uneducated females having more than 6 children, compared to 3-5 among more educated women. Moreover, more educated women seem to have reduced their fertility more than uneducated ones. Similar gradients exist in fertility rates between poor and rich households. Both would serve to increase inequality in exactly the way proposed by Kremer and Chen (2002) with poor and uneducated households having many children, few investments in each child and thus continued poverty, while rich and educated households invest more in each child and thus are able to further improve their income position. Thus high fertility not only appears to be a barrier for a greater female contribution to growth, but the fertility gradient between poor and rich households serves to increase inequality (see also below).

It is useful to complement this qualitative discussion with some analysis of the impact of initial conditions regarding important gender gaps and changes in these gaps on pro-poor growth. In Figure 2 we show some suggestive correlations between the rate of pro poor growth (using the Ravallion-Chen measure) and important gender-related measures.²⁴ 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 the particular gender indicator. The first and the third

²⁴ Given the endogenous nature of these variables, one cannot infer causation, but the results may be suggestive nevertheless (see also Dollar and Gatti, 1999 and World Bank, 2001).

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 distributional 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.²⁵ 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 growth.

We also separately investigate the correlations between the seven indicators just discussed and growth and changes in inequality, the two constituent elements of pro-poor growth (figures not shown here, but available on request). 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. The one exception is that the countries that experienced the fastest decrease in female literacy also experienced the largest reduction in inequality. Thus promoting female education does not only appear to be growth-enhancing, but inequality-reducing, possibly as the result of the female education-fertility nexus described above.²⁶ But apart from this one exception, it is the impact of gender gaps on *economic growth* (rather than on *distributional change*) that is largely driving the correlations shown below.

²⁵ 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.

²⁶ Interestingly, the countries with the largest fertility decline observed a significant increase in inequality (although the magnitude of the effect is quite small and barely significant). 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.

Table 2: The education-income-fertility nexus in case study countries

	No Education	Primary Education	Secondary Education +	Total Fertility Rate		
Sub-Saharan Africa						
<i>Burkina Faso 1992/93</i>	6.8	5.6	3.1	6.5		
<i>Burkina Faso 1998/99</i>	6.7	5.0	3.0	6.4		
<i>Ghana 1988</i>	7.0	6.2	3.6	6.4		
<i>Ghana 1993</i>	6.0	5.0	2.8	5.2		
<i>Ghana 1998</i>	5.7	5.0	3.5	4.4		
<i>Ghana 2003</i>	6.0	5.3	3.0 ⁽¹⁾	4.4		
<i>Senegal 1986</i>	6.8	5.5	3.6	6.4		
<i>Senegal 1992/93</i>	6.5	5.7	3.7	6.0		
<i>Senegal 1997</i>	6.3	5.2	3.1	5.7		
<i>Uganda 2001</i>	7.8	7.3	3.9	6.7		
<i>Zambia 1992</i>	7.1	6.8	4.9	6.5		
<i>Zambia 1996</i>	6.8	6.7	4.5	6.1		
<i>Zambia 2001/02</i>	7.4	6.5	3.9	5.9		
North Africa						
<i>Tunisia 1988</i>	4.9	3.9	2.3	4.2		
South & Southeast Asia						
<i>Bangladesh 1993/94</i>	3.8	3.4	2.6	3.4		
<i>Bangladesh 1996/97</i>	3.9	3.2	2.1	3.3		
<i>Bangladesh 1999/2000</i>	4.1	3.3	2.4	3.3		
<i>India 1992/93</i>	4.0	3.0	2.4	3.4		
<i>India 1998/99</i>	3.5 ⁽²⁾	2.6 ⁽²⁾	2.2 ⁽²⁾	2.8		
<i>Indonesia 1987</i>	3.4	3.4	2.5	3.1		
<i>Indonesia 1991</i>	3.3	3.3	2.6	3.0		
<i>Indonesia 1994</i>	2.9	3.1	2.6	2.9		
<i>Indonesia 1997</i>	2.7	3.1	2.6	2.8		
<i>Vietnam 1997</i>	3.5	2.7	2.1	2.3		
Latin America						
<i>Bolivia 1989</i>	6.4	6.0	3.3	5.0		
<i>Bolivia 1994</i>	6.5	6.1	3.2	4.8		
<i>Bolivia 1998</i>	7.1	5.7	2.9	4.2		
<i>Brazil 1986</i>	6.2	3.6	2.0	3.4		
<i>Brazil 1991</i>	5.8	3.6	2.0	3.7		
<i>Brazil 1996</i>	4.9	3.3	2.1	2.5		
<i>El Salvador 1985</i>	5.7	4.2	2.4	4.2		
Survey	Total Fertility Rate	Wealth Index Quintiles				
		<i>Lowest</i>	<i>Second</i>	<i>Middle</i>	<i>Forth</i>	<i>Highest</i>
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⁾	
Indonesia 2001	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.

V. Conclusions and Policy Issues

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 to strengthen women's contribution 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 appear particularly promising as the case studies from Bangladesh, Tunisia, and Indonesia suggest. They need to be complemented with strategies that improve female access to employment, particularly in the formal sector, 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, with only Africa and parts of South Asia lagging behind. Third, improving access to productive assets and inputs will be 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.

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 South Asia and North Africa, 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 of 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.

As discussed in the beginning, the focus on the income dimension of pro poor growth has limited a more thorough discussion of gender issues for poverty reduction. This also has implications for policy 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 female-targeted 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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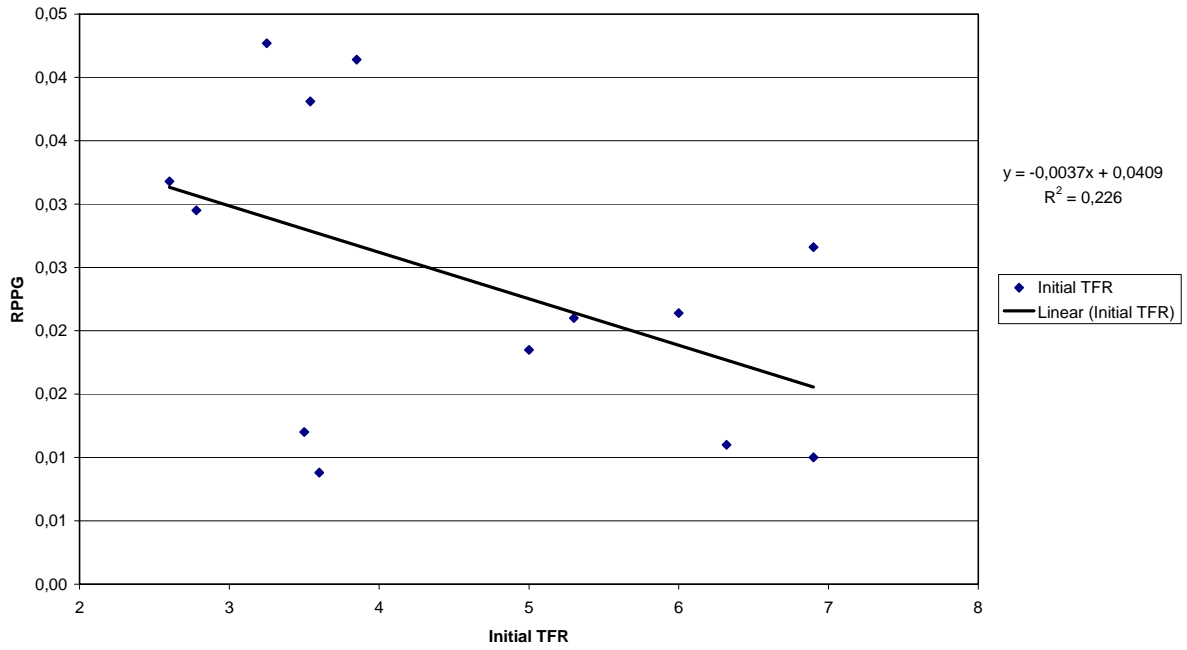
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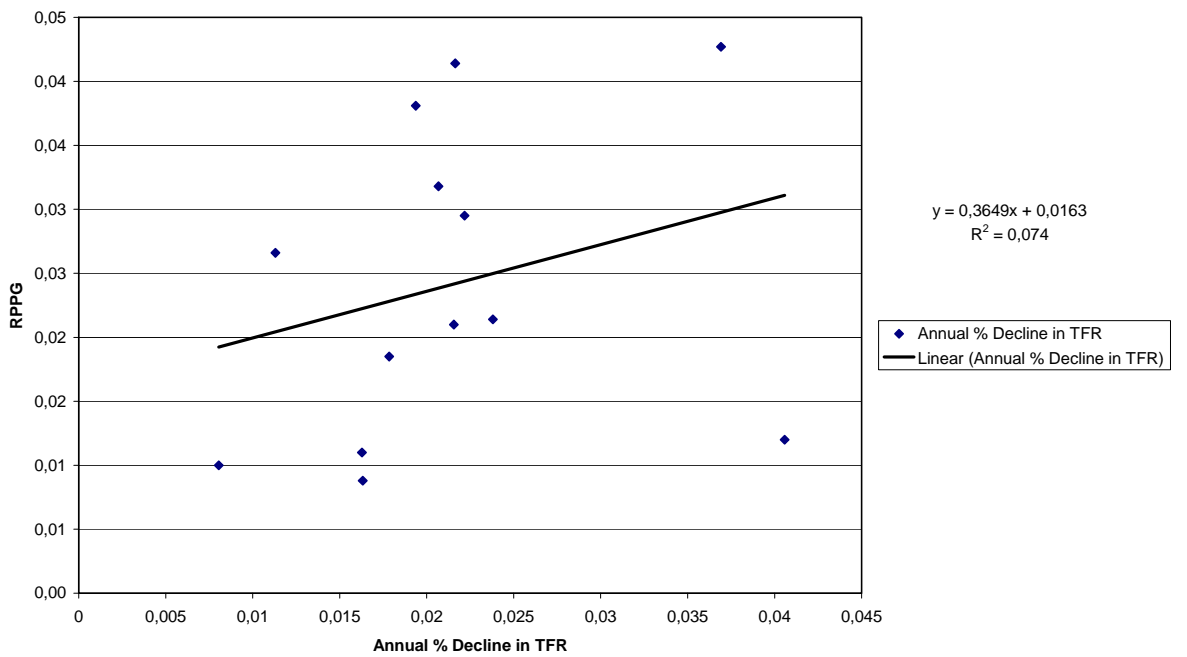
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Figure 3: Gender and Pro-Poor Growth: Some Correlations

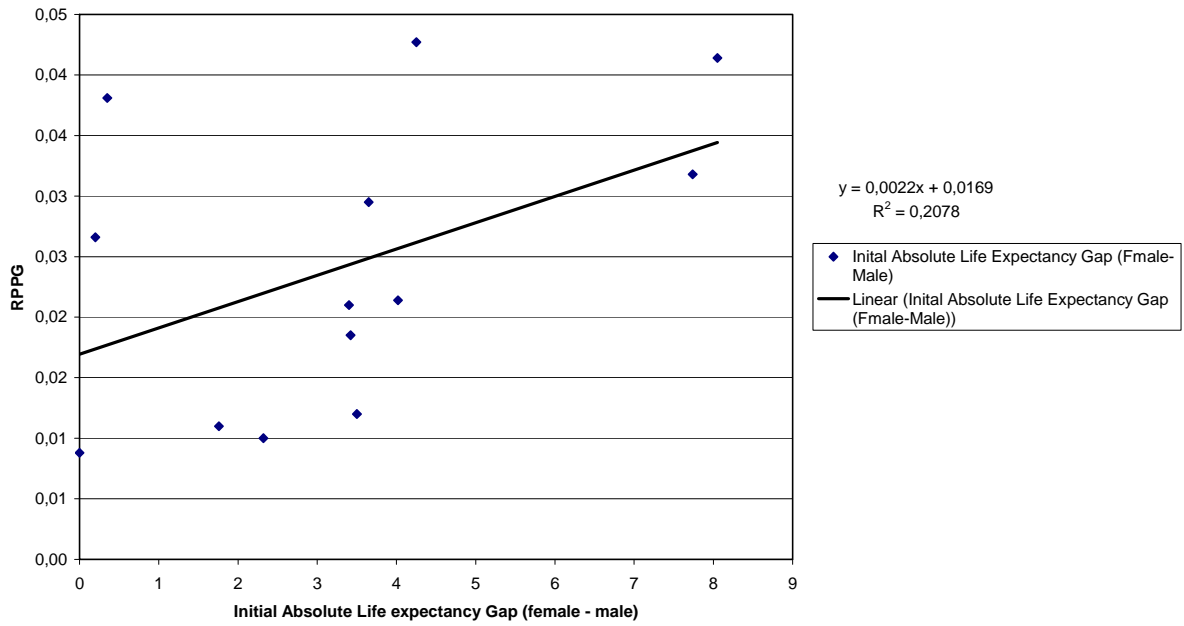
Correlation Diagram 1: Rate of Pro-Poor Growth corr. Initial Total Fertility Rate



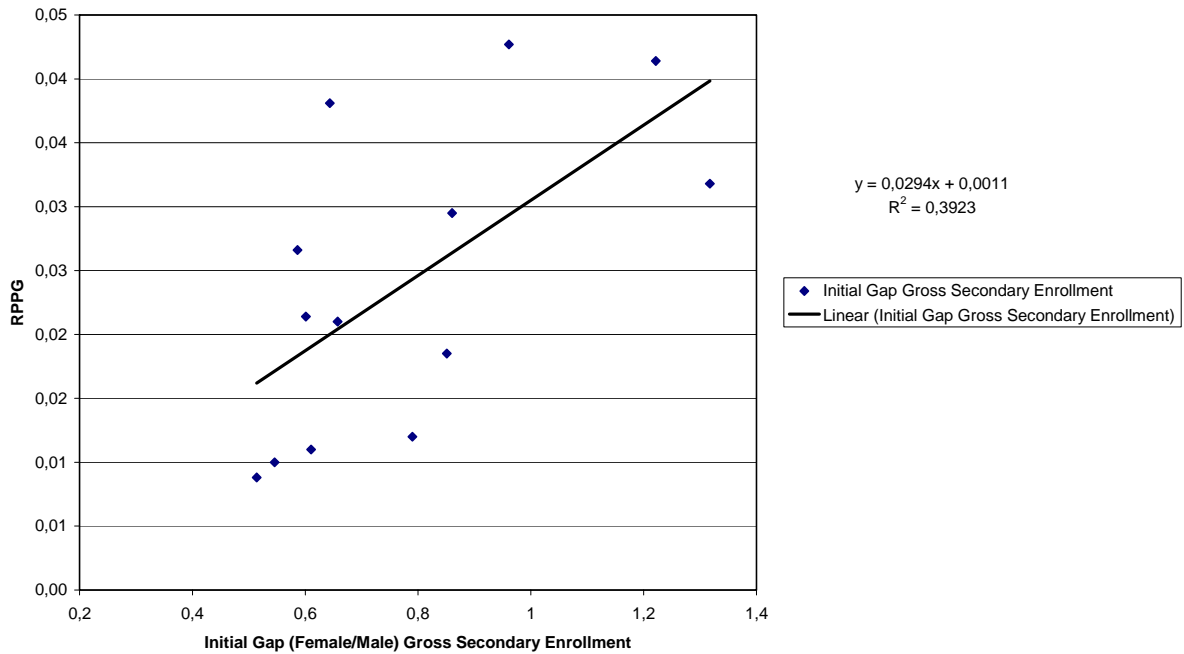
Correlation Diagram 2: Rate of Pro-Poor Growth corr. Annual Percentage Decline in Total Fertility Rate



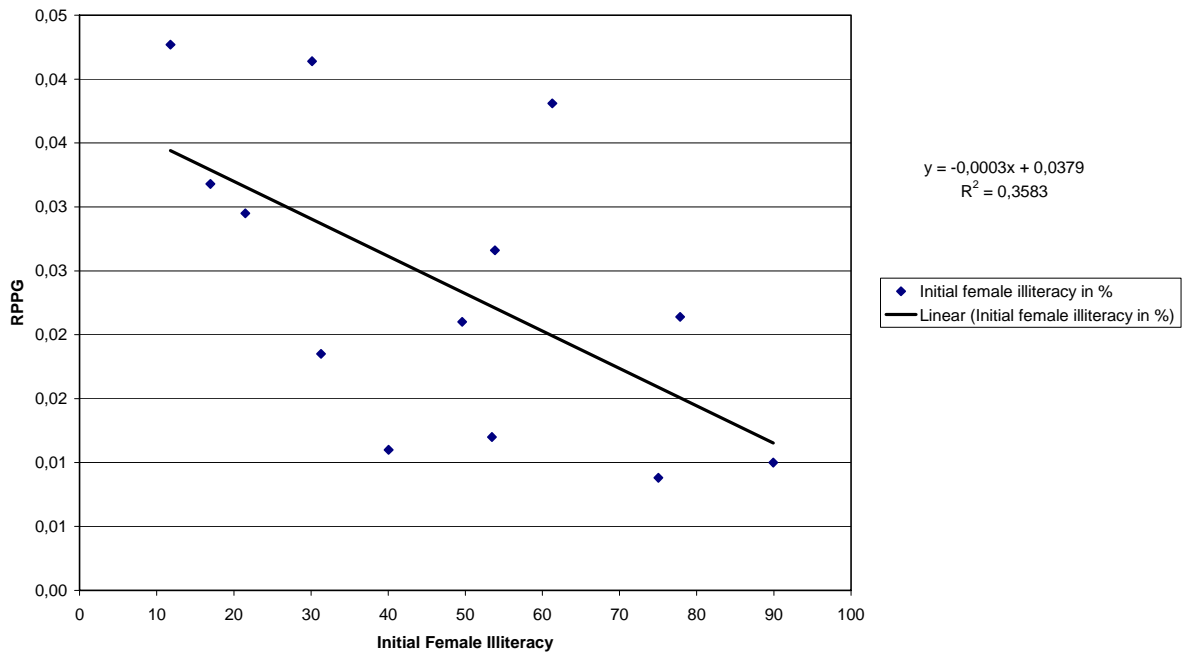
Correlation Diagram 3: Rate of Pro-Poor Growth corr. Initial Absolute Life expectancy Gap (female - male)



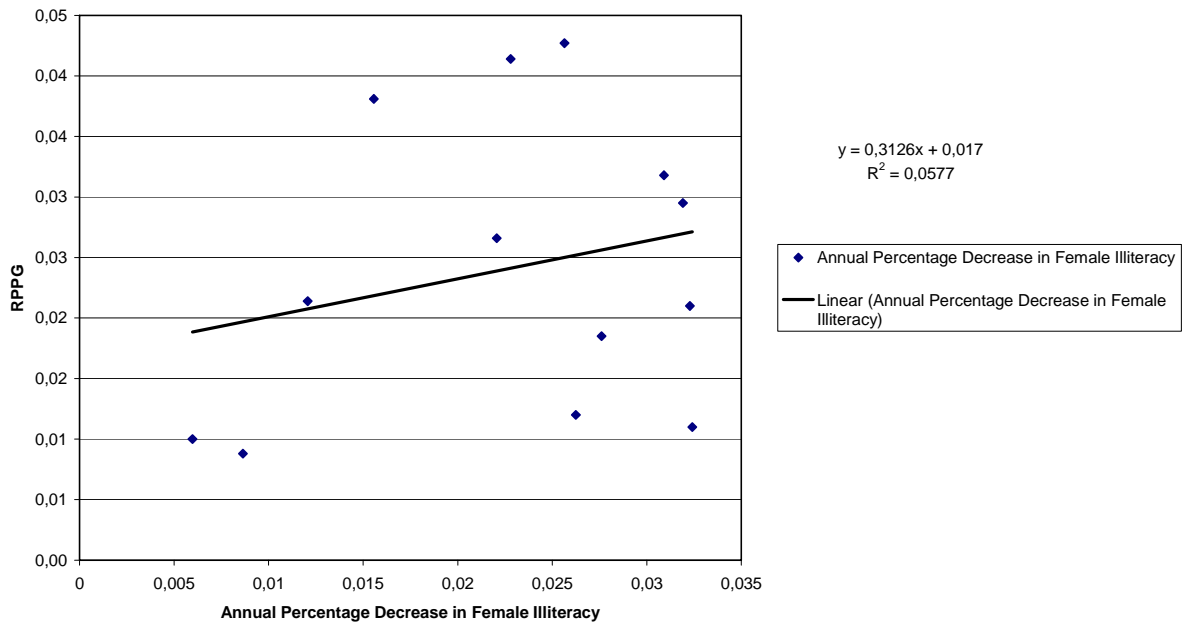
Correlation Diagram 4: Rate of Pro-Poor Growth corr. Initial Gap (Female/Male) Gross Secondary Enrollment



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



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

