

# Education in Pakistan: Some Insights from the LEAPS project

[www.leapsproject.org](http://www.leapsproject.org)

## HDF Conference

Chicago, IL

June 2008

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# The LEAPs Project

## Learning & Achievement in Punjab Schools

### ■ Motivation:

- In-depth multi-year data collection exercise to capture the educational universe and its evolution in Pakistan
- Gain insights on main issues/challenges in education
- Design/Collaborate (with Ministry) and evaluate interventions

### ■ LEAPs data: 4-year longitudinal study in 112 villages

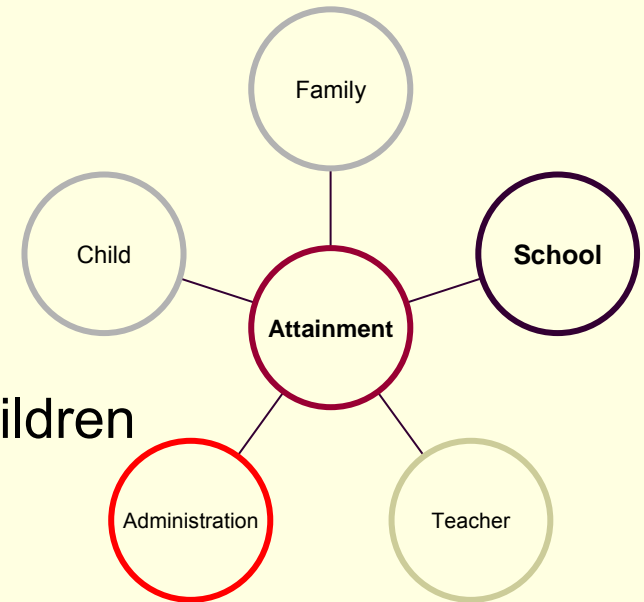
- Matched schools, teachers, households (parents/child)

### ■ Experimental Interventions:

- Information & Competition: School & Child learning report Cards
- Incentives: Parent-Teacher School Councils

## LEAPs Data:

- Baseline HH census (80,000)
- Four Rounds (2004-2007):
  - School (812) Questionnaires:
    - General School Questionnaire
    - Class Teacher Questionnaire
    - Head Teacher Questionnaire
  - Educational Performance:
    - Child-Tests (Follow 12,000 plus children over 4 years) in English, Urdu and Mathematics
  - Household-Level Information
    - Detailed Household Interviews for randomly selected HHs (2,000)
    - Short school-based Child questionnaire (randomly select 10 in each school)



# Today

- Use the LEAPS study to illustrate the value of such research projects:
  - **The LEAPs Report – Forthcoming** (conference end-March in Pak)
- The most basic: Get the “facts” straight
  - Separating myths from reality:
    - Particularly relevant for Pakistan
  - Policy often responds too slowly without real-time/relevant information:
    - The Educational revolution in Pakistan
- Gain New Insights into challenges:
  - Enrollment vs. Learning
  - Teacher Quality vs Effort?
- Develop and Evaluate policy-feasible **Experimental** Interventions:
  - Address **Market Failures**:
    - Information, Competition & Decision making: School Report Cards
- Specific Research Papers
  - Mother’s Education and Child Outcomes

# Getting the Facts Straight - I

## The Concern:

- High and Increasing Madrassa enrollment
  - Popular Media - *Washington Post* tripled estimates (w/in 4 months) - 500,000 to 1.5 million; 10% *The Los Angeles Times*; 9/11 Commission Report “Millions of families(...) send their children to madrassas”
  
- Proposed reasons for proposed trends :
  - Failed Public School system combined with high costs of private schools
  - Used by orthodox or radically religious households
  - Resistance to Soviet invasion of Afghanistan

# But Reality can quite Different

- **Much lower numbers:**
  - **<1% of all enrolled children in madrassas**
    - No evidence of dramatic increase in recent years.
- Household attributes (poverty, religiosity, ethnicity) do not explain madrassa enrollment
  - Most variation *within* households: 75% who send one child to a madrassa, send another child to public/private school
  - Poorer families more likely **ONLY** in settlements with no schools

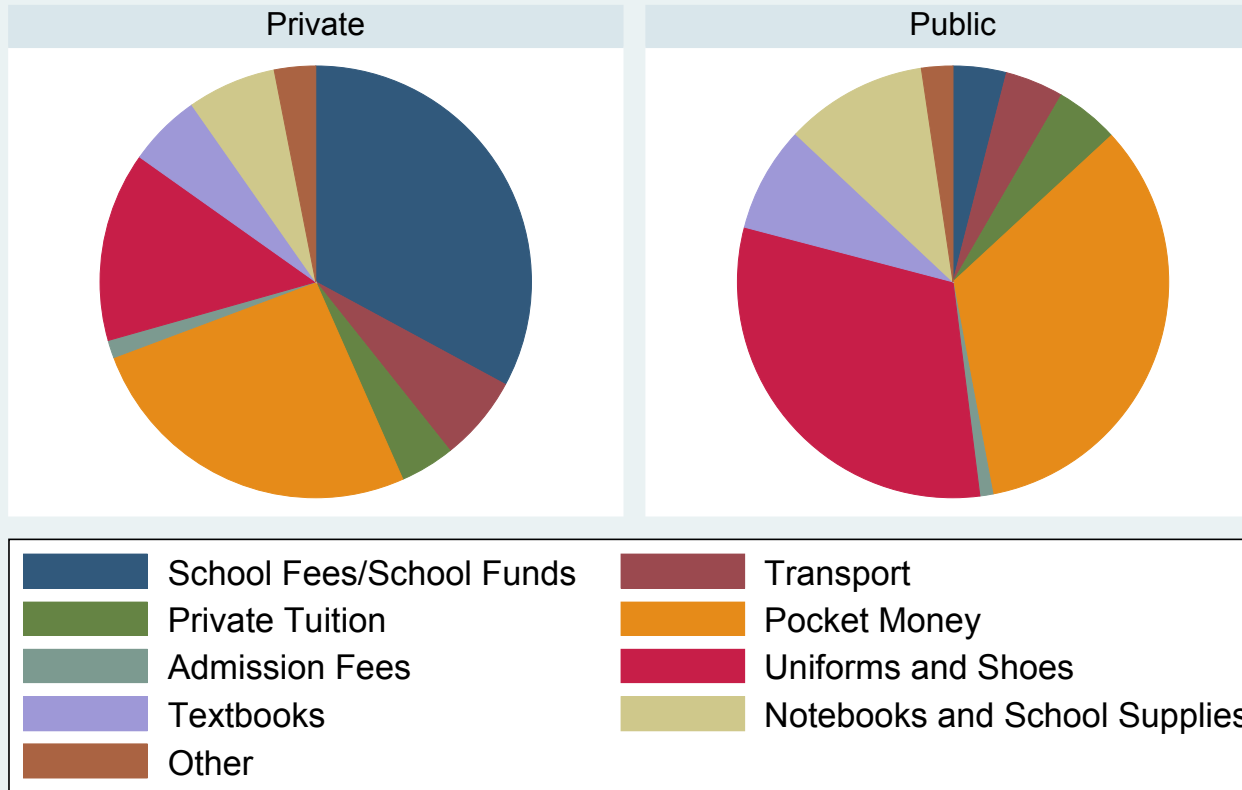
# Getting the Facts Straight - II

- The Concerns:
  - Low/Skewed Demand
    - Parents not interested in educating children
    - Gender discrimination
  - Educational Apartheid:
    - Good/English Medium/Private schools for rich-urban elite only
  - Stagnant sector in need of Government support, subsidies
  - Expensive/Urban Private sector
  - Little School choice

# But (again) Reality is quite Different

- **Parental Demand High and Responsive**
  - HHs w/ 4 kids spends up to 20 % percent of budget on schooling expenditures. [Fig](#)
  - Even in (free) public schools upto 50 % of total spending on education incurred by HHs
  - Little Gender discrimination [Fig](#)
    - If anything ability discrimination [Fig](#)
  - Parents (even illiterate) actively choose and form accurate opinions on schools [Fig](#)
- **Educational Apartheid?**
  - While private schools primarily a richer village phenomena (& more in Punjab/NWFP) ... [Fig](#)
  - Within a village significant overlap across income, education, zaat groups: [Fig](#)
    - Not the case that all rich/elite in one school and poor in another

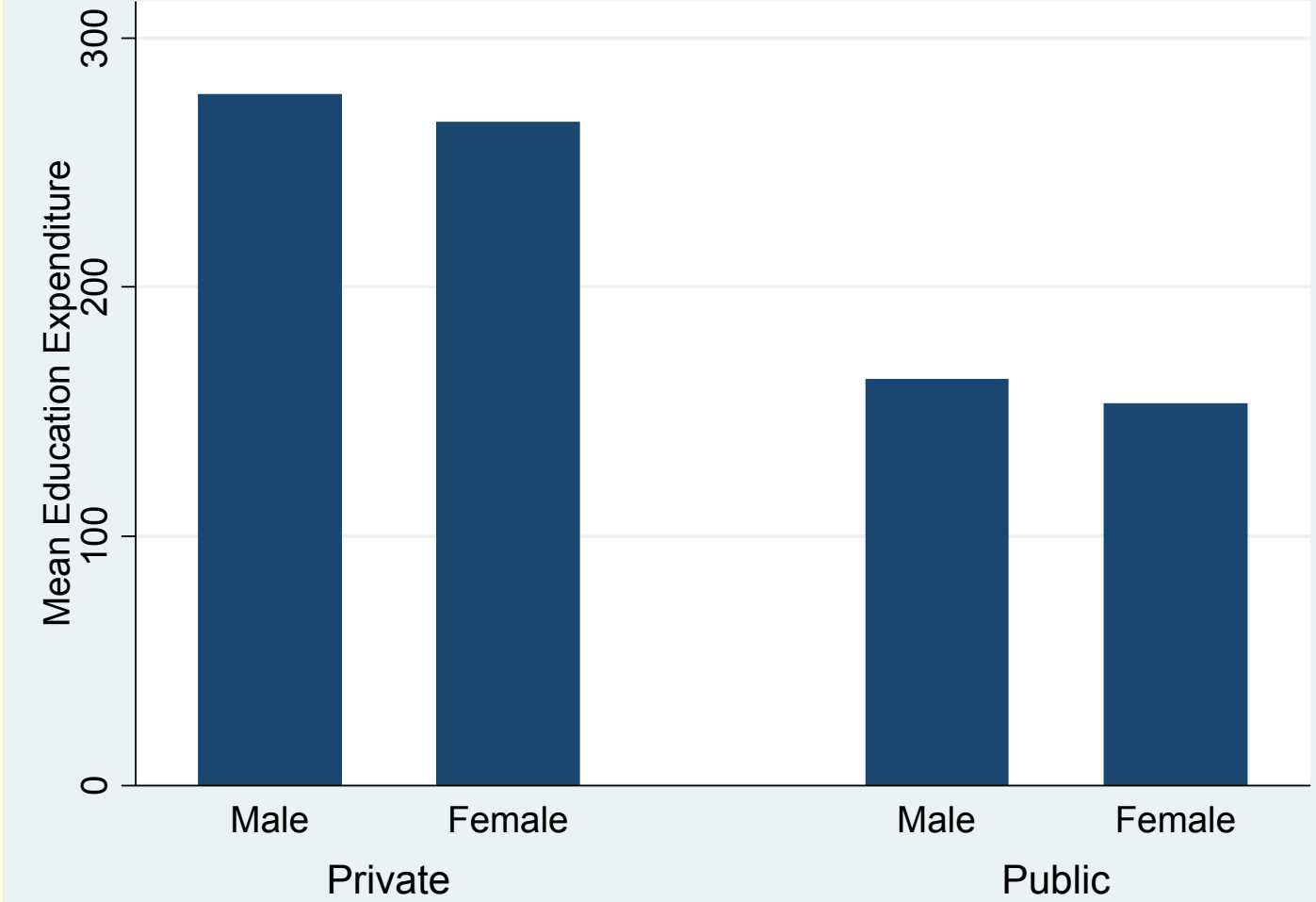
## Education Expenditures by School Type



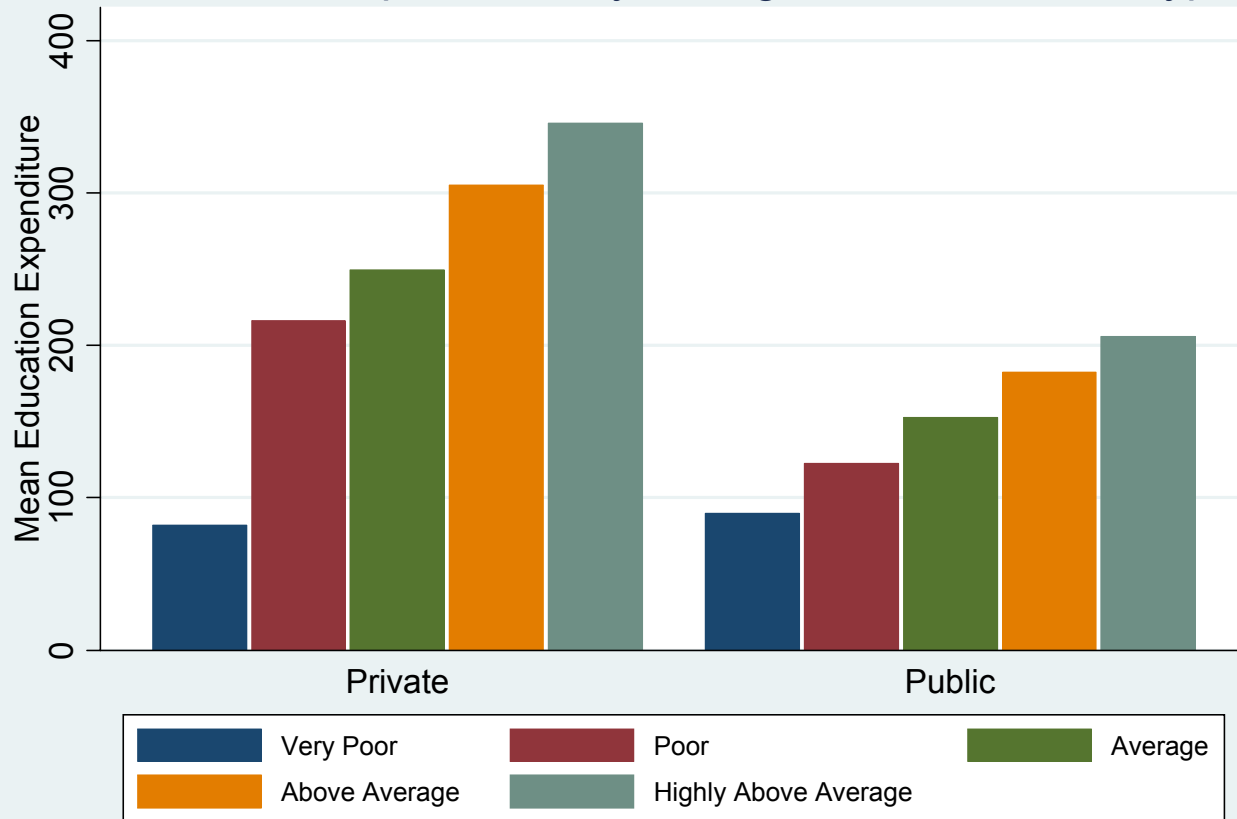
Source: LEAPS Household Survey



# Education Expenditure by Gender and School Type

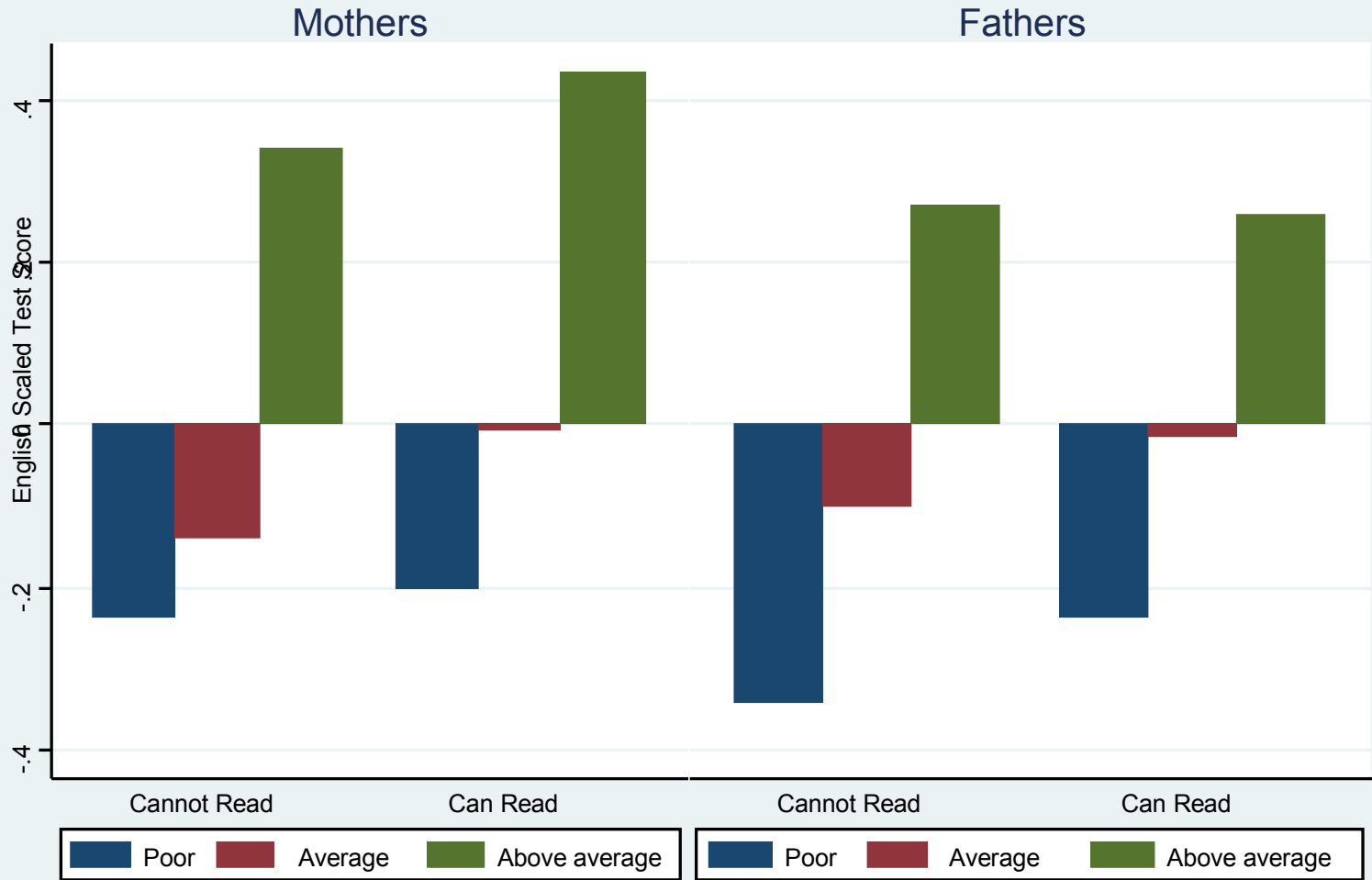


## Education Expenditure by Intelligence and School Type



# Parental Assessment and Actual Performance of Schools in English

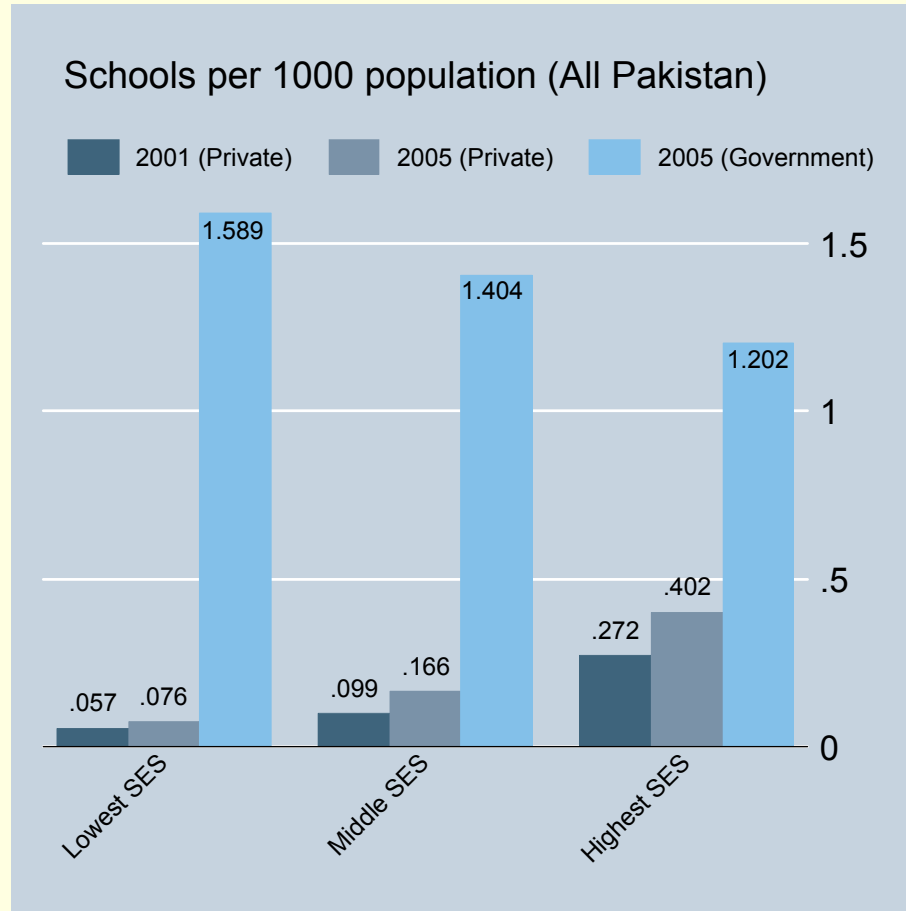
## By Literacy



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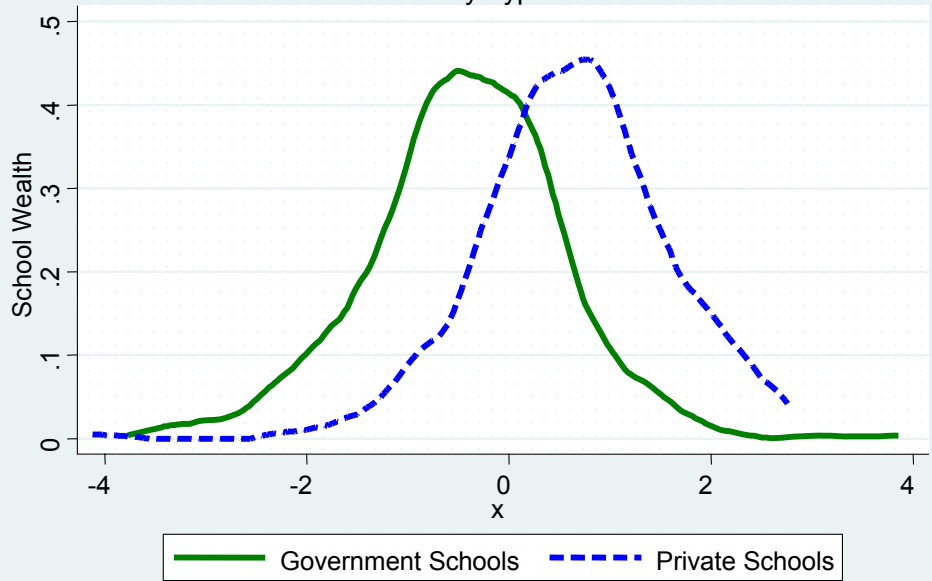
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# Distribution of Private Schools

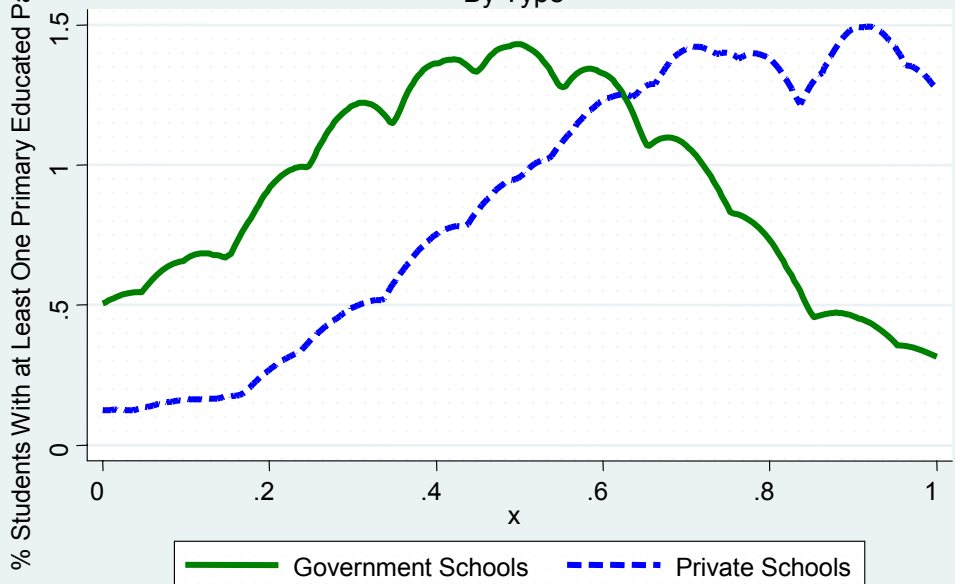


Private schools are overwhelmingly located in high SES villages while there is equal access to government schools in all types of villages

Schools Wealth  
By Type



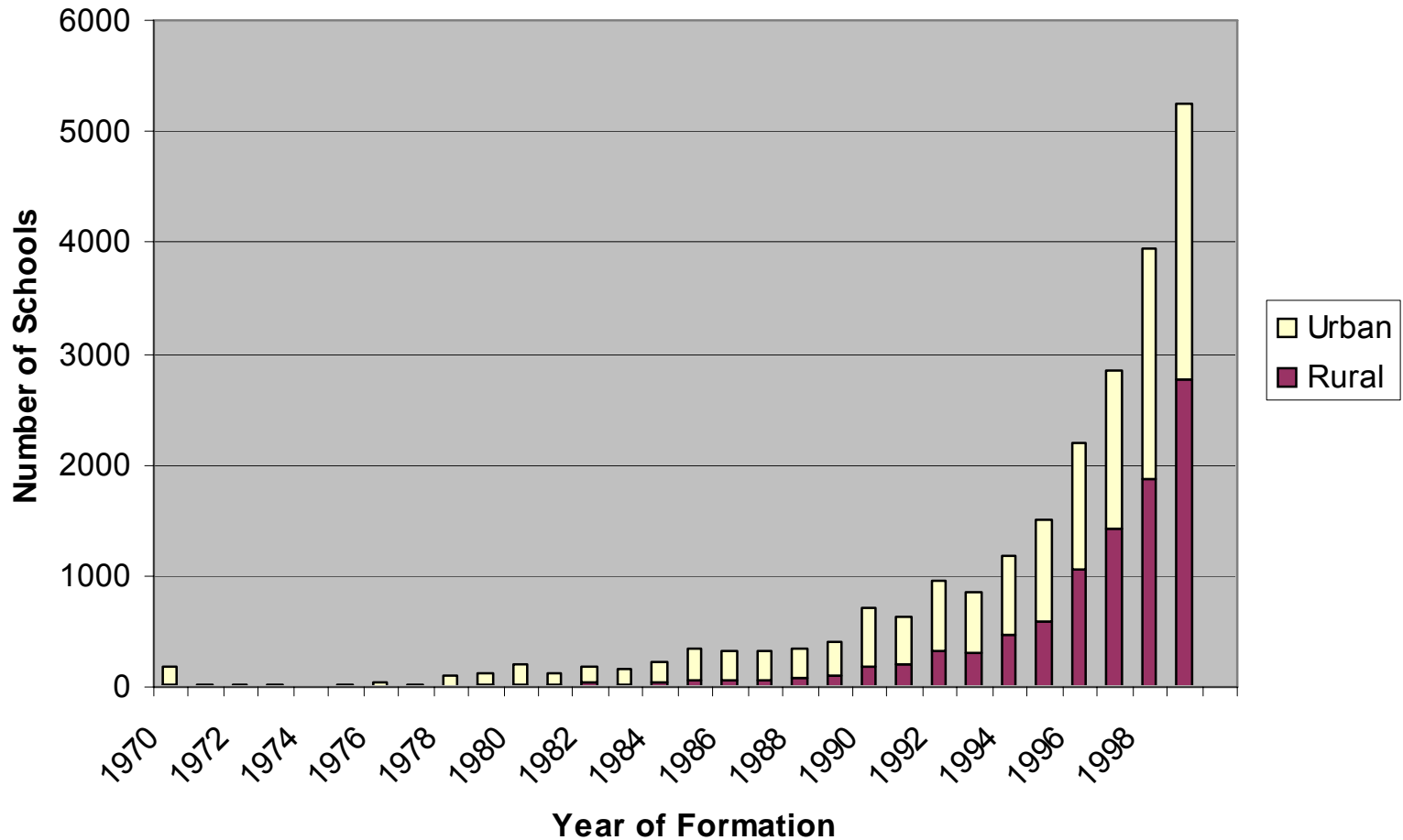
School Education Levels (Beyond Elementary)  
By Type



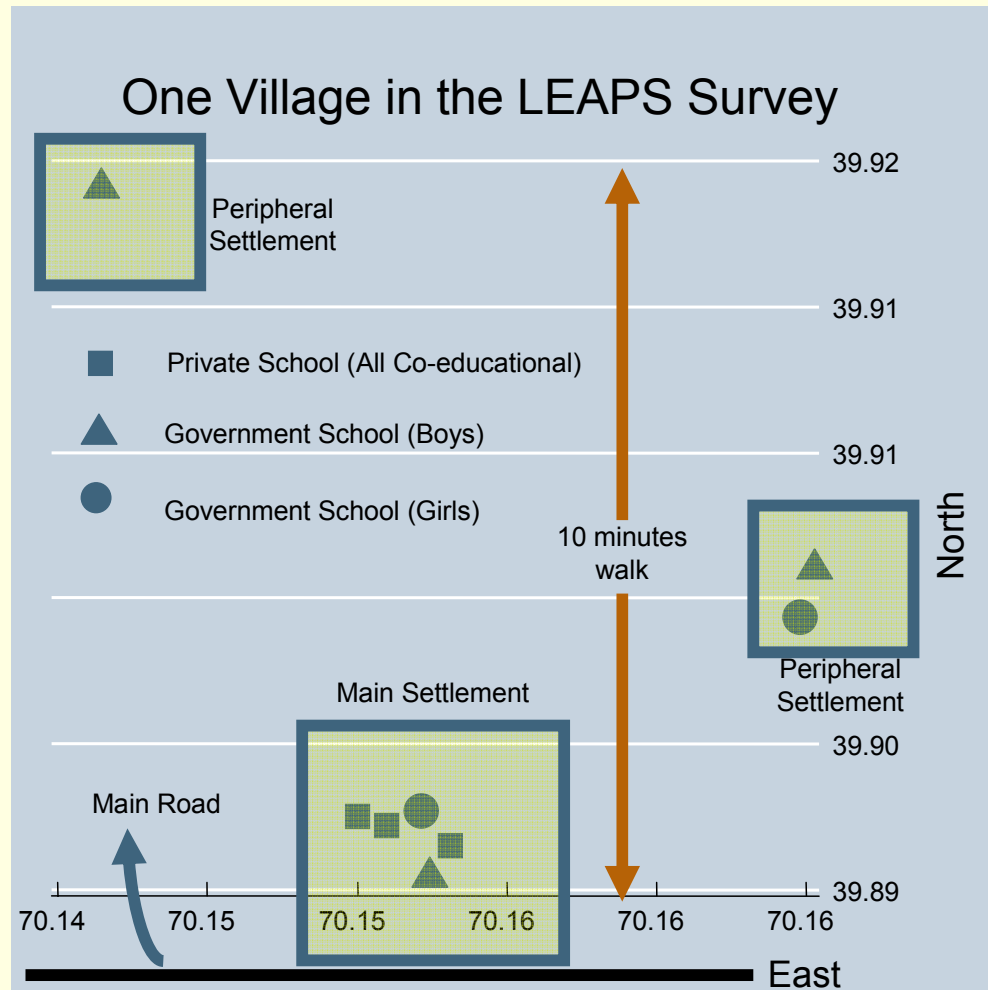
# Dynamic Sector – The private school revolution

- Affordable english-medium coeducational Mom-and-Pop schools
- Ten-fold increase in last 2 decades [Fig](#)
  - 3800 in 1983, 47,000 in 2005
  - Currently 35% of primary enrollment
- Increasingly in rural areas
  - Highest enrollment growth in rural areas & low-middle income households (1991-2001)
- Private sector Affordable:
  - Median private school fees \$1.5/month in 2005
  - Total cost of educational provision HALF of public schools cost
    - Teachers (with same profile) paid 3-4 times in public sector
  - Fees respond to school quality (student test performance)
- Significant School choice [Fig](#)
  - 8 schools/village in sample (at least one private school; 50% of pop)

## Formation of Private Schools in Punjab



# School Choice: Here is what lots of villages look like now



# Enrollment vs. Learning

- Enrollment:
  - Traditionally poor educational numbers
  - *But* enrollment looking up
    - Net Enrollment rates ↑ from 51 to 61 % 2001-05
  
- Like other countries, discourse based on household surveys and school censuses
  - Little information about learning
  - No links between households and schools
  
- Learning:
  - **Poor – Grade III children at Grade I levels**
    - Math: can add 2-digit; subtract 1-digit; Cannot subtract 2-digit; tell time.
    - English: recognize alphabets & simple picture matching but not much else
    - Urdu: read simple words but cannot form a sentence with word “school/beautiful”
  - Differences:
    - Much larger across private-public than parental background
    - Class 3 private child = Class 4/5 government school child
    - Public school child 1.5-2.5 years behind in learning

# Learning Outcomes: The Facts

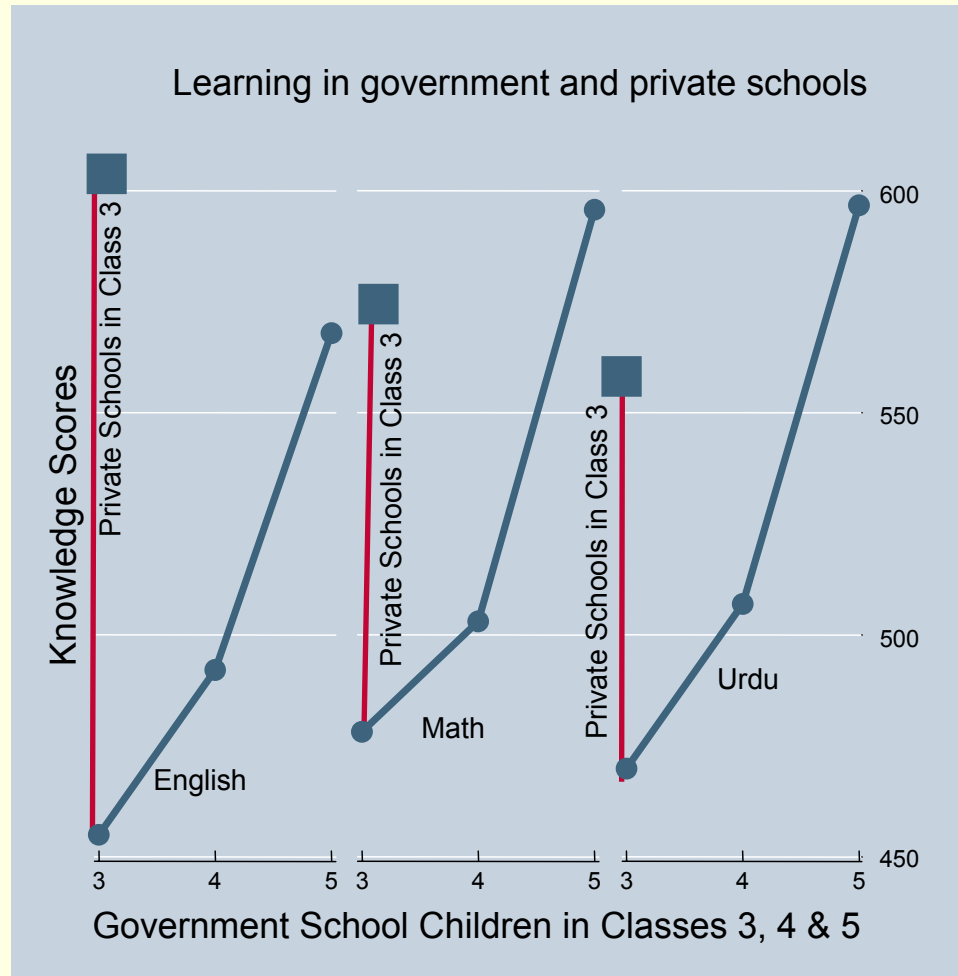
Table 1.1: What do Children Know in Mathematics

Subject	The Question	Percentage who answered correctly	Corresponding Grade for Curriculum
Mathematics	$4 + 6$	89	K & I
Mathematics	$36 + 61$	86	K & I
Mathematics	$8 - 3$	65	K & I
Mathematics	$5 \times 4$	59	II
Mathematics	$238 - 129$	32	II
Mathematics	Read and Write the time (Clock shows 3:40)	24	II
Mathematics	$384 \div 6$	19	III
Mathematics	$4 \times 32$	50	III
Mathematics	Fractions: $\frac{1}{2} + \frac{3}{2}$	19	III
Mathematics	Read a diagram of a scale to answer which part is heavier	12	III
Mathematics	Fractions: $\frac{7}{5} - \frac{3}{4}$	1	IV

*Notes:* Questions are from the Pakistan LEAPS exam. Columns 3, 4, and 5 report the percentage of children who answered the question correctly in all schools, government schools, and private schools.

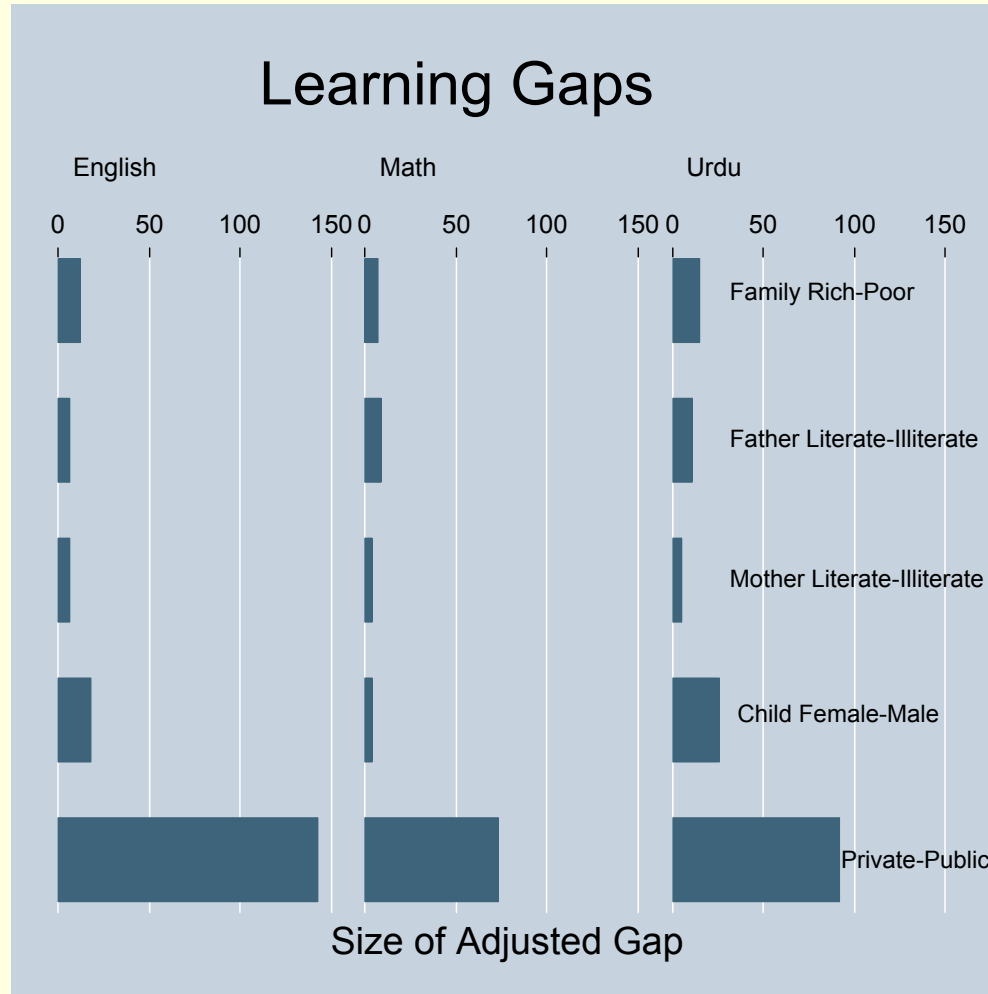
**Children are performing significantly below curricular standards in Mathematics**

# Learning Outcomes: The Facts



The main learning differences are across public and private schools and its going to take government school children 1.5-2.5 years to catch up to private school learning outcomes in Grade III

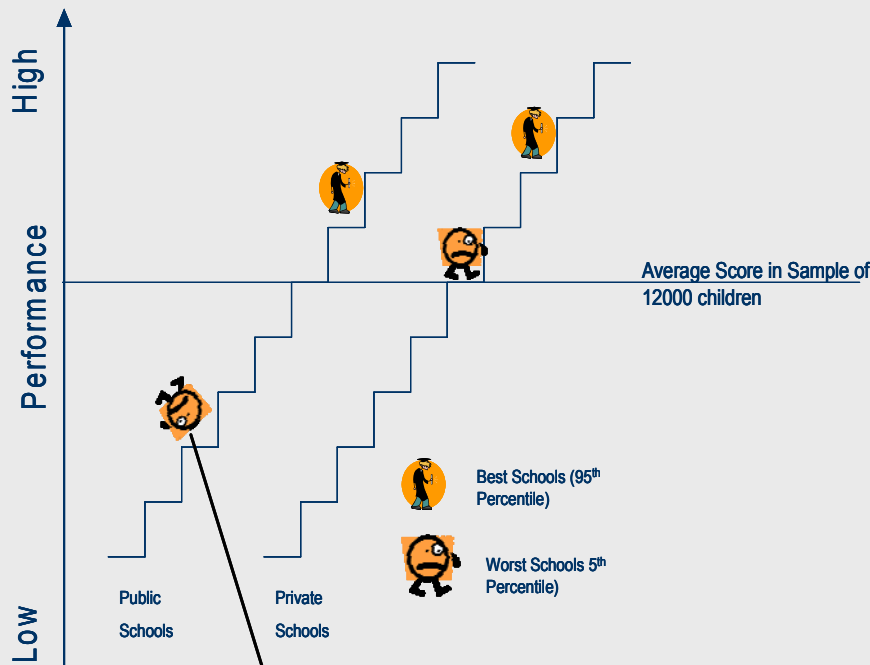
# Learning Outcomes: The Facts



Differences across public-private schools are 8 to 15 *times* the difference across socio-economic categories

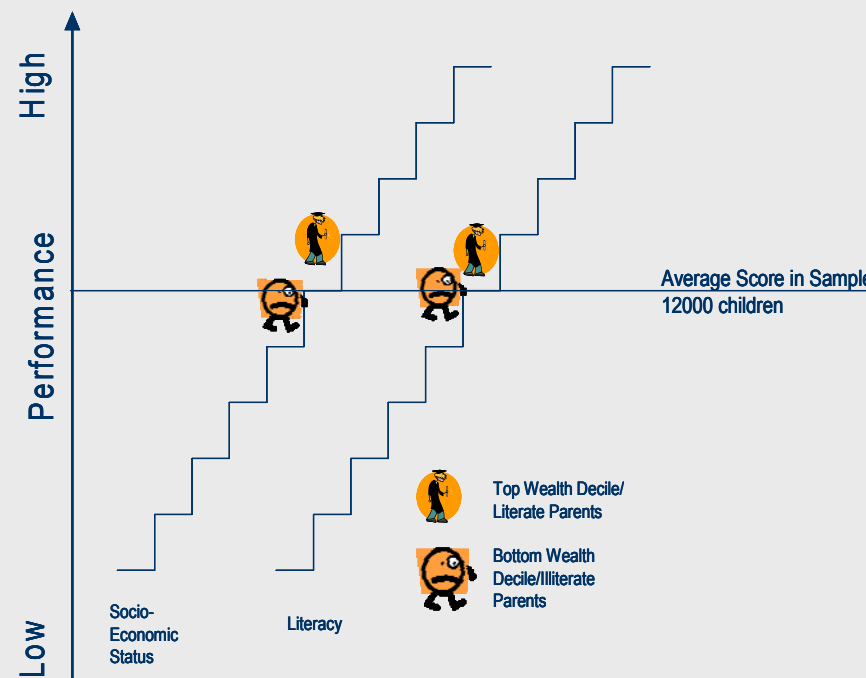
# Learning Differences: Schools vs. Families

## English Test Scores in Public and Private Schools

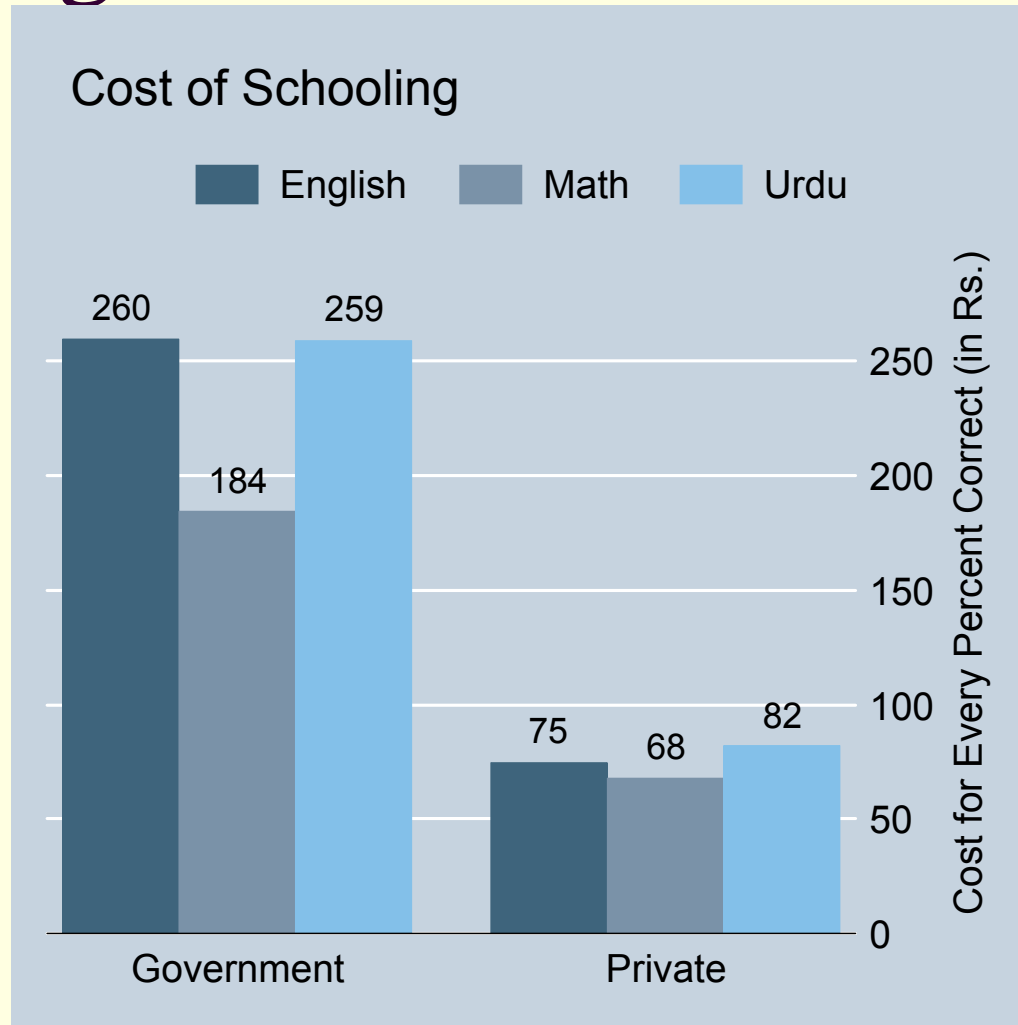


When government schools fail, they fail completely

## English Test Scores for Children from Different Families



# Learning Outcomes: The Facts



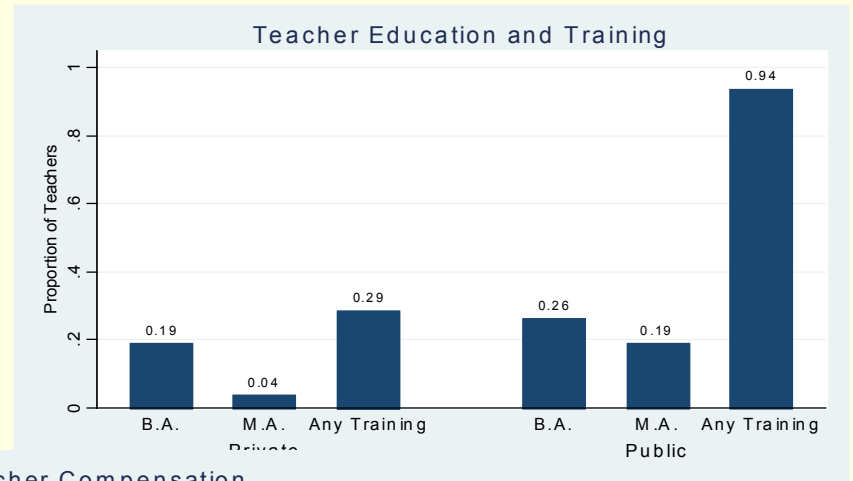
The cost per percentage correct in a test is 2-3 times higher in public schools

# Teachers – What Matters

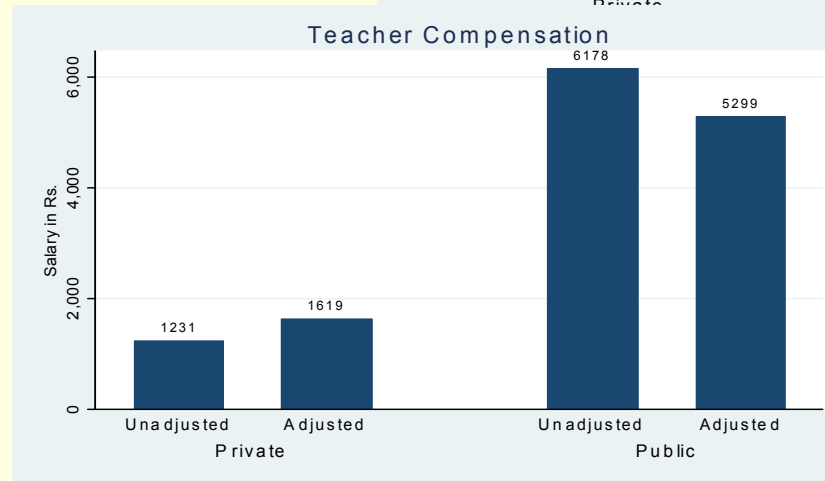
- Selection/Quality vs. Incentives
  
- Government Sector
  - Hires more educated and better trained teachers
  - Ensures equitable distribution across all villages
    - Setting wages to ensure access in remote areas?
  - Has no link to performance
  - Pays a uniform wage (no discrimination)
  
- Private Sector
  - Incentives?

# Teachers “Better” in Public Sector

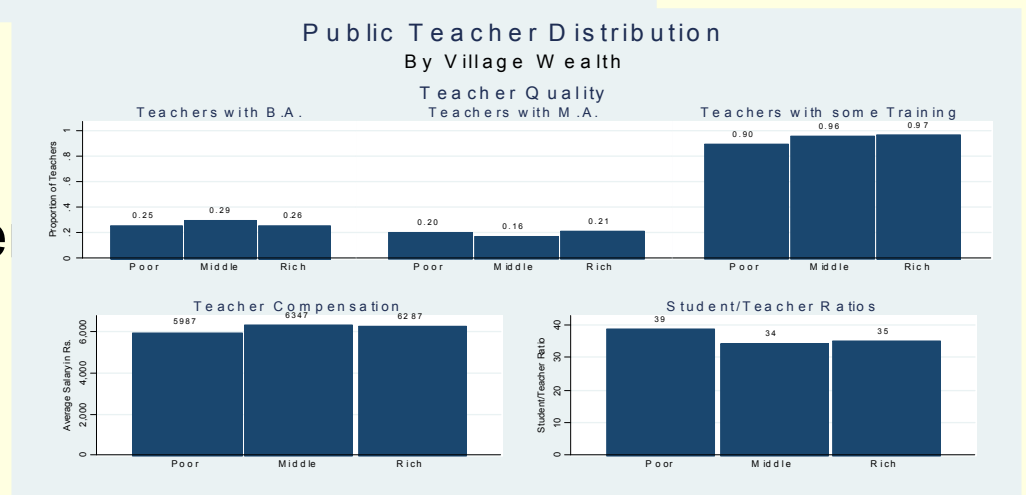
Qualified Teachers

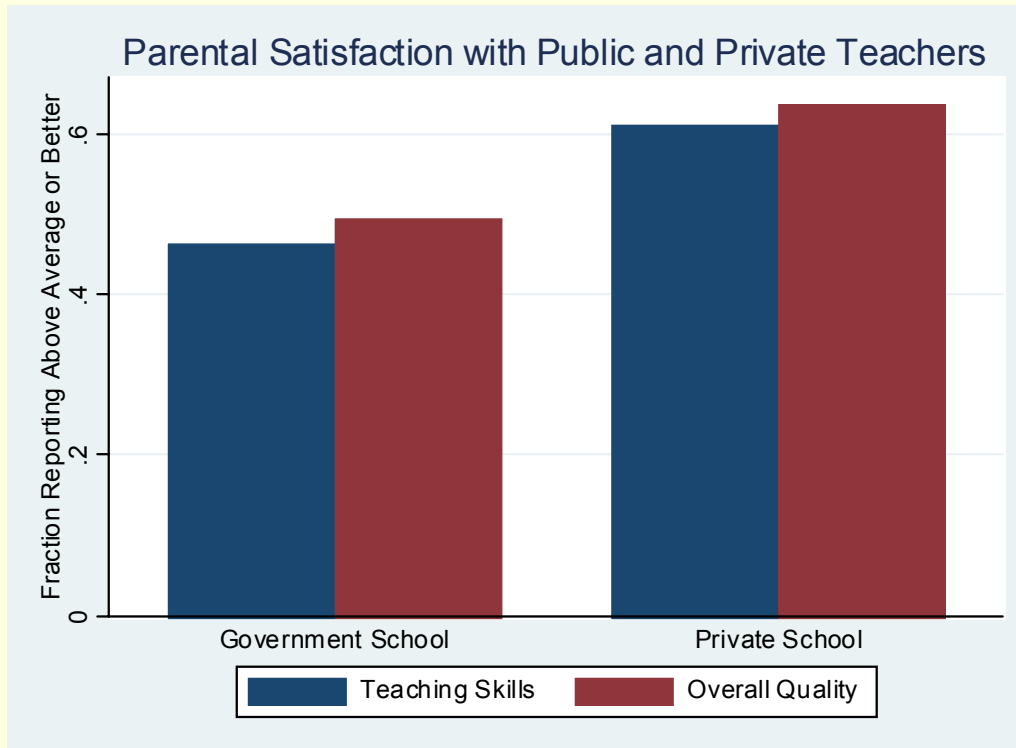


Well-paid Teachers



Equally allocated Teachers



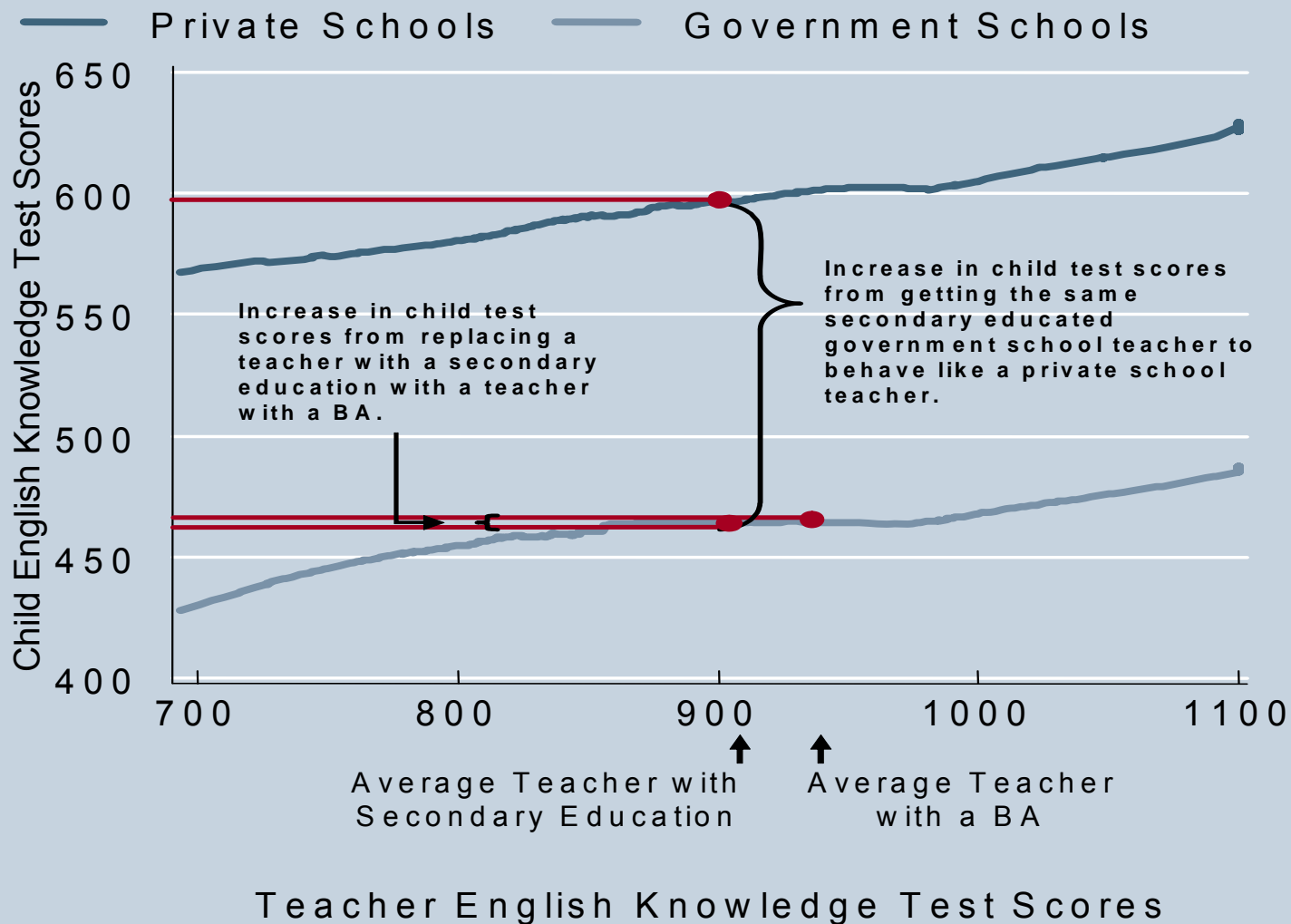


- Based on a random sample of households, we asked parents to tell us what they thought of their children's teacher's skills
- The graph shows the fraction reporting that teaching skills and overall quality were "above average" or "excellent"

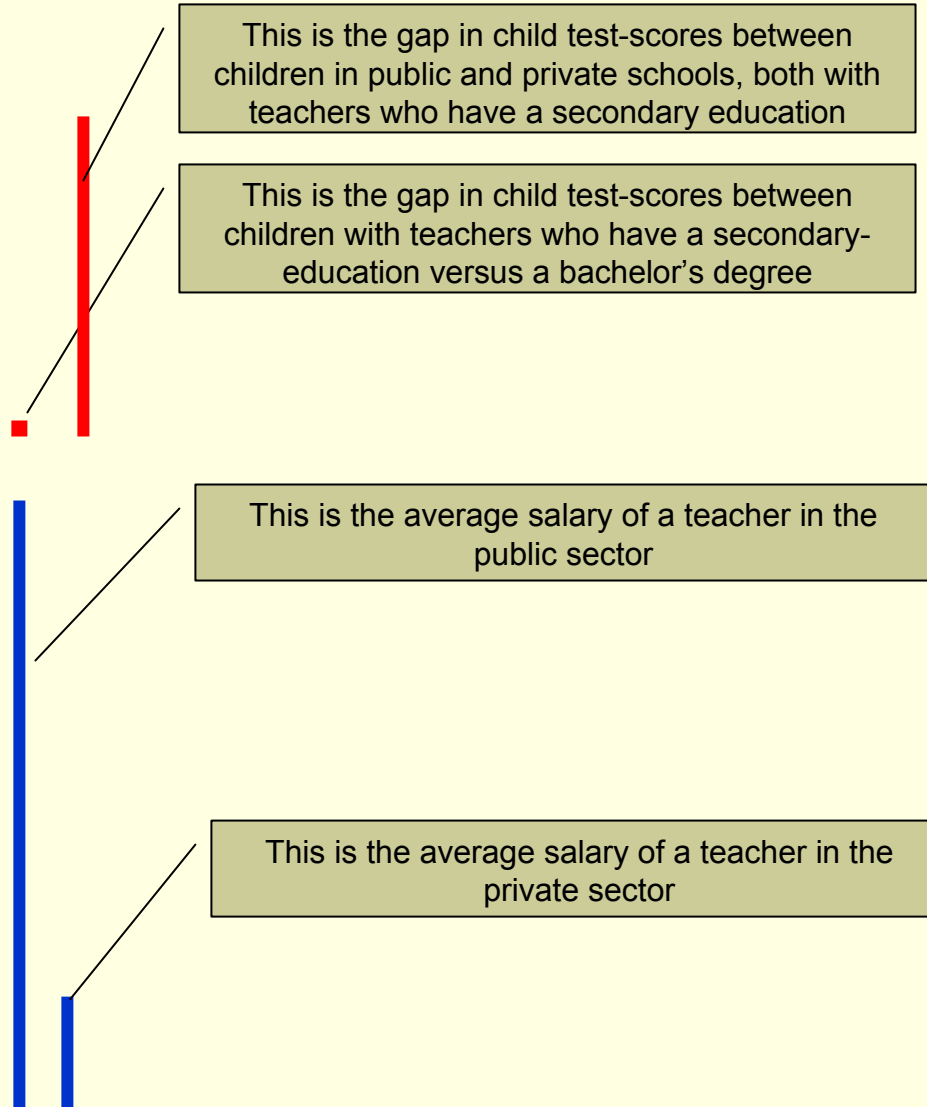
**Yet parents believe that private school teachers are better ... and they are right (recall private school test outcomes much better)**

# Why? Because payoff to Teacher Ability/Quality is Low

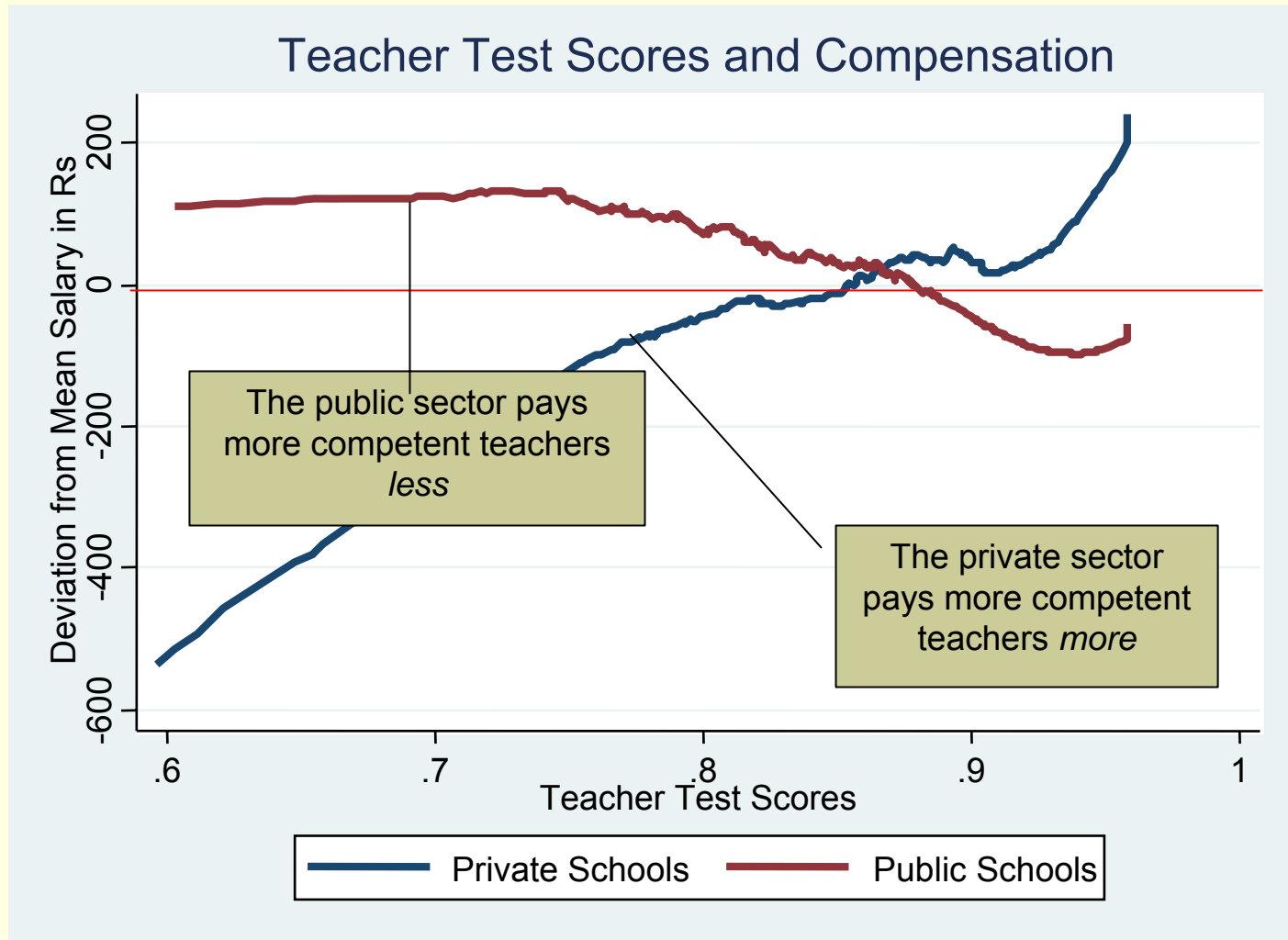
## Teacher Education and Child Learning



# The Performance and Salary Gaps



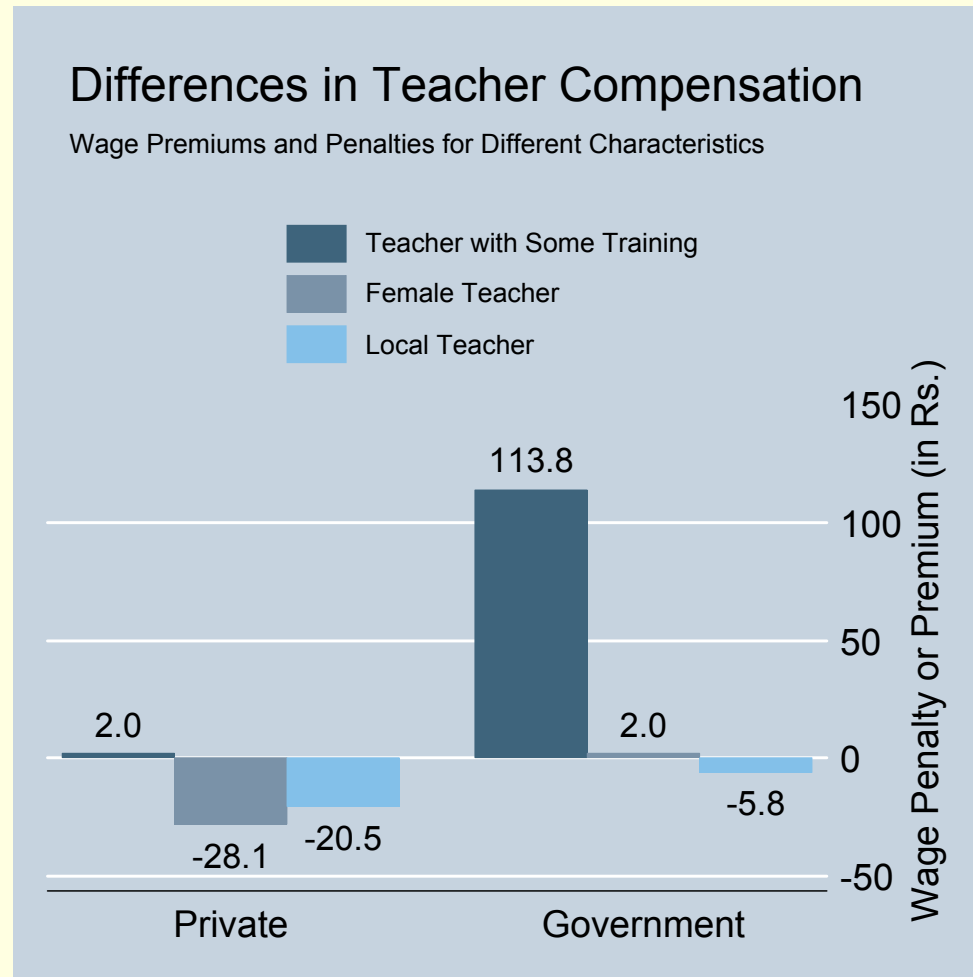
# Incentives, Incentives, Incentives ...



Salary results are presented as “deviations from mean”. So the number 200 on the vertical axis means that the person’s salary is Rs.200 more than the average salary for the sector

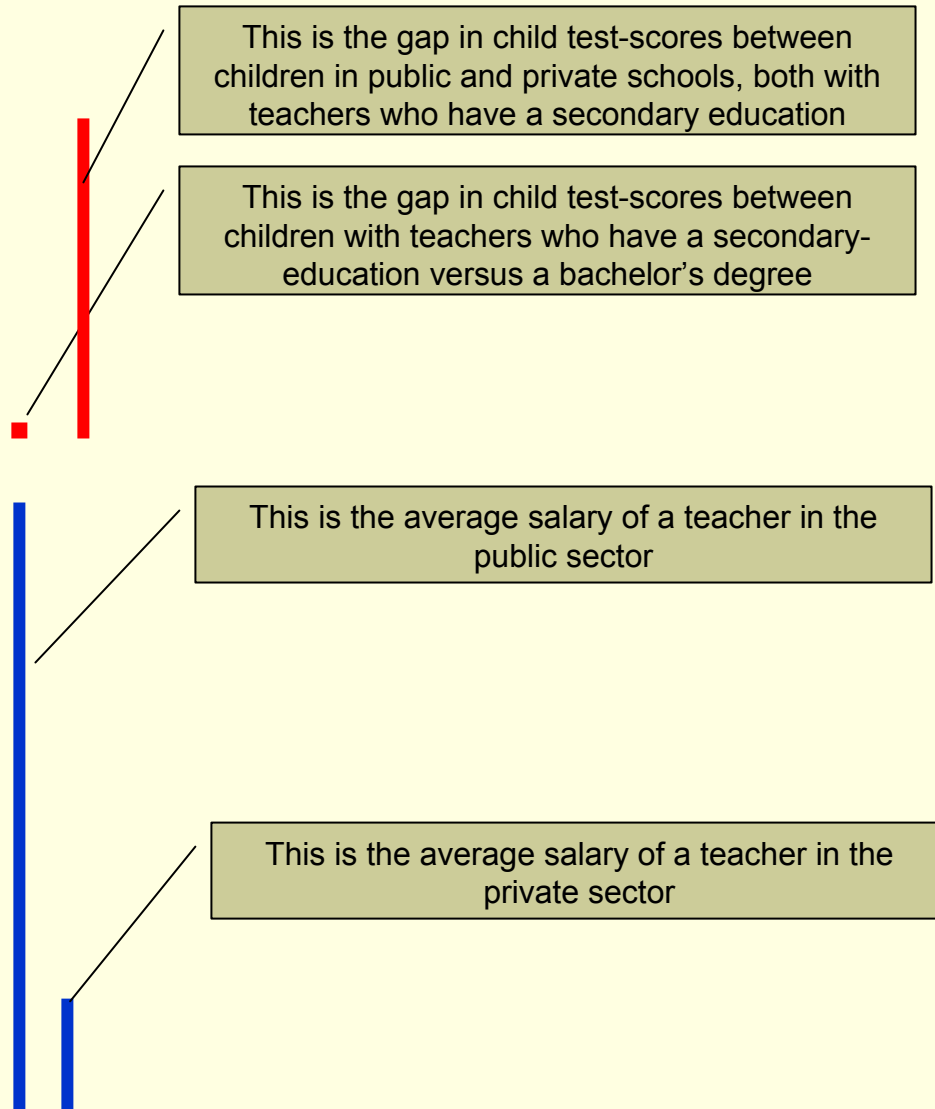
The figure is based on a non-parametric plot of deviations from mean salary against teacher’s English test scores.

# Compensation and the labor market



The private sector exploits local market conditions: women and local teachers are paid (a lot) less (graph shows regression coefficients for the public and private sector separately)

# Government Teacher Reform Required? (2)



# Information Provision: Report Cards

- Lots of School Choice
  - But (problem)
    - how do parents choose?
    - How do schools compete?
      - Appearance (nice rooms, laptop?) vs. Learning?
- Market Failure: Learning Quality Information
- Experiment:
  - Randomly provide half the villages with school/child Report Cards:
    - Compare each schools performance in your village
    - How much is your child learning
    - Compare your child to other children
- Preliminary Results:
  - Learning gains for average child
  - Effects larger for children with **lower** levels of initial learning (No Child left behind 😊 )
  - Schools increase inputs/change teachers

# Providing Information for Empowerment

Learning and Educational Achievement in Punjab Schools  
 رپورٹ کارڈ برائے تعلیمی کارکردگی

شعبہ		اساتذہ		اساتذہ		اساتذہ	
پہلے	اب	پہلے	اب	پہلے	اب	پہلے	اب
انگریزی	انگریزی	انگریزی	انگریزی	انگریزی	انگریزی	انگریزی	انگریزی
اردو	اردو	اردو	اردو	اردو	اردو	اردو	اردو
پہلے	اب	پہلے	اب	پہلے	اب	پہلے	اب
پہلے کی شرح							
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پہلے کی شرح							

پہلے کی شرح: \_\_\_\_\_  
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 پہلے کی شرح: \_\_\_\_\_

- The report card experiment
- Description
- Initial Results positive
  - Learning improves among initially poor performing kids

# Incentives: Parent-Teacher Committees

- Recall – Incentivize public school teachers
  - Problem
    - Public school Teacher wages do not respond to Outcomes
    - More generally:
      - Public Schools slow to respond to local (parent/child) demand
- Market Failure:
  - No Market 😊
  - Demand = Parent/Child
  - Supply = Schools/Education Ministry
  - But where's the market?
    - What's the price mechanism?
    - How does parent demand reach Suppliers?
- Experiment:
  - Randomly phase-in School Management Committees
- Results: Data not in as yet

# So what does this have to do with Politics?

- Recall where we started:
  - Political concern: Pakistan is an increasingly radical place
  - Political Solutions? – we're seeing those play out
- Yet what is the evidence for this?  
***Force Politics (policy) to deal with Facts***
- Facts Hard but not impossible; Allow for (constructive) debate
- This talk shows Educational Facts paint a very different picture:
  - Religious enrolment: Lower in Pakistan than the US
  - Real Revolution:
    - Active educational marketplace: self-owned, secular, for-profit private schools play increasingly important role
    - Parents make significant choices and investments in children's education

# Implications

- This changes
  - Evaluations of government policy towards schooling (worry about G.E. effects)
  - Construction of research questions (what is the right intervention?)
  - The policy framework for debate (a modified role of the government)

# Yet...

- We know very very little
- Organization of the “village” education market
  - Village is never taken as sampling unit for facility surveys
- Parental choice and optimization
  - Little data linking household decisions and school-level inputs
- The market for teachers
  - Little information on supply elasticity

# A Proposal for Reform

- Government sector should *complement* private sector
- Three ways
  - Provide information for competition (learning outcomes in every school)
  - Reform government hiring and compensation of teachers
  - *Experiment* with vouchers, perhaps

# Complementing the private sector: Evaluating new policy

- Government has to experiment and evaluate
- Key evaluations necessary for the next 5 years
  - Bringing in girls who live far from school to enroll
    - What is the constraint? We don't know
  - Reforming teacher pay and compensation
    - What is the right model? We have options, but no easy solution
  - Scholarships for children regardless of the school they attend
    - Similar to “vouchers” but requires careful, long-term evaluation (why?)

# Government Teacher Reform Required?

- Reforming hiring and compensation is *politically difficult*
  - Teacher unions hard for the “Terminator” in the US; Pakistan is no different
- Use teacher posting and transfers to complement private sector location decisions
  - Access for the poor
  - Creating the teachers for tomorrow (secondary schooling is mostly government)
- Allow districts to set own salaries
  - With recourse to a set of teachers from the province

# Experimenting with vouchers

- Need
  - Parents are informed
  - Parents care about what governments care about
  - The supply curve of private schools is sufficiently elastic
- #1 is probably not a problem, #2 and #3 are

# And government schools?

- Given parental preferences (distance, higher investments in certain children)
- Given supply constraints in the private sector
- Given core failing government schools
- Need at least an interim strategy to improve government schools
  - This is all about teachers, teachers, teachers
  - Hints from US reforms? (NCLB)

# What about NGOs

- Innovate
- Experiment
- Evaluate

# NGOs contd.

- Key
- Not in service provisio
- Scalability, Replicability
- Understanding why they work

# Civil Society and Accountability

- Learning Map
- Hold Government Accountable