



# LEAPS

LEARNING AND EDUCATIONAL  
ACHIEVEMENT IN PAKISTAN SCHOOLS

# WHAT IS LEAPS?

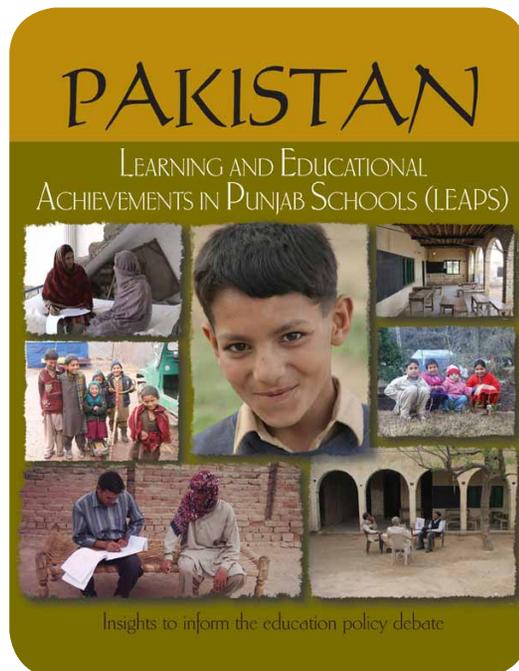
LEAPS is a large-scale research study exploring how to improve learning outcomes in Pakistan.

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**When LEAPS began in 2003, most education debates were premised on the belief that education in rural areas was provided by a single public school.**

What we saw was very different—visits to multiple villages showed that there were actually many public and private schools in each village, and that parents were making active choices about how to engage with this complex educational ecosystem.

**We were convinced that we needed a new approach.**

We launched LEAPS in 2003 as an unprecedented exercise to inform the education debate in Pakistan. Our team fanned out across 112 villages throughout Punjab, collecting data on 850 schools, 12,000 children, 5500 teachers, and 800 head-teachers. This work resulted in our 2008 LEAPS Report: *Insights to Inform the Education Policy Debate*.

Since that first exercise, LEAPS has expanded into a long-term series of studies and experiments to examine how to catalyze innovation in education and improve learning outcomes in Pakistan.

In terms of data alone, it has become the single largest repository of how children learn through their primary schooling years and how that experience is linked to later life outcomes.

Ultimately, the lessons from these studies will help Pakistan and other countries improve their educational systems—and improve the lives of children.

# OUR IMPACT



## Influencing the education narrative

LEAPS was the first large-scale study to highlight the learning crisis in Pakistan's schools and emphasize the large and growing role of the low-cost private school sector.



## Generating internationally acclaimed research

The LEAPS team has produced a large body of internationally acclaimed research on education in Pakistan. Our work has helped place Pakistan on the map as a global leader in education reform.



## Informing policy

Through our research and active engagement with multiple government stakeholders and policymakers, we advance evidence-based decision making in Pakistan's education sector.



## Providing a rich source of data for further research

We have a strong commitment to making our data and analysis public, paving the way for further research within Pakistan and in education markets across borders.

# WHAT HAS LEAPS FOUND SO FAR?

## There is a learning crisis

*Even as per-child spending has increased, test scores remain low*

Despite a significant increase in enrollment, especially among girls and the poor, Pakistan faces a learning crisis. Between 2003 and 2011, the LEAPS team tested 22,000 children in Urdu, English, and Mathematics in all public and private schools across three districts of Punjab. We found that by the end of grade 3, many children had not mastered grade 1 curriculum, and the majority had not mastered grade 2 curriculum.

### AMONG STUDENTS IN THE LEAPS SAMPLE:



could answer a simple counting question



could form a coherent and grammatically correct sentence using the word "school"



could subtract up to 3-digit numbers



could answer basic questions after reading a short paragraph

## Distance matters

*Distance is a key factor that impacts school attendance, particularly for girls*

Every additional 500 meters increase in distance between a household and the closest school results in a large drop in student enrollment. Girls living 500 meters away from a school are 15 percentage points less likely to attend than those living next door to the school. The drop-off is much smaller for boys. This fact accounts for the bulk of the difference in enrollment between boys and girls in Pakistan.

### SCHOOL DISTRIBUTION IN A TYPICAL VILLAGE IN PUNJAB



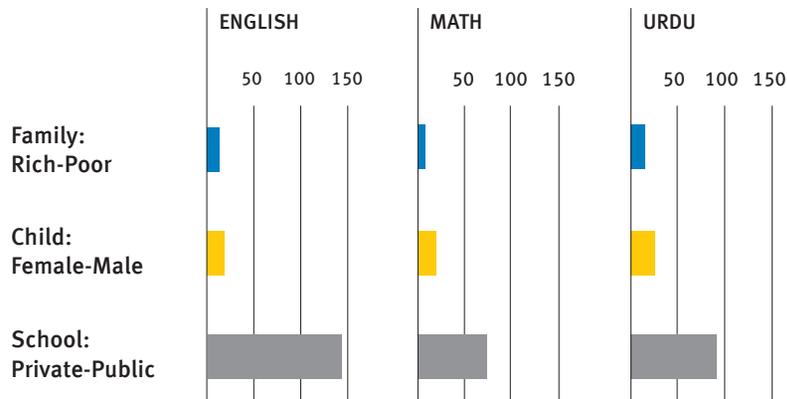
In most villages, parents can choose among numerous low-cost private schools (shown in purple) that are closer to home than the nearest government school (shown in yellow).

## Low-cost private schools are pervasive

*Today, 42% of all children in Pakistan are enrolled in a private school*

Secular, low-cost private schools are widespread in both urban and rural areas. Between 2000 and 2016 they increased from 32,000 to over 60,000 in Punjab alone, presenting challenges but also opportunities for improving education. LEAPS data show that children in private schools are significantly outperforming those in public schools, which means that these schools are delivering higher-quality education using fewer resources.

SIZE OF ADJUSTED LEARNING GAPS

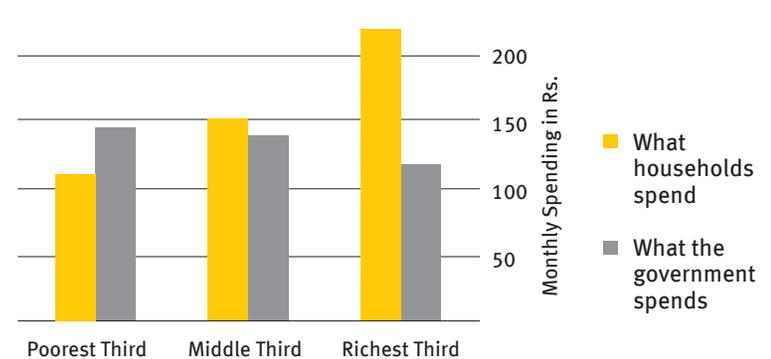


## Education is an active marketplace

*In a typical village in Punjab, parents can choose between 7–8 schools*

The new educational landscape in Pakistan is best described as an active educational marketplace with multiple schools vying for students. Pakistani parents—both rural and urban—are highly motivated to invest in their children’s education. Even among poor households, nearly one out of every five pay for their children to attend private school in where the option exists.

HOUSEHOLD VERSUS GOVERNMENT EDUCATION EXPENDITURE



Even the poorest households are willing to pay for higher-quality education

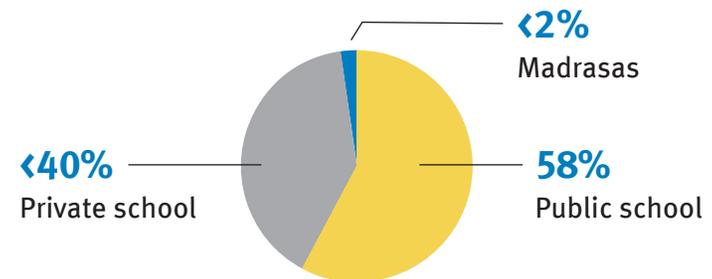
# REFOCUSING THE EDUCATION DEBATE

## Debunking the madrasa myth

*Religious education is small and not growing*

At a time when reports in the Western media attributed rising extremism in Pakistan to religious education, LEAPS debunked myths about the prominence of madrasas, showing that less than 2% of schoolchildren were enrolled in religious schools, and that there had been no increase in madrasa enrollment over time.

ENROLLMENT BY SCHOOL TYPE



# THINKING DIFFERENTLY ABOUT EDUCATION

Improving education quality requires moving beyond a focus on specific input augmentation (such as improved textbooks or teacher training) in schools. Our research takes a comprehensive systems approach in which we examine the full educational ecosystem and identify the constraints that prohibit students, parents, and schools from achieving their goals.

Through our research, we aim to answer the following questions:

- 1 What system-level obstacles are impeding innovation and preventing improvements in education quality?
- 2 How can we address these obstacles and catalyze innovation in the education ecosystem?

## OUR CURRENT WORK

We are working in four areas where we have identified system-level failures:

- 1 Labor Market Failures
- 2 Information Asymmetries
- 3 Lack of Access to Finance
- 4 Innovation Failures

# LABOR MARKET FAILURES

*The adequate supply of quality teachers is a critical input for high-quality education*

## Students today become teachers tomorrow

We find that teachers in low-cost private schools are almost exclusively women. Therefore low-cost private schools tend to arise in locales where educational opportunities for girls are available.

### IN VILLAGES WITH SECONDARY SCHOOLS FOR GIRLS:



x2

There are twice as many educated women



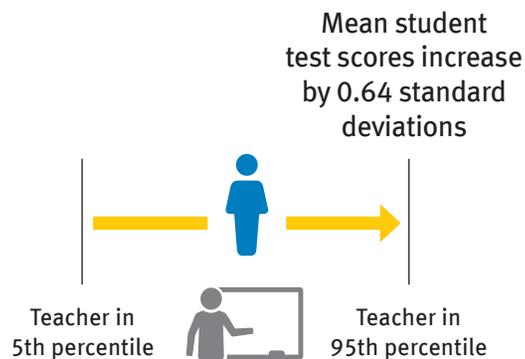
x3

Private schools are three times as likely to open

## Pay not linked to teacher effectiveness

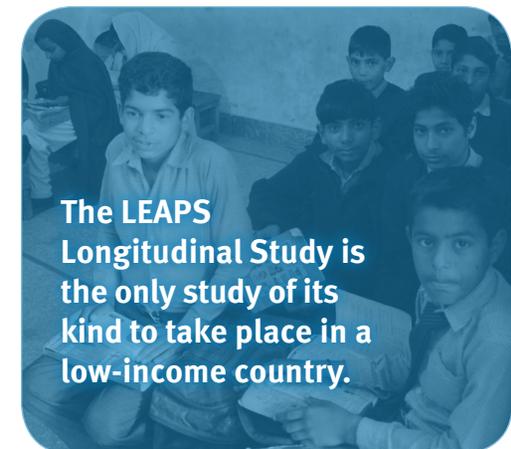
We find that student test scores improve by 0.64 standard deviations when teacher quality improves. We also find that there is no correlation between pay and productivity among teachers in the public sector.

### THE IMPACT OF TEACHER QUALITY



## The long-term returns on education

The bedrock of LEAPS research is a unique, long-term study that follows 10,000 students from the primary classroom all the way into adulthood. We explore the impact of schooling on early adult labor force outcomes, occupational choice, and family formation, stratified by gender.



# INFORMATION ASYMMETRIES

*Spending \$1 per child on information can massively increase test scores*

Economic theory tells us that better information might allow parents to choose schools based on their quality and price, and that this might push schools to invest in quality enhancements, knowing that they will be recognized and rewarded. To test this, our team conducted a randomized controlled trial in 112 villages across the Punjab province. We provided treatment village families with report cards that not only gave information about their child's test scores, but also let parents know how that school was performing compared to other schools in their village.

## RESULTS OF THE REPORT CARDS STUDY:



### Learning improved

Average student test scores in treatment villages increased by 42% more than in control villages.



### The worst schools closed

In treatment villages, private schools with low baseline test scores were likely to close due to lack of enrollment.



### Enrollment increased

In treatment villages, overall enrollment rose by 3 percentage points, an average of 40 more children per village.



### School became more affordable

Fees for private schooling declined by 17% in treatment villages relative to control villages.

# LACK OF ACCESS TO FINANCE

*Schools need resources to implement innovations, but financing is a major constraint*

A large literature on credit constraints in small and medium enterprises shows how the inability to borrow can hurt firm expansion and profitability. We are applying this framework to public and private schools and examining how alleviating resource constraints impacts educational outcomes. We are finding that a major stumbling block for public and private schools in Pakistan is a lack of access to finance to enable innovation.

Our team studied the effects of unconditional cash grants transferred to private schools across more than 250 villages in 850 schools in rural Pakistan. Our findings suggest that when all schools in a village receive financing (as opposed to just one school) they begin to invest in education quality rather than physical infrastructure in order to remain competitive in the village's education marketplace.

## THE INTENSITY OF FINANCING PROVIDED IN A GIVEN VILLAGE MATTERS

WHEN ONE PRIVATE SCHOOL IN A VILLAGE RECEIVES A GRANT



WHEN ALL PRIVATE SCHOOLS IN A VILLAGE RECEIVE A GRANT



## EDUCATION FINANCING STUDY

We have partnered with microfinance and commercial banks to design and evaluate financial products specifically designed for low-cost private schools in Pakistan. We are examining the effects of a variety of financing models on test scores, enrollment, and revenues.

# INNOVATION FAILURES

*While low-cost schools have access to markets for “hard” investments (such as desks and chairs), they have limited access to markets for “soft” investments (such as curriculum development and teacher training)*

We are currently working with educational support service (ESS) providers to create educational products specifically designed for the low-cost school market.

We have conducted a number of educational *melas* (trade fairs), where school owners, administrators, teachers, and parents can connect with ESS providers, learn about their products and services, test their relevance, and purchase them at affordable prices.

A sample of the schools participating in the *melas* are also part our study that provides access to finance. Thus this study will shed light on how increased capital interacts with increased access to markets to impact test scores, enrollment, and revenues.



## LOOKING AHEAD

Enrollment numbers are up in Pakistan, but learning outcomes remain vastly substandard. For over 15 years, the LEAPS team has been pursuing transformational research with the aim of improving educational attainment among Pakistan’s children.

To learn more, visit [epod.cid.harvard.edu/initiative/leaps-program](http://epod.cid.harvard.edu/initiative/leaps-program)

## Select Publications

Andrabi, Tahir, Jishnu Das, and Asim Ijaz Khwaja. 2017. "Report Cards: The Impact of Providing School and Child Test Scores on Educational Markets." *American Economic Review*, 107 (6): 1535-63.

Bau, Natalie and Jishnu Das. 2016. "The Misallocation of Pay and Productivity in the Public Sector: Evidence from the Labor Market for Teachers." Working Paper

Andrabi, Tahir, Jishnu Das, and Asim I. Khwaja. 2015. "Delivering Education: A Pragmatic Framework for Improving Education in Low-Income Countries." *Handbook of International Education*.

Andrabi, Tahir, Jishnu Das, and Asim I. Khwaja. 2013. "Students Today, Teachers Tomorrow: Identifying Constraints on the Provision of Education." *Journal of Public Economics* 100(1): 1-14.

Andrabi, Tahir, Jishnu Das, and Asim I. Khwaja. 2011 "What Did You Do All Day? Maternal Education and Child Outcomes." *The Journal of Human Resources*, 47(4): 873-912.

Andrabi, Tahir, Jishnu Das, and Asim I. Khwaja. 2011 "Do Value-Added Estimates Add Value? Accounting for Learning Dynamics." *American Economic Journal: Applied Economics* 3(3) 29-54.

Andrabi, Tahir, Jishnu Das, and Asim I. Khwaja. 2011. "The Madrassa Controversy: The Story Does Not Fit the Facts." Shahzad Bashir and Robert Crews, ed. *Under the Drones: Modern Lives in Afghanistan-Pakistan Borderlands*, Harvard University Press. June 2011.

Andrabi, Tahir, Natalie Bau, Jishnu Das, and Asim I. Khwaja. 2010. "Bad Public Schools are Public Bads: Test Scores and Civic Values in Public and Private Schools." Working paper.

Andrabi, Tahir, Jishnu Das, and Asim I. Khwaja. 2008. "A Dime a Day: The Possibilities and Limits of Private Schooling in Pakistan." *Comparative Education Review*, 52(3): 329-355.



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