

Education, Employment and Earnings in Pakistan

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Gender gaps in educational access, schooling quality and labour market outcomes are pervasive in Pakistan. This brief discusses the findings of three recent studies in Pakistan that highlight the role of education in improving individual productivity, increasing earnings, bringing people out of poverty and providing a pathway to gender equality in the labour market. The papers note the policy implications of the research both for education and labour market policy.

In Pakistan, girls have historically been disadvantaged in schooling relative to boys. They lag behind in terms of access to education, the quality of schools available to them, and the labour market outcomes which follow. While there has been some improvement in recent years, the gender gaps in education remain stubbornly high. Given the magnitude of educational disparities, it is not surprising to find stark gender differences also in adult labour market outcomes. Low education levels trigger a vicious cycle wherein poorly educated women are left ill-equipped to obtaining well-paying jobs and this low return to female schooling, in turn, reduces the incentives for parents to invest in girls' schooling (World Bank 2005).

This policy brief draws on findings from three recent studies in Pakistan undertaken as part of the RECOUP (Research Consortium on Educational Outcomes and Poverty) agenda². The studies were aimed broadly at elucidating the role of education in improving individual

productivity, increasing earnings, bringing people out of poverty, and providing a pathway to gender equality in the labour market. The extent to which education raises earnings is loosely called the economic 'return' to education. All three studies estimate the private economic 'returns' to schooling. However, recognising the importance of what is learnt, rather than merely the number of years spent in school, two of the RECOUP studies also estimate the 'returns' to cognitive skills, utilising test-scores for literacy and numeracy (Aslam, Kingdon and Söderbom 2008; Aslam, Bari and Kingdon, 2008). Generally, such studies utilise samples of those in waged work, rather than of all employed persons, even though the former represent a minority of workers in many developing countries. In recognition of this, one of our studies provides estimates of 'returns' for workers in waged work, as well as those in self-employment and agriculture (Aslam, Kingdon and Söderbom, 2008). Data are either from the Pakistan Integrated Household Survey (1999 or 2001), the RECOUP 2007 household survey, or both. The RECOUP survey included more than 1000 households covering more than 4000 individuals in nine districts of Punjab and NWFP.

Summary of Research findings and Policy Lessons

Education (and particularly literacy and numeracy skills) attainment has the potential to increase gender equality in the labour market by improving access to lucrative jobs for women.

Figure 1 illustrates the estimated association between years of education and the predicted likelihoods of being in one of five 'occupational outcomes' – out of the labour force, unemployed, self employed, agricultural worker or in wage work - for young men (panel i) and young women (panel ii), evaluated at the sample mean values from multinomial models. These figures are based on PIHS 1999 data. For men, while most occupational outcomes are clearly responsive to education – even for those with very low levels of education – for women it is only after about 10 years of schooling that they begin to join the labour force and enter wage employment. Given the very small proportion of women (about 10%) who had

¹ University of Oxford. The author wishes to thank Christopher Colclough and Geeta Kingdon for helpful comments on earlier drafts.

² Aslam, Kingdon and Söderbom, (2008); Aslam (2009); Aslam, Bari and Kingdon (2008).

completed 10 or more years of schooling in 1999, however, the extent to which education promotes gender equality within the labour market is limited. A comparison across an eight year period using latest household data (MHHDC/RECOUP, 2007) shows that education continues to have a limited impact on women's occupational choices in the labour market, though it has a slightly bigger role in 2007 than in 1999. Moreover, wage employment appears *de facto* to be the only 'acceptable' occupational choice for women who participate in the labour market: agricultural work and self-employment feature hardly at all for them. On a more positive note, however, in 2007 women's wage work participation is responsive to education from about 8 years of education onwards, suggesting some loosening of cultural norms. Also, the proportion of women with 10 or more years of education has risen over time (to about 18 per cent in 2007), suggesting that a larger number of women are now able to take advantage of the labour-market benefits of education. While education plays an increasingly important (though still relatively small) role in occupational attainment for women, cognitive skills are found to have substantially high payoffs in 1999 and in 2007. This is true for both men and women. Even very 'basic' literacy skills help women acquire lucrative jobs. However, while literacy promotes entry into the lucrative parts of the labour market for both men and women, the size of the relationship is larger for men. This, again, limits the extent to which skills acquisition can help alleviate gender inequalities in the labour market. This implies that policy should aim to weaken the conventional gender division of labour and the conservatism of attitudes to women's participation in the paid labour market. This could be pursued via public education campaigns and media messages highlighting successful female role models. The promotion of literacy among women through public campaigns is also a high priority.

The returns to women's schooling and to women's literacy and numeracy skills are higher than to men's in all occupations in the labour market.

If the labour market rewards men's schooling more than women's (i.e. if the economic rate of return to education is higher for men than women), or if it discriminates against women, parents have an economic incentive to invest more in boys' schooling. Our findings consistently suggest that women have significantly higher economic incentives to invest in education than men. According to one estimate, the return to completed years of schooling attainment in wage work ranges between 7 and 11 per cent for men and between 13 and 18 per cent for women

(Aslam, 2009). By this consideration, there should be a pro-female bias in the parental household decision to educate, since the economic rewards of educating girls are apparently substantially higher than those of educating boys. This is clearly not the case since we know that girls receive less education than boys in Pakistan. However, there also appears to be a large element of gender discrimination in the Pakistan labour market. While the economic return to schooling (which compares the responsiveness of earnings to an *additional* year of schooling) is considerably higher for women than men, *total earnings* are dramatically higher for men than women. Figure 2 provides an illustrative picture using PIHS 1999 data. It plots years of schooling on the x-axis against predicted earnings of wage workers on the y-axis. It is clear from the graph that although the slope of the education-earnings relationship is three times as steep for women as for men, the intercept of the wage regression is much higher for men; men enjoy earnings premiums over women at all levels of education.

If returns to schooling attainment for women are higher than for men, why does a gender bias against them in household education decisions remain? One potential explanation is that even if the return to girls' schooling attainment is higher than that to boys' attainment, the part of the return to daughters' attainment accruing to parents may be much lower than that accruing from that of sons. In that case, part of the explanation for this puzzle may lie in marriage-market considerations. A second explanation for pro-male education bias, despite higher returns to female education, is that social norms in Pakistan dictate that elderly parents live with their sons. Social security systems, such as pensions, are more or less non-existent in Pakistan. This means that parents invest in sons so as to provide them old-age support. A third explanation for underinvestment in girls' schooling despite higher private returns to education could be that the opportunity cost to parents of sending their girls to school is higher than for boys. Finally, it may also be that powerful social and cultural (demand-side) factors – such as conservatism of attitudes to women's education and their labour market work – as well as supply-side constraints (lack of girls' schools for post-puberty age groups) limit girls' access to schools and discourage enrolment despite high economic returns to education.

From a policy perspective, there is a clear need for reforming labour market policies in ways that reduce gender-differentiated treatment by employers. The Government of Pakistan may need to re-examine social policies which subsidise girls schooling until the time that family investment in schooling becomes relatively equal for boys and girls. If parents are partly under-investing in girls'

schooling because the lack of pension provisions require them to depend on sons for old-age support, policies may need to address this institutional failure. If girls are getting less schooling because the opportunity cost of school time in terms of home production is too high, more innovative policies, such as night school and income subsidies/monetary incentives may be needed to increase girls' enrolments.

Education can promote gender equality in the labour market by narrowing the gap in male-female earnings.

We find that the economic returns to women's schooling and skills in Pakistan are invariably and substantially higher than to men's in all occupations and among all age-groups. Accordingly, the gender gap in earnings is substantially smaller among those with higher levels of education (Figure 2). Hence, education reduces gender gaps in earnings and can play a vital role in attenuating inequalities in the labour market. To strengthen the labour market equality-promoting benefits of education, Pakistan will need to ensure that a greater proportion of its women proceed to secondary education and beyond. Attention to increasing the supply of secondary and tertiary education and to easing credit constraints for girls, e.g. by providing attendance-contingent cash transfers for girls, will be required.

The pattern of returns to schooling is 'convex'.

Until recently, the available evidence appeared to suggest that the labour market 'returns' to schooling in developing countries are greatest at the lowest (i.e. primary) education level and that they steadily decline as years of education increase. This 'concave' profile of returns meant that primary schooling has traditionally been interpreted to be a highly profitable investment even if children leave schooling after completing this level. The concavity of the education-earnings relationship has been challenged in several developing countries in recent times and our studies corroborate these findings for Pakistan. If the returns to schooling are in fact 'convex' i.e. returns are lower for lowest education levels and consistently increase with the level of education attained, some policy consequences follow. In particular, the rationale for expanding higher levels of schooling is strengthened – albeit (because of its high private profitability) in ways which do not necessarily fully subsidise its provision. The rationale for the universal provision of primary schooling remains untouched by these results, both because of its attendant non-market returns and because it provides a necessary route to literacy, numeracy and higher levels of

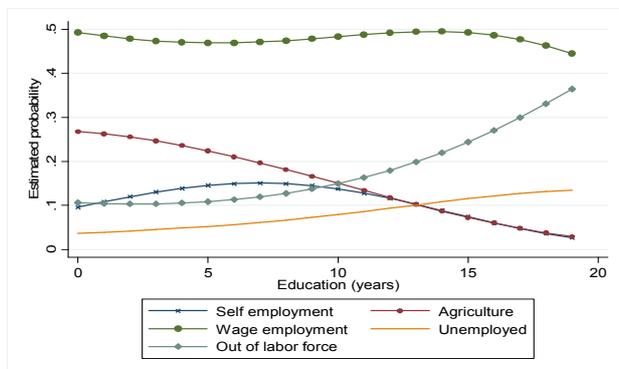
education. Furthermore, although the education-earnings profiles in Pakistan are convex, the returns to primary schooling are high compared to other developing countries. This may reflect un-met demand within industry-sectors that need low-skilled labour and policy-makers may need to promote low-level education as well as adopt policies which encourage these individuals to participate in the labour market (especially women).

On the other hand, convexity carries risks of education inequality: if returns to schooling increase with higher education, poorer families who can afford only to educate their children at primary level will face lower returns than richer families who educate children until tertiary levels. Consequently, the poor may be less motivated to educate their children, or may send only the more able children to school, for whom returns could be higher. Thus, education and earnings differentials may widen both across and within families (Schultz 2004). To counteract these tendencies, policy needs to focus on providing appropriate incentives to the poor.

Finally, another potential reason for low primary returns is the possibility that primary schooling quality in Pakistan is low, and that completing primary schooling does not lead to the acquisition of secure numeracy and literacy skills. This could be a result of declining per student resources as primary school enrolments have risen over time, with consequent reductions in the cognitive skills of the average primary graduate. If this is so (rather than changes in returns deriving from changes in employment patterns), the demand for primary education, as a terminal stage of schooling, is likely to be concomitantly reduced. Policy, therefore, needs to focus on the improvement of school quality to strengthen learning, and to ensure that the demand for primary schooling is maintained. Primary schooling is not only a key input to subsequent education cycles but it is the crucial means of gaining numeracy and literacy skills which bring not only economic and social returns, but provide the fundamental basis for achieving agency in a modern society (Colclough, Kingdon and Patrinos 2009).

Figure 1 - Young (aged 15-30) individuals 1999: Estimated probability of occupational outcomes by education

(i) Men



(ii) Women

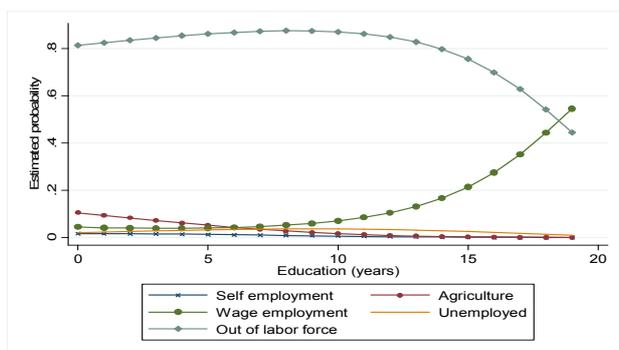
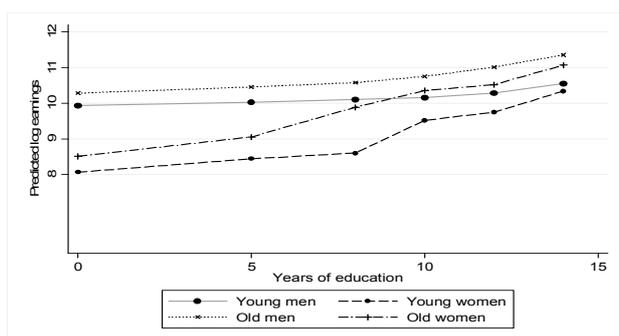


Figure 2 – Relationship between predicted earnings and education - 1999



Source Figure 1 and 2: Aslam, Kingdon, G. and M. Söderbom, (2008), 'Is Female Education a Pathway to Gender Equality in the Labor Market? Some Evidence from Pakistan', book chapter in edited volume *Girl's Education in the 21st Century: Gender Equality, Empowerment and Growth*, edited by Mercy Tembon and L. Fort, The World Bank, Washington D.C;

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