Challenges to Research on Education and Learning

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Education Systems - Learning for All

- Importance of a high-quality knowledge base on education reform.

- What interventions have proven the most effective?

Research Challenges

1. Identifying causality
2. Context-dependent, heterogeneous effects
3. Difficulties of Scale-up
4. Causal analyses are much harder to perform for system-wide policies .

1. Causality

- Sample selection – e.g. school characteristics affect which children attend which school so comparisons of schools are often of apples and oranges.

- Endogenous program placement – more resources may be devoted to struggling schools or geographic areas.

1. Causality - Solutions.

- Panel data methods (e.g. look at changes in test scores)
- Matching
- Compare outcomes close to policy cut-offs (Regression discontinuity design)
- Randomised Control Trials (RCT)

-> Need to be considering how the program will be evaluated prior to implementation.

2. Context dependent results

- A program might be successful in some locations and not others.

- Conduct evaluations in multiple locations
- Collect sufficient data that allow you to identify what are the key drivers of success.
- Details of implementation processes are important (qualitative)
- Need to be embedded in the implementation team.

3. Scale

Solution:

- Evaluate programs piloted at scale
- Separately evaluate programs implemented by NGOs versus government; small scale versus large

eg. Cameron et al (2016) CLTS – Training of Trainers

Bold et al (2013) – NGO vs Govt;

4. Evaluating System-wide policies

- Difficult to evaluate causally

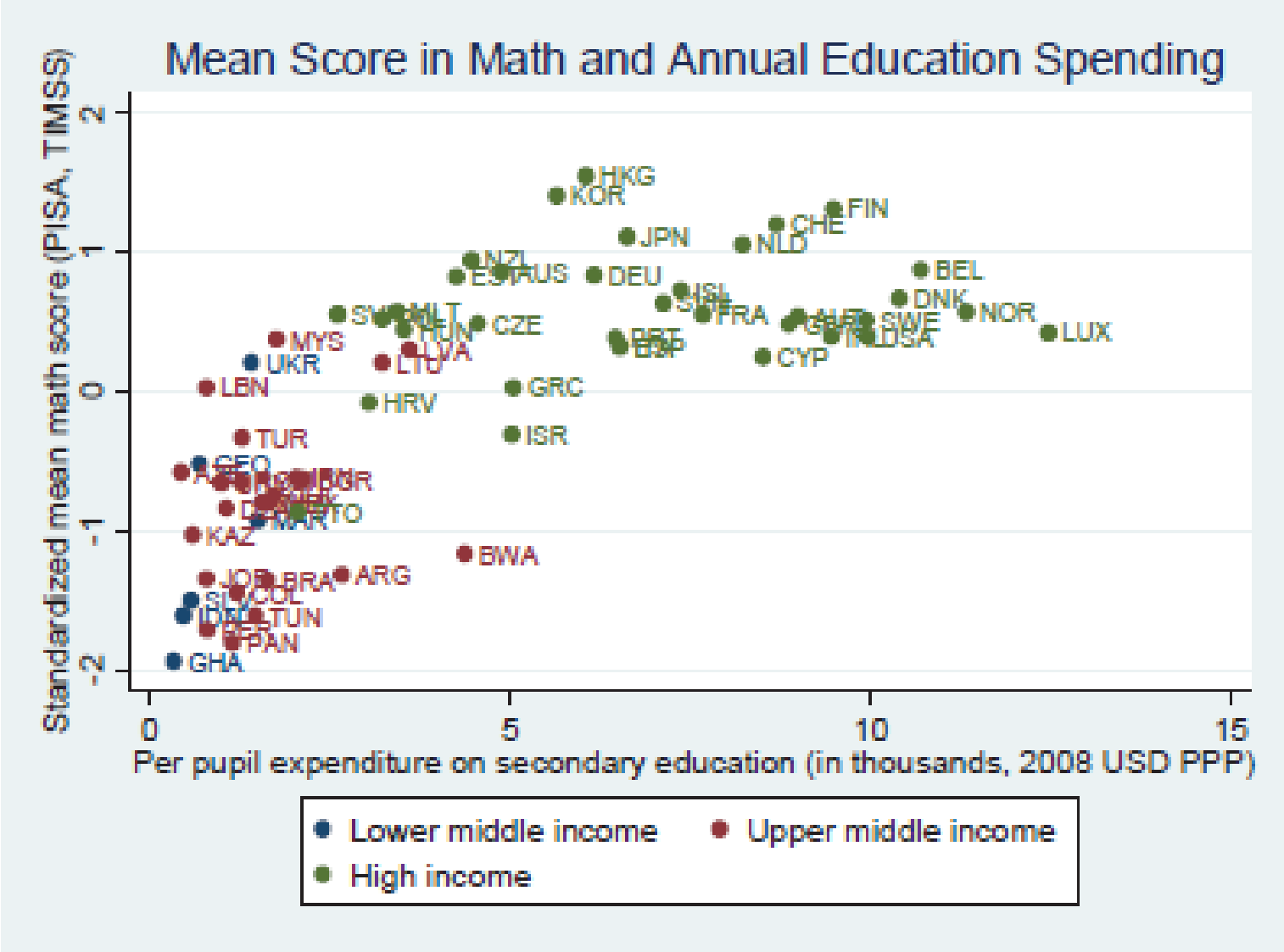
- Qualitative approaches
- Case Studies
- Regional comparisons and comparisons across time.
- Problem-driven iterative adaptation (PDIA).

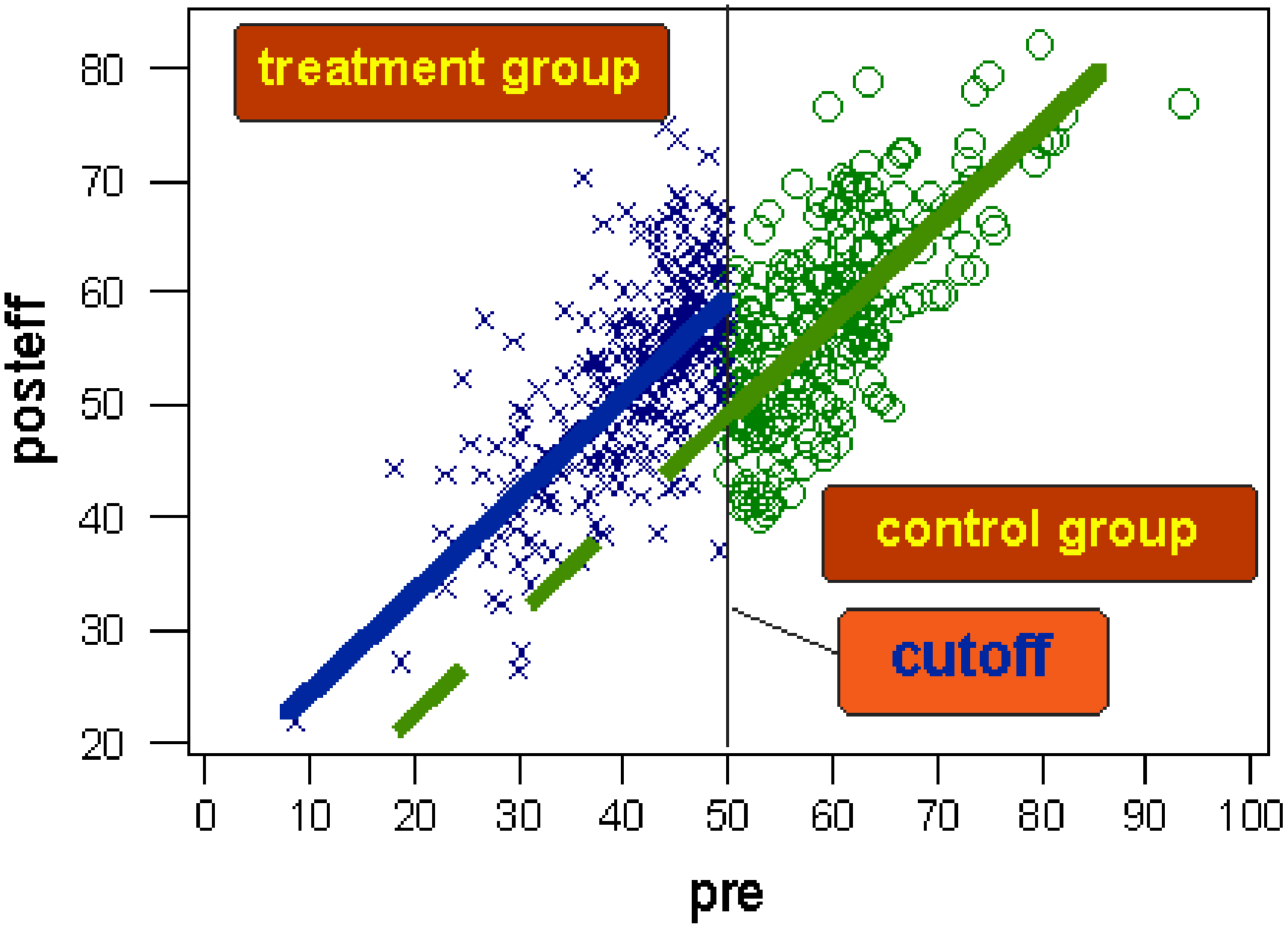
Conclusions

- Need to be careful about concluding that relationships are causal
- Can use techniques such as RCTs to try to establish causality
- Because of heterogeneity in results across different locations, important to have lots of evaluations, collect lots of data (quantitative and qualitative), details on implementation.
- Best if research conducted by or in close coordination with implementing team;
- Remains difficult to identify causality when evaluating system-wide policies.

The End.

Figure 1: Relationship between learning outcomes and education resources




treatment group
control group
cutoff
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5. Long term effects?

Solution -

- Longer term evaluations
- Short term (~1 year), mid-term and long term evaluations (5-10 years).
- eg. Baird et al (2015). “When the money runs out: Evaluating the longer-term impacts of a two year cash transfer program”. Looks at marriage, fertility and HIV infection in Malawi.

6. Measurement Error

- Drives results to zero.

Solutions

- Better measurement
- Statistical techniques

7. Publication bias

Solutions

- Pre-implementation plans
- Accounting for multiple hypothesis testing
- Statistical techniques (List et al)
- Use of indices.