ASER: Nurturing the demand for strong evidence

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Strong evidence is of invaluable importance for informed policy-making and programming decisions. Quality evaluations and research allow the formation of judgements to make critical policy decisions. This is even more important in a world with increasingly financially constrained governments. However, robust research is ultimately heavily dependent on good quality data. These data – whether they are quantitative[1] or qualitative[2] in nature – ultimately seek to provide 'answers' to critical questions and hypotheses. Most research uses one or another type of 'research design' – a framework in which a research study is undertaken - with conventional research studies and evaluation studies (such as impact evaluations) employing research designs and methods to gain insights. The use of different types of research design and their ultimate success in arriving at robust and convincing conclusions may also be determined by the type and quality of data available. If research is about the pursuit for 'answers', then it is not unfair to expect that the answers thus provided are credible and reliable. And the onus of this responsibility lies heavily on data.

It is fair to make the claim that the Annual Status of Education Report – ASER – surveys have brought about a data revolution in Pakistan. The ASER reading and mathematics tools are universally accessible, easy to use, straightforward to administer and simple to understand. The first and foremost opportunity that ASER data allow is the provision of a large sample snapshot indicating the status of learning within Pakistan. This is not a small-scale achievement in a country where researchers and policy makers have previously been in the dark about even the most basic status of learning among children. The coverage of ASER Pakistan has been phenomenal: it started life as a pilot in 11 districts sampling 16,737 children (3-16 years) in 2008, managed to sample 251,444 children (3-16 years) in 136 districts in 2012 and has successfully sampled 258,021 (3-16 years) children in 142 districts in 2015.

However, there are increasing criticisms of the ASER tools. Arguably these tools only assess a narrow set of mechanical functions in computation and the ability to recognise characters and the ability to read a sentence or paragraph or a story when assessing reading competencies. There is no doubt that the ASER data are not sufficiently rich or diagnostic enough to be able to make convincing judgements about what we may, for instance, call meaningful learning (for example ability to read with full comprehension). However, despite the fact that these tools assess limited functions, the fact remains that they are the only data, publicly available and easily accessible, that begin to provide a snapshot of the status of basic learning in Pakistan. And this in itself is a very valuable contribution to education research in the country.

Whilst the research designs that are ultimately possible with ASER data are not experimental or quasi-experimental in nature – i.e. those that allow for cause and effect relationships to be very clearly established - they certainly allow for the use of both simple and relatively sophisticated observational techniques. These encompass a wide range of valid empirical methods and are designed in different ways to answer different questions with some designs within this subgroup of empirical research aiming to explore causal relationships (using sophisticated regression methods) and may be concerned with the effect of a treatment on a particular subject sample group. Other types of methods may be only concerned with painting descriptive pictures and whilst these types of research studies may not be able to make direct cause and effect claims, they nevertheless address very important questions and hypotheses.

The following examples illustrate how ASER data have been used in recent years in observational/descriptive research designs either to explain or analyse patterns and behaviours or in attempting to demonstrate the size or strength of linkages. It is important to note that these examples are not a comprehensive or exhaustive list of publications or products that have emerged based on ASER data. They are simply meant to provide an illustration of some of the ways in which the ASER data have been used in recent years to inform research and policy dialogue.

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[1] Data that can be expressed numerically to provide illustrative examples or explore cause and effect relationships

[2] Data that typically classify information and attempt to understand the mechanisms behind cause and effect relationships in nature

The Alif Ailaan District Education Rankings (2013) are an example of a first attempt to assess the standard of education, both in terms of educational outcomes and infrastructure, in Pakistan. This is done by comparing the relative performance of different regions using rankings based on multiple indicators drawn from publicly available data including the data from ASER over various years. The report cites that their key goals include the following: 'to produce a comprehensive measure of education standards for Pakistan, covering all the major policy areas: access, quality of education, gender parity and school infrastructure; to use this measure for the comparison of different parts of the country to determine their relative performance and to encourage healthy competition between districts and between provinces; to create awareness about the importance of data and evidence in in determining the state of education and education policy making and to provide an avenue for the usage of publicly available data and to encourage improved and expanded data collection by state and non-state organizations' (p. 4)[3]. Such descriptive exercises are critical for informed policy making as well as for guiding future research. I am aware, for instance, that these rankings have been used by some researchers in recent research projects to carry out purposive sampling.

Another example, this time a research study, is provided by Aslam and Atherton (2014)[4] that used ASER data from Pakistan (and data from India) to map out the true extent of the private tutoring industry in India and Pakistan. In doing so, the authors aimed to underpin who exactly takes tuition in the two countries, i.e. whether it is linked to the type of school attended by a child (state or private). The authors use data to speak about the extent of tuition undertaken across the different school types rather than presume that children in one type of school necessarily undertake private tutoring more often than others. Using simple descriptive statistics, the authors identify convincing evidence suggesting that private tuition-taking is a more widespread phenomenon than believed in the region. The study also shows differences in the uptake of private tuition among the rich and poor and by gender in rural India and Pakistan. The findings also suggest that there are even more far-reaching elements to social inequalities that may manifest themselves as a consequence of this phenomenon in the two countries. Children in government schools taking private tuition and especially those belonging to the poorest classes appear to perform better than those who do not take private tuitions. This hints at the hugely inferior learning that poorest children in some government schools in rural India and Pakistan are receiving. It suggests that private tutoring does appear to complement poor quality schooling for these children. This, however, comes at a cost and when rural incomes are so low, and especially among the poorest families, one wonders at the feasibility of this solution in the two countries' education systems. Studies such as these are important in Pakistan where private schooling is mushrooming and where the 'shadow' tutoring industry also booming.

ASER data also lend themselves to more sophisticated inferential methods that attempt to demonstrate the size and strength of associations rather than just provide descriptive snapshots. An example of a research study using regression methods is provided by Alcott & Rose (2015)[5]. This study uses multinomial regression models to identify whether socioeconomic status and gender are important determinants of whether children in rural Pakistan are in school, the type of school they attend, and whether they are learning. The authors, using ASER data from India and Pakistan (2012) find that whilst learning varies across schools, socioeconomic disparities predominate. They note that disadvantaged children in private schools are learning less than more advantaged children in government schools. The authors also find that gender plays an important role, with disparities between boys and girls most pronounced among poorer children in Pakistan. In addition, while private tuition improves learning for all children, it does not resolve socioeconomic and gender disparities. The authors of the study conclude for the need for policymakers to focus on government schools since that is where most of the poorest children study and where learning levels are lowest. The finding from this study that shows more advantaged children learning in government schools highlights the critical role that these schools can play in education systems within developing country contexts. Findings such as these can be helpful in informed policy making for the country.

These examples are not exhaustive. There are numerous other examples of policy briefs, research papers, opinion pieces and policy notes that have been generated using ASER data. These have provided important guidance to

[3] www.aserpakistan.org/document/learning_resources/2014/Alif%20Ailaan%20District%20Ranking%20Report/AlifAilaan%20District%20Education%20Ranking%202014%20-%20Draft%20Report.pdf

[4] Aslam, M. and P. Atherton (2014), 'The Shadow Education Sector in India and Pakistan: Opening Pandora's Box', in (eds: Macpherson, I., Robertson, S. and G. Walford), Education, Privatization and Social Justice: Case Studies from Africa, South Asia and South East Asia, Symposium Books, UK.

[5] Alcott, B. & P. Rose (2015), Schools and learning in rural India and Pakistan: Who goes where, and how much are they learning? Prospects: 45:345–363.

policy makers and to researchers for basing future research programmes. Most importantly, they have generated criticism and debate and that is another achievement of this exercise. The ASER data revolution has been critical in shaping the way we think about education research in Pakistan. It opens up questions about data availability and access. It raises concerns about validity and reliability. It promotes the need for the development of more nuanced and diagnostic learning tools that allow us to measure meaningful learning over a period of time rather than at a point in time. It also nurtures the need for more granular research and provides the basis for developing more convincing research programmes that base their designs around experimental or quasi-experimental methods. The latter, in particular, are necessary to allow us now to go one step further by demonstrating cause and effect relationships with confidence and reduce the risk of bias.