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# EDUCATE THE GIRLS: LONG RUN EFFECTS OF SECONDARY SCHOOLING FOR GIRLS IN PAKISTAN

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Programs focusing on educating girls are central to development policy, under the assumption that investment in the education of young girls and women yields not only private but also social returns. This policy brief builds on the research estimating the long run effects of a conditional cash transfer program (FSSP) for girls attending public secondary school in Punjab, Pakistan. The authors find that exposure to the program during school going years increases the probability of completing secondary schooling, reduces the likelihood of early marriage and pregnancy, and improves the likelihood of taking up maternal healthcare. Moreover, the research finds that the children of women exposed to the program score better on standardized measures of weight and height and are less likely to be underweight or stunted. The findings have clear and multi-pronged policy implications targeting these development goals for women and child health, especially in developing countries.



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# Introduction

Improvements in health and education, especially for women and children, are universally accepted public policy goals in both developing and developed countries. Governments and international donor agencies have attempted to address these problems with a host of interventions ranging from free provision of health services to Conditional Cash Transfers (CCTs) for school attendance. Economic theory suggests educated women may have lower fertility and enable better health care and education for their children. While secondary schooling programs are regularly evaluated for their impact on enrolment rates, evidence on the causal relationship between maternal education and especially secondary schooling on marriage, fertility and child health in developing countries is quite rare. As primary enrolment rates approach 100 percent globally and generally higher costs of secondary education relative to primary education, longer term impact and intergenerational impacts of secondary schooling are important policy-relevant outcomes to measure, irrespective of learning gains.



## Education and Child Health Crisis in Pakistan

Pakistan is a country with one of the highest maternal, infant and child mortality rates in the world, yet no prior evidence exists on the long run impact of secondary schooling on fertility, age of marriage and child-birth, and health care utilization for women in Pakistan.

- Pakistan is one of the three countries in the world with *more than 1 million adolescent girls out of school*. The female gross enrollment rate for the primary level stands at 86 percent for Pakistan which drops sharply to around 40 percent for secondary schools despite no tuition fees in public schools.
- This is attributable to a host of *subjective* (e.g. cultural), *objective barriers* (e.g. costs of textbooks, transportation, street harassment etc.) and *scarcity of schools*.
- Historically, female enrollment in primary and secondary schools has been low, both in absolute terms and relative to boys. *Low female enrollment is compounded by low retention and completion rates for girls*.
- Child health in Pakistan is highly correlated with age and education level of mothers: *neonatal mortality rates are 1.5 times higher for younger mothers (aged 20 years or less) and 2.4 times higher for less educated mothers*.
- Pakistan has one of the *highest rates of stunting and child mortality* in the world, receiving both global and local attention.



# About the FSSP Program

<p>01</p> <p>The Female Secondary School Stipend Program (FSSP) is an ongoing, conditional cash assistance program for girls attending secondary schools initiated in 2004 by the Government of Punjab, Pakistan.</p>	<p>02</p> <p>The objective of the program was to encourage households to send their girls for secondary schooling.</p>	<p>03</p> <p>The program was implemented in districts with literacy rates of 40 percent or less according to the national census in 1998. 15 out of the 36 districts qualified on the basis of this rule.</p>
<p>04</p> <p>The first quarterly stipends worth PKR 600 (USD 10) per female student attending grades 6-8 in a public secondary school were disbursed under the FSSP in 2004.</p>	<p>05</p> <p>In 2005, the program was extended to include grades 9 and 10.</p>	<p>06</p> <p>Stipends were disbursed quarterly and were conditional on girls maintaining 80 percent attendance (as reported by the school).</p>

## How is FSSP unique?

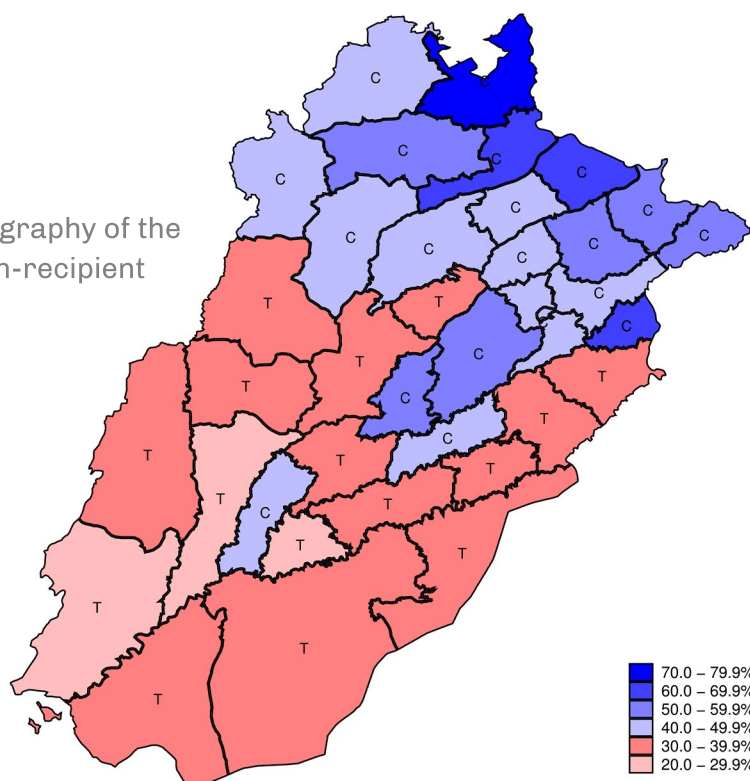
- Unlike other Conditional Cash Transfer programs, the FSSP in Punjab is unique in two respects:
  - It is a non means tested program – i.e., not conditional on household resources.
  - The amount of the cash transfer is small (PKR 600 or USD 10 per quarter), hence, not a significant income shock for the households.
- The inter-generational findings can be placed within the context of direct or spillover impacts of maternal education as FSSP only targeted girls.



# About the Study

- This research study estimates the long run effects of the FSSP program for girls in Punjab. The estimated intent-to-treat effects can be interpreted as a lower bound of the true effect of the program.
- In order to estimate causal impacts of the FSSP on individual outcomes, the study exploits variation in exposure to the program across cohorts and regions to estimate the long run effects of the program on women's education (secondary school completion and years of education), teenage marriage and childbirth, and maternal health care utilization (pre and post-natal care).
- Using four rounds of cross sectional data from Multiple Indicators Cluster Survey (MICS)<sup>1</sup> collected in 2003, 2011, 2014 and 2018, the study retrospectively assigned the number of years of potential exposure to the program to each woman in the sample based on (a) district of residence (treatment vs. comparison) and (b) her age at the initiation of the program.
- Women in the comparison districts were not eligible for the program. Women aged 16 and older in 2004 in the treated districts were too old to benefit from the program. These two groups of women make the comparison sample, with zero years of exposure.
- The identification strategy assumes that outcomes of interest in the treated and comparison groups would have continued to trend in a parallel fashion in the absence of the treatment.
- All OLS regressions include district, survey year and cohort fixed effects to account for any differences across districts, cohorts and survey measurement other than the program that might be accounting for differences in educational attainment.

**Fig. 1** shows geography of the recipient and non-recipient districts.



Punjab is the populous province of Pakistan- where more than half of the 23 million out of school children in the country reside.

<sup>1</sup>MICS is representative at the district level.





## Findings

This study finds that the program met the primary goal of increasing education for women. In particular, it finds<sup>2</sup> that each potential year of exposure to the program:

- Increases the probability of completing secondary school by 1.9 percent.
- Decreases the probability of an early marriage (i.e. before the age of 16) by 3.5 percent.
- Decreases the likelihood of childbirth before the age of 17 by 3.8 percent.
- Increases the likelihood of seeking prenatal care later in life: an increase of 0.7 percent in take up of prenatal checkups for each year of exposure, though it does not find any impact on postnatal care.
- Decreases the likelihood of children of women exposed to the program to be underweight (1.7 percentage) or stunted (1.9 percent).
- Child mortality is also lower for women exposed to the program i.e. women exposed to the program are 0.6 percentage points less likely to experience the death of a child. With 17 percent of women in the sample reporting having lost a child, this is an important reduction of 3.5 percent on the sample average.

The Benazir Income Support Program (BISP)<sup>3</sup>, has been found to significantly reduce the likelihood of girls being underweight with no effect for boys of this age (Cheema et al., 2014). This research also supports the general trend i.e. *larger improvements in health outcomes of girls.*

Possible channels of the later-life and intergenerational impacts include *assortative matching in the marriage market*, *increased awareness about health* and women being *more empowered.*



<sup>2</sup>The findings are in line with results in similar studies in India and Bangladesh. These results are also robust to several specifications, including controlling for healthcare services over time, excluding older cohorts of women with lower levels of exposure and restricting the sample to districts with similar literacy rates in 1998.

<sup>3</sup> BISP is an unconditional cash transfer program for the ultra poor in Pakistan.

# Policy Implications

The findings of this research imply that programs aimed at promoting girls' education can lead to beneficial long run gains in multiple dimensions that should be factored in evaluating these policies.

01

Incentive of receiving a cash transfer in secondary schools *induces girls to complete primary schooling.*

02

By inducing women to seek maternal healthcare, programs like FSSP have the potential to contribute to a *reduction in maternal mortality in Pakistan* by inducing women to seek maternal healthcare.

03

While the reduction estimated in this study does not differentiate between infant and child mortality, it lends support for using girls education programs for long run meaningful *reductions in child mortality.*

04

Programs that educate women may further help *alleviate high rates of stunting and child mortality.* Educated mothers may become enablers of health by proactively seeking healthcare for their children and being more aware of nutrition, health and hygiene practices than the less educated.

05

It is worth noting that since young women's bodies are not ready for child-birth, delayed pregnancies can also improve child outcomes.

These outcomes are important policy targets, especially for low-income countries with poor health and educational outcomes. Results of this study indicate that longer term benefits must be considered when evaluating policies aimed at increasing schooling for girls.





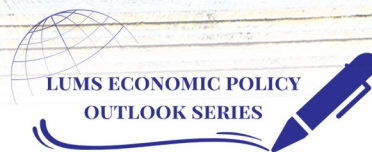
## Future Research Direction

Several future research directions emerge from this rigorous evaluation of FSSP, mainly contingent on availability of data.

- Effects on lifetime reduction in fertility can be studied since the data used in this sample comprises women who are not yet at the end of their fertile years.
- The effect on women's labor force participation and income may shed more light on the mechanisms behind the observed findings.
- The impact on older children and important policy targets like child labor can also be explored.
- The study finds that stipend for secondary schooling increases primary enrolment. Similar results from recent studies in India and Tanzania indicate that better access to higher education may reduce costs and/or improve motivation for primary education. While data limitation do not allow to explore the mechanism behind an increase in primary education in the current context, data on changes in household expenditure or infrastructural access to secondary education items may help shed light on potential drivers of this effect in future.
- The amount of the FSSP increased four-fold in 2017 to PKR 1,000 per month. Future research can exploit the variation in stipend over time to explore the effect of size of stipend on outcomes of interest.







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The source publication can be accessed [here](#)

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