

FOREWORD

The Centre for Research in Economics and Business (CREB) was established in 2007, as an independent research centre at the Lahore School of Economics, Pakistan. Its primary objective is to conduct policy-oriented research with a rigorous academic perspective on key development issues facing Pakistan and promote public debate on policy issues through conferences, seminars, and publications. CREB organizes the Lahore School's Annual Conference on the Management of the Pakistan Economy, and publishes Working Paper and Policy Paper Series to disseminate the research being done at the Centre.

At CREB, we place great emphasis on building research networks and linkages with researchers, within and outside the country, to bring together people with the right set of skills to help achieve these goals. CREB hosts visiting international scholars undertaking research on Pakistan, facilitates and coordinates research by the faculty at the Lahore School, and administers the postgraduate program leading to the MPhil and PhD degrees at the Lahore School.

In the short period since its inception, CREB has built an excellent reputation for the quality of its research. Our faculty and researchers have received funding support from regional partners and international agencies such as British Academy UK, Department for International Development (DIFD), International Growth Centre (IGC), National Science Foundation, USA, Open Society Foundation (OSF) and South Asia Network of Economic Institutes (SANEI).

Our staff members are highly skilled in applied research and have been actively involved in projects that help build strong policies. The research interests of our staff include Economic Growth, Political Economy, Economic Policy, Finance, Education and Labor Economics – with a special country focus on Pakistan.

The aim of the CRN is to provide a perspective regarding the scope and depth of research being carried out at CREB. We invite you to visit our website www.creb.org.pk and browse through our ongoing and completed research.

Naved Hamid
Director
Center for Research in Economics and Business
Lahore School of Economics

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Editor's Note

This issue of the CREB Research Newsletter (CRN) is the sixth in a series of research newsletters from CREB. It has information on current and completed research projects at CREB; conferences and workshops attended by CREB staff; and a list of CREB publications and other research publications by the CREB team members. Moreover, it also provides abstracts of completed MPhil theses. **It covers the period between April, 2015 and March, 2016.**

For more information please visit:
<http://creb.org.pk/>

Anum Bukhari
Research Associate
Center for Research in Economics and
Business
Lahore School of Economics

Research

I. Ongoing Projects

1. Analysis of Technology in the Sialkot Soccer Ball industry

The project has been developed under the International Growth Centre (IGC) is led by a team of researchers including *Azam Chaudhry* and *Shamyla Chaudry* (Lahore School), *David Atkin* (MIT), *Amit K. Khandelwal* and *Eric Verhoogen* (Columbia University).

The Sialkot soccer ball cluster is made up of a large number of manufactures who export approximately 60 million hand-stitched soccer balls each year, accounting for about 70 percent of global production. But over the last few years, the amount of soccer balls produced in Sialkot has fallen. This project aims to better understand the technologies within the industry and determine the characteristics of the firms that are able to identify and implement new technologies.

The research team developed a cost saving technology in 2012 which it has given to a number of soccer ball manufacturers in Pakistan in order to determine the factors affecting technology adoption in firms and technology spillovers between firms. The research team has also looked at how misaligned incentives between firms and employees can affect technology adoption. The preliminary data analysis was presented at the IGC Growth Week in September 2012 and September 2013 in London. The researchers have presented this work in seminars and conferences at

University of Berkley, Yale University, Columbia University, Harvard University and University of Oxford. It has also been presented at the Government of Punjab in 2015. After these presentations the Secretary Finance and the Secretary Industries, Punjab Government used the project's findings to propose and initiate an Innovation Development Fund (IDF). Currently, the Punjab Government has initiated this fund and the Lahore School is represented on its executive board.

Presently the research team is looking at how subsidizing high quality inputs impact quality upgradation in the soccer ball sector. In order to do this, the research team is giving up to Rs 600,000 in rexine subsidies to a randomly selected group of football manufacturers.

2. Causes and Consequences of Consanguineous Marriage in Children

The project is led by *Theresa Chaudhry* (Lahore School) in collaboration with *Mushfiq Mobarak* (Yale University). They examined the causes of consanguineous marriage, and attempted to measure the effects of consanguineous marriage, both negative and positive. In this project, nine (out of Punjab's 35 districts) were randomly selected, comprising 70 sampling clusters. Interviews of just over 1000 households were conducted in October 2009. A total of 4643 pregnancies were reported by 391 first cousin (37.6% of the marriages) and 622 non consanguineous couples interviewed in the study.

3. Incentivizing Attendance in Production Teams

The project has been developed under the firm capabilities programme of the International Growth Centre (IGC) and is led by a team of researchers including *Theresa Chaudhry*, *Zunia Tirmazee* (Lahore School) and *Muhammad Haseeb* and *Christopher Woodruff* (University of Warwick). They have attempted to test whether short-term financial incentives can be used to decrease worker absenteeism in one of Gujrat's leading fan factories.

In 2012 - 2013, they piloted attendance incentive schemes on a sample of production teams. Comparing the attendance records of the teams offered the group-based incentive to a control group, they are finding that the group-based incentive bonus increased the number of days that an announced attendance target was met.

4. Incentivizing Development: A Field Experiment on Third Tier Organizations (TTOs) in Pakistan

The project is an academic collaboration between *Asha Gul* (Lahore School/University of New South Wales), *Hamna Ahmed* (Lahore School /University of Kent), *Kate Vyborny* (Duke University) and *Simon Quinn* (University of Oxford). This study is being funded by the Pakistan Poverty Alleviation Fund (PPAF) and focuses on incentivizing development across almost 800 TTOs spread across Pakistan by testing the impact of two sustainable measures the donor can take to

engage with these organizations: (i) self-reporting and (ii) non-financial incentives.

The design of the study was presented at the First International Conference on Research and Learning organized by PPAF on 2-3 April 2014.

The Baseline Survey for the project was completed between August to October 2014. The survey gathered information about the characteristics of TTOs, the scope of activities in their communities and the level of inclusion in these organizations. The preliminary findings from the Baseline Survey were presented to PPAF in January 2015. Between May and June 2015, treatment for the experiment was rolled out. This involved conducting an extensive round of training with members from treated LSOs. A total of 39 trainings sessions were conducted at 9 trainings hubs spread across all provinces. The research team worked closely with CHIP Training and Consulting firm for successful completion of the treatment roll-out.

The first round of the Experiment spanned from May to October 2015 with the second round covering November 2015 to April 2016. The Research Team along with CHIP Training and Consulting firm has been actively engaged in collecting the performance reports from all the treatment LSOs. This has also involved an active engagement with both the PPAF and Partner Organizations in an attempt to increase active participation of the LSOs in

the scheme. Currently, the research team is analyzing the performance reports of the LSOs to calculate the winners from the first round. The winners will be felicitated in a local recognition ceremony attended by members of the PO, local officials and local community members.

Alongside, the research team presented the main findings from the Baseline Survey to a gathering of all the Partner Organisations organized by PPAF on 12 Jan 2016, which will soon be followed by a series of briefs that address several LSO issues like women involvement, relationship with POs, nature of activities, funding sources, etc.

5. Benchmarking of Productivity in Pakistan's Readymade Garment Sector

The project has been developed under the International Growth Centre (IGC). *Theresa Chaudhry, Azam Chaudhry and Mahvish Faran* (Lahore School) are working with *Christopher Woodruff* and *Rocco MacChiavello* (University of Warwick) to benchmark the productivity of garment factories in Pakistan. The pilot phase of the project will be used to understand bottlenecks to increasing productivity with the aim to develop productivity-enhancing interventions for the sector, to be evaluated through the method of a Randomized Controlled Trial (RCT).

6. Technology and Innovation Mapping Project

The project is led by a team of researchers including *Azam Chaudhry*, *Theresa Chaudhry* and *Mahvish Faran* (Lahore School) in collaboration with *Rajah Rasiah* (University of Malaya).

The aim of this initiative is to map the production process and the technologies used in the soccer ball and ready-made garments sector. Then using this map, compare the technologies in these sectors with the forefront of international technologies to see how far behind firms in Pakistan are. Finally, the research team will see what incentives can be given to Pakistani firms to adopt new technologies (like financial incentives, supplying information about these technologies, providing assistance of adoption of these new technologies, etc).

7. Comparing Demand for Microcredit and Microsaving in a Framed Field Experiment in Rural Pakistan

Marcel Fafchamps (Stanford), *Simon Quinn* (Oxford), *Giovanna d'Adda* (Milan Politecnico) are working with *Naved Hamid*, *Farah Said* and *Uzma Afzal* (CREB, Lahore School) to design a Randomized Control Trial to compare the effectiveness of micro-savings and micro-loans as means for households to manage risk and liquidity. Fieldwork for the study has completed and results are being analyzed. The study was conducted in

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collaboration with the National Rural Support Programme (NRSP) and was supported by the International Growth Centre (IGC). The project was based on a pilot study conducted in collaboration with NRSP in Sargodha, 2013 (working paper available at http://www.csaе.ox.ac.uk/working_papers/wps-list.html)

8. Microcredit and Microsaving for Microenterprises in Pakistan

Marcel Fafchamps (Stanford), *Simon Quinn* (Oxford), *Giovanna d'Adda* (Milan Politecnico) are working with *Naved Hamid*, *Farah Said* and *Uzma Afzal* (CREB, Lahore School) to design a Randomized Control Trial in 4 districts of Punjab to compare the effectiveness of micro-savings and micro-loans as means for households to manage risk and liquidity. The study builds on existing research and pilots conducted to measure additional constraints on micro-savings. The study is being conducted in collaboration with the National Rural Support Programme (NRSP) funded by the Department for International Development (DfID) and Economic and Social Research Council (ESRC).

9. Impact assessment of startup loans to female run micro-enterprises

Azam Chaudhry, *Naved Hamid*, *Farah Said* (Lahore School), *Giovanna d'Adda* (Milan Politecnico) and *Mahreen Mahmud*, (CSAE, University of Oxford) are conducting a Randomized Control Trial to evaluate the

socio-economic and welfare impacts of micro-loans to female micro-entrepreneurs. This study looks at whether access to finance leads to female setting up their business and attempts to measure household dynamics faced by borrowers that may act as a constraint on the decision to set up a business. This study was conducted in collaboration with Kashf and the fieldwork completed in October 2015. A final report has been shared with Kashf and results from the study will be shared in an academic paper soon. The project was funded by the International Growth Centre (IGC).

10. Pressures from peers and spouses and self-control problems as constraints to microenterprise growth: Experimental evidence from Pakistan

Marcel Fafchamps (Stanford), Giovanna d'Adda (Milan Politecnico) are working with Farah Said and Uzma Afzal (CREB, Lahore School) on a research that assesses the role of self-control problems and peer pressures on take-up and use of a financial product by female micro-entrepreneurs in Pakistan by combining laboratory and field experiments. The project

Indoctrination,
Fear and Lack
of Agency:
Constraints on
Women Outside
the Home

received IGC funding in March 2015 and the experimental sessions were carried out in Chakwal in April-May 2015.

11. Measuring Innovation in the Textiles Sector of Pakistan

The project has been developed under the firm capabilities program of the International Growth Centre (IGC) and is led by *Waqar Wadho* and *Azam Chaudhry* (Lahore School) and will look at the innovation activities, innovation rate; its types and level in the Pakistani textile sector.

Textiles is the major manufacturing sector of Pakistan contributing one-fourth of industrial value added, employing 40 percent of industrial labour force, and most importantly it has on average 56 percent share in national exports. Since, it is competing in global market; a continuous flow of innovation is required to at least maintain its share in the World trade. This competitive pressure requires innovation of new products, new processes, new organizational structures and novel marketing techniques to survive and to strive in the global arena. In Pakistan, two particular characteristics of textiles, scope and production chain posit both opportunities and challenges for this sector to be more innovative and competitive. Firstly scope; even though textiles share is 56 percent in national exports, its share is less than 2 percent (1.8 in 2014) in the World trade. There is a greater scope of increasing its world share through innovation and competitiveness and particularly given an increasing trend in wages in China, the leading textile exporting country, coupled with the recent GPS plus status granted by Europe, openings are more likely for the

competitive textile firms. Secondly, textiles have the longest production chain, with inherent potential for value addition at each stage of processing, from cotton to ginning, spinning, fabric, processing, made-ups and garments.

Opening the Black-box of Technology: A firm level evidence on Innovation activities

In this project, they plan to study innovation activities of firms in the textiles sector of Pakistan during 2013- 2015. The survey was conducted in August-September 2015 across a sample of 614 textile firms in Punjab and Sindh. The survey will measure both the technological (product and process) and the non-technological (organizational and marketing) aspects of innovation. It will also enable us to determine how factors like size, location, type and export destination impact firm level innovation in the Pakistan textile sector.

II. Completed Projects

1. Understanding and Addressing Rural Poverty in Pakistan: Oxford University– Lahore School Collaboration

With funding from the British Academy and the Lahore School of Economics, researchers at Oxford and CREB have completed the 3-year collaborative program on the Economics of Rural Poverty in Punjab. The collaboration has led to several joint academic projects between

the two institutions, involving work between *Dr. Marcel Fafchamps*, *Dr. Simon Quinn* at Oxford, *Dr. Kate Vyborny* at Duke University and *Dr. Naved Hamid*, *Dr. Azam Chaudhry*, *Dr. Theresa Chaudhry*, *Hamna Ahmed*, *Asha Gul*, *Uzma Afzal* and *Farah Said* at the Lahore School of Economics and *Muhammad Haseeb* at University of Warwick. The collaboration has now far exceeded the scope originally planned, leading to new joint projects that have continued beyond the end of the grant. This project was completed in 2014.

The collaborative work includes research on the following topics:

a. Patron-Client Relationships and Rural Development in Pakistan

Patron-client relationships, or vertical social relationships in which individual powerful “patrons” have multifaceted relationships with “clients”, are said to be key features of both markets and politics in many developing country settings, including rural Pakistan. But how do these relationships work in practice and how do they affect the delivery of government goods and services?

These questions were explored by *Azam Chaudhry* (Lahore School of Economics), *Muhammad Haseeb* (Lahore School of Economics/University of Warwick) and *Kate Vyborny* (Duke University/Lahore School) initially with data collected from the Lahore School's Privatization in Education Initiative (PERI) survey and then with the new survey under this project. The researchers have developed several research papers analyzing their data. The researchers have presented this work in

Lahore at the Lahore Economic Development Research Seminar Series (LEDRS) and at International Food Policy Research Institute (IFPRI), AIMS-Manila and Duke University as well as at seminars and conferences in Oxford, Ottawa and Paris and will submit papers for publication soon.

b. Learning about Flood Risk: Evidence from a Field Experiment in Pakistan

Farah Said, Uzma Afzal (Lahore School) and *Ginger Turner* (The Wharton School) investigated how individuals learn about flood risk through the experience and observation of flood events. The study tested the theory that individual risk perceptions and preferences could change with disaster experience. The aim was to improve on previous studies by complementing surveys with experimental design.

A main contribution of this study was to improve the identification of individual loss measures, to test whether variation in flood damages at an individual level can explain differences in observed risk aversion changes. This research was particularly innovative in the Pakistan context, where there has been little work to date on behavioral economics. Findings on behavioral changes have been published in Turner, G., Said, F. and Afzal, U. "Microinsurance Demand after a Rare Event: Evidence from a field experiment in Pakistan". *The Geneva Papers on Risk and Insurance – Issues and Practice* 39, 201 – 223, 2014; Turner, G., Said, F., Afzal, U., Campbell, K. "The Effect of Early Flood Warnings on Mitigation and Recovery during the 2010 Pakistan Floods". A. Singh and Z. Zommers (Eds.), *Preventing Disaster: Early Warning Systems for Climate Change*.

London: Springer 2014; Said, F, Turner, G. and Afzal, U. "Attitudes Towards Risk in the Wake of a Rare Event: Evidence from Pakistan", *CREB Working Paper No. 02-14*, 2014 and Said, F; Turner, G. and Afzal, U. "Risk Taking and Risk Learning after a Rare Event: Evidence from a Field Experiment in Pakistan", *Journal of Economic Behavior & Organization* 118, 167 – 183, 2015.

c. Evaluating the Impact of Punjab's Girls Stipend Program

The government of Punjab, starting in 2004, offered a conditional cash transfer (CCT) of Rs 200 per month, to girls in class 6 to 8 with minimum 80 percent attendance, in order to increase the educational attainment of girls in districts with less than 40 percent literacy. The program was later was extended up to grade 10.

Using data collected a survey of rural households in Punjab (supported by the British Academy and Lahore School of Economics), Theresa Chaudhry and Anam Masood (Lahore School) are analyzing the impacts of this CCT on enrollment and marriage outcomes by means of triple and quadruple difference-in-differences approaches, comparing eligible girls to their non-eligible elder sisters younger siblings in both stipend and non-stipend districts.

2. Caste, Social Exclusion and Education in Rural Punjab: World Bank and CREB joint Research Initiative

This funded research was in collaboration with Tayyaba Tamim (Lahore School) and Rehan Jamil (World Bank). They used a

multiple case study design and mixed methods approach to capture in-depth processes by which caste-based social exclusion shapes the educational opportunity for the marginalized castes in rural Punjab. Three villages were selected from the PERI 2011 data based on geographical spread (North, south and Centre of Punjab), caste and religious complexity and lowest school enrollment. Amartya Sen's capability approach to human development was used to evaluate educational opportunity in the space of capabilities and opportunities, in combination with forms of social exclusion identified by (Whitley, 2005), while Pierre Bourdieu's social critical theory provided the analytical toolkit. Data from 105 interviews with low and high caste parents of (10 -16 year old children) and school heads along with questionnaires, revealed that the caste-based social exclusion stemming from socioeconomic dimension refracted into active and passive forms of institutional exclusionary processes and unfavorable inclusion of the low castes in their own groups, on the other hand; forcing the poorest and most excluded castes to self-deselect themselves from accessing educational opportunity.

The results of the study are currently in the process were published as: CREB working paper "Caste, Social Exclusion, and Opportunities for Education in Rural Punjab", *CREB Working Paper No. 01-15*, 2015 and in an international journal Tamim, T. and Tariq, H (2015). "The Intersection of caste, social exclusion and educational opportunity in rural Punjab", *International Journal of Educational Development*, 43, 51-62. Two other papers from the same study are in the pipe line: 'Factors affecting low - caste parents' choices for schooling their

children: case study of a village in southern Punjab'; 'Caste, social capital and education in rural Punjab'.

3. Public Vs Private Schooling Choice at the Household Level

With a grant from Open Society Institute (OSI) Privatization in Education Initiative (PERI), researchers led by Masooma Habib, Hamna Ahmad and Sahar Amjad (Lahore School) undertook a study titled Determinants of School Choice – Evidence from Punjab, Pakistan. The study addressed the following overarching question: Why do parents choose low cost private schools when free public schools are available? The study was based on a sample of 1024 rural households in 64 clusters spanning over 8 tehsils and 7 districts of the Punjab. This project was completed in 2012.

Findings of the study have been published in Ahmed, H., Amjad, S., & Habib, M. "Private Schooling: Determinants and Implications for Social Justice in Rural Punjab, Pakistan". I. Macpherson, S. Robertson, & G. Walford (Eds.), *Education, Privatisation and Social Justice: Case studies from Africa, South Asia and South East Asia*. Oxford: Symposium Books Ltd 2014 and Ahmed, H., Amjad, S., Habib, M & Shah., S. A. "Determinants of School Choice: Evidence from Rural Punjab, Pakistan", *CREB Working Paper No. 01-13*, 2013.

4. Financial Crisis and Migrant Remittances: Effects on Growth and Poverty in Selected South Asian Countries

With a grant from South Asia Network for Economic Institutes (SANEI), researchers led by Azam Chaudhry, Naved Hamid and Mahreen Mahmud from the Lahore School of Economics empirically investigated the effects of the global financial crisis on remittance growth and national income in Bangladesh, Sri Lanka and Pakistan. This project was completed in 2011.

Findings of the study have been published in Mahmud, M., and Hamid, N. "Migrant Remittances to South Asia: Determinants and Effect on Growth". In M. K. Mujeri, and M. Wahiduddin (Eds.), *Adjusting to Global Economic Volatility. The Case of South Asia*. New Delhi: Academic Foundation 2014.

CREB Publications

CREB publishes papers to bring research being done at the Centre to a wider audience. **Working Paper series** comprise of rigorous analytical and empirical research studies while the **Policy Paper series** publishes papers more directly targeted towards a policy audience. The papers published since the last Annual Conference are listed below:

- **CREB Working Paper No. 03-15**
The Impact of Remittances and Parental Absence on Children's Wellbeing in Rural Punjab
Nida Jamil

- **CREB Working Paper No. 01-16**
Education, Health Knowledge, and Maternal Health in Pakistan
Shandana Dar and Uzma Afzal
- **CREB Working Paper No. 02-16**
Relative Wage Variation and Industry Location within Districts of Punjab
Zunia Saif Tirmazee

CREB Team Research

A. Staff Publications

CREB staff have produced research which has been published in national and international journals. The papers published since the last Annual Conference are listed below:

1. **Two Sides of the Same Rupee? Comparing Demand for Microcredit and Microsaving in a Framed Field Experiment in Rural Pakistan.** *BREAD Working Paper No. 449*. 2015 Uzma Afzal, Giovanna d'Adda, Marcel Fafchamps, Simon Quinn, and Farah Said
2. **Pakistan: A Case of Premature Deindustrialization?** *Lahore Journal of Economics*, Special Edition, Vol 20, September 2015
Naved Hamid and Maha Khan
3. **Risk Taking and Risk Learning after a Rare Event: Evidence from a Field Experiment in Pakistan.** *Journal of Economic Behavior & Organization'* 118, 167 – 183, 2015.
Farah Said, Uzma Afzal and Ginger Turner

4. **Corruption, Tax Evasion and the Role of Wage Incentives with Endogenous Monitoring Technology.** *Economic Inquiry*, Vol. 54, Issue 1, pp.391-407, 2015. Waqar Wadho

B. Other

Publications by other members of the CREB team (i.e. Senior Research Fellows and Visiting Fellows) in 2015 are listed below:

1. **Markup and Cost Dispersion across Firms: Direct Evidence from Producer Surveys in Pakistan.** *American Economic Review*, 105(5): 537-44, 2015.
Azam Chaudhry, David Atkin, Shamyla Chaudhry, Amit Khandelwal, and Eric Verhoogen
2. **The Economic Impact of New Firms in Punjab.** *Lahore Journal of Economics*, Special Edition, Vol 20, September 2015
Azam Chaudhry and Maryiam Haroon
3. **Organization, Management, and Wage Practices in Pakistan's Electrical Fan and Readymade Garment Sectors.** *Lahore Journal of Economics*, Special Edition, Vol 20, September 2015
Theresa Thompson Chaudhry and Mahvish Faran
4. **Does genetic proximity to high growth countries affect a country's own growth?** *Economic Modelling*, 51, 444–453, 2015
Rabia Ikram and Azam Chaudhry
5. **The Intersection of Caste, Social Exclusion and Educational Opportunity in Rural Punjab.** *International Journal of Educational Development*, 43, 51-62. 2015
Tayyaba Tamim and Hana Tariq

More from the Centre

International Conference on the Management of the Pakistan Economy

The Centre organizes the Lahore School's International Conference on Management of the Pakistan's Economy. The proceedings of the Conference are published in a special issue of the Lahore Journal of Economics. This year's conference is titled "**Technology, Entrepreneurship and Productivity Growth – Where Pakistan stands and where it must go**". Previous conferences have focused on a range of themes covering topics in growth, trade, and development.

CREB Research Seminar

The center has started the CREB Research Seminar series in 2015. The CREB Research Seminar has been initiated to disseminate ongoing research by CREB staff and other young researchers. The objective of the seminar is twofold. One, to make young researchers aware of the research being done by others and two, to encourage young researchers to question and critically discuss each other's research in a supportive environment. We have had 3 seminars so far and research presentations have been made by Umair Ayaz and Hamna Ahmad (CREB/Lahore School) and Mahreen Mahmud (CSAE, University of Oxford).

iIG Conference 2015

CREB Research Fellow, Farah Said presented her co-authored paper at the iIG conference: Improving Institutions for Growth held on 20th and 21st March, 2015 at the University

of Oxford. The conference marked the culmination of several iIG research projects investigating the impact of institutional constraints on pro-poor growth. Farah presented her co-authored work with Uzma Afzal, Marcel Fafchamps, Giovanna d'Adda and Simon Quinn, "Two Sides of the Same Rupee? Comparing Demand for Microcredit and Microsaving in a Framed Field Experiment in Rural Pakistan".

CSAE Conference 2015

Researchers from CREB presented papers at the Centre for the Study of African Economies (CSAE), Annual conference held on March 22nd - 24th 2015. The Centre for the Study of African Economies (CSAE) is an economic research centre within the Department of Economics at the Oxford University. CSAE carries out economic research with a particular aim to improve economic and social conditions in the poorest societies. The Annual conference brings together researcher from all across the globe carrying out cutting edge research with a focus on development. Uzma Afzal and Farah Said presented their papers at the conference.

Microfinance and Enterprise Development – Research Prospects and Challenges, 2015

The Centre and University of Oxford jointly hosted a conference on the Microfinance and Enterprise Development – Research Prospects and Challenges on April 16, 2015. The conference was part of the ESRC-DFID project on 'Microcredit and microsaving for small enterprises in Pakistan'. The

conference brought together speakers from microfinance institutions, donors, academics and practitioners from Pakistan and outside of Pakistan. The conference highlighted the current and future research on microfinance with the purpose to start a conversation on the roles research can play in the future to help the sector achieve its goals of poverty alleviation, financial inclusion and sustainable enterprise growth. The conference was attended by Dr. Rashid Bajwa (CEO, National Rural Support Programme), Dr. Amjad Saqib (Founder and Executive Director, Akhuwat), Qazi Azmat Isa, Chief Executive Officer (Pakistan Poverty Alleviation Fund), Syed Mohsin Ahmed (CEO, Pakistan Microfinance Network), Dr. Simon Quinn (Associate Professor and Deputy Director, Centre for the Study of African Economies, University of Oxford), Matthew Titus (Former Founder Executive Director, Sa-Dhan), Sanjay Sinha (Managing Director, Micro-Credit Ratings International Limited (M-Cril), Ghazala Mansuri (Lead Economist, World Bank), Akbar Zaidi, Member of Board of Directors, Pakistan Microfinance Network (PMN), Waqas ul Hasan, Private & Financial Sector Development Adviser, Department for International Development (DFID).

Poverty Measurement and Policy Debate in Pakistan

The Centre and the World Bank jointly organized a seminar on Poverty Measurement and Policy Debate in Pakistan. It was held on April 17th, 2015 at the Lahore School of Economics. Opening remarks were given by Dr. Shahid Chaudhry (Lahore School of Economics) followed by Asif Bajwa (Pakistan Bureau of Statistics)

and Dr. Naeem uz Zafar (Ministry of Planning Development and Reform. Dr. Ghazala Mansuri, Lead Economist, The World Bank made a presentation on Poverty debate in Pakistan: What accounts for the disconnect between the data and perceptions? The presentation opened the floor to a discussion by leading economists on how measurement of poverty can be improved and what outcome is desired out of development research in general. The discussion was moderated by Dr. Naved Hamid (Director, CREB).

Mastering ‘Metrics: An empirical strategies workshop (June 2015)

CREB Research Fellow, Farah Said attended the Mastering ‘Metrics: An empirical strategies workshop, conducted by Joshua D. Angrist, Ravello, Italy (June, 2015). The workshop was based on the new book on econometrics, Mastering ‘Metrics: The Path from Cause to Effect by Angrist and Pischke and discussed up-to-date techniques for a robust econometric analysis.

XXIV Meeting of the Economics of Education Association at Madrid, Spain and Public Economic Theory Conference (PET15) at Luxembourg

CREB Senior Research Fellow, Dr. Waqar Wadho presented his research paper “Endogenous Patience in a Model of Economic Growth with Human and Unproductive Social Capitals” at XXIV Meeting of the Economics of Education Association hosted by the Department of Economics and Public Finance at Universidad Autónoma de Madrid. This took

place in Madrid, Spain from 24th – 26th June, 2015. He presented the same paper at the Public Economic Theory Conference (PET15) which was held in Luxembourg from 1st – 4th July, 2015. The conference was organized by the Association of Public Economic Theory (APET) and hosted by Luxembourg University.

Completed MPhil Theses

1. *Corruption, Tax Evasion and Economic Development in Economies With Hierarchical Tax Administrative System* *Anum Ellahi (Supervisor Waqar Ahmed Wadho)*

The paper looks into joint determination of corruption and development where there is a hierarchical bureaucratic setup; tier one-bureaucrats and tier two bureaucrats. Corruption happens at two level once when the tier one bureaucrats collude with households for tax evasion and another when tier one and tier two bureaucrats collude to hide corruption. The paper determines that at high levels of corruption, there is low development and at low incidence of corruption, there is high development.

2. *The Political Economy of the Natural Resource Curse, Ethnic Polarization and Income Inequality* *Sadia Hussain (Supervisor Waqar Ahmed Wadho)*

This paper analyzes the impact of ethnic polarization in triggering the natural resource curse using a dynamic infinite time horizon model in a general equilibrium framework setting. A

backward-induction process is used: firstly, we decide upon the size of the elite through cost-benefit analysis; secondly, the elite decide whether to indulge in rent-seeking or not by comparing their respective utilities; lastly, the elite decide upon the optimal level of expropriated rents through a utility maximization problem. We are able to show that only in ethnically polarized societies is the economy stuck in high-corruption equilibrium by raising the returns from rent-seeking.

3. Female Empowerment and the Uptake of Maternity Care Services in Pakistan

Amber Masood (Supervisor Asha Gul)

Maternal mortality ratio in Pakistan is very high and can be reduced considerably if females utilize the required maternity care services. Using information from Pakistan Demographic and Health Survey (2012-13), on currently married females (aged 15-49), who had a child within five years prior to the survey, this study aims to look at the impact of different dimensions of empowerment on maternity care uptake. To address the possible endogeneity, we use instrumental variables combined with cluster fixed effects. Couple's age difference and female's premarital empowerment status (proxied through her mother's exposure to domestic violence) are used as instruments. According to the results, all dimensions of female empowerment have a significant impact on antenatal care but safe delivery postnatal care remains unaffected by it.

4. Impact of Female Secondary School Stipend Program on Enrollment, Marriage and Fertility Outcomes in Rural Punjab

Anam Masood (Supervisor Theresa Chaudhry)

We study the effects of Female Secondary School Stipend Program (FSSSP), a component of Punjab Education Sector Reform Program (PERSP) on school enrollment, middle and high school completion, marriage and fertility outcomes for eligible girls in rural areas of stipend recipient districts. The relevant control groups in this study include elder sisters and/or cousins in stipend districts, girls of similar age, their elder sisters and/or cousins in non-stipend districts. This paper uses triple difference-in-difference and finds that girls exposed to the program were more likely to remain in school if we look at a short (2003-2006) or medium (2003-2009) span of time, but were less likely to complete middle or high school. There is suggestive evidence that girls exposed to the program were engaged in early marriages and subsequently are younger at the birth of first child.

5. Human and Social Capital Complementarities in the Presence of Credit Market Imperfections

Natasha Moeen (Supervisor Waqar Ahmed Wadho)

This paper focuses on individual level social capital in easing the credit market constraint, which facilitates the accumulation of costly human capital. Human capital, in turn, affects individual income and the level of bequest; this

reduces income inequality. It is shown that investment in social capital has a negative relationship with the interest rate and so the initial inherited bequest of every individual affects the output and investment in the short-run as well as in the long-run. Also, the paper shows that cross-country differences in such macroeconomic activities are due to the non-monetary cost of social exclusion from mobility which affects the long-run equilibrium.

6. Fuzzy Judgment Aggregation: Distance Based Methods

Ayesha Syed (Supervisor Ismat Beg and Naved Hamid)

Arrow (1963) established that a group cannot always reach logically consistent collective outcome. Subsequently many developments such as premise based, conclusion based and distance based methods have emerged in literature to reach group consistency in crisp logic. This study is focused on the judgment aggregation in fuzzy logic based setting with novel involvement of family of t-norms. Following the approach taken by Miller and Osherson (2009), we compare

four distance based methods. These methods in a fuzzy setting give closer results for consistency of outcome. They also broaden the set of properties and authenticity of the methods.

7. Unique and Multiple Equilibria in a Macroeconomic Model with Environment: Stability Analysis and Transitional Dynamics

Hafsa Tanveer (Supervisor Azam Chaudhry and Rehana Naz)

This thesis develops and analyzes an economic growth model with environmental quality factor in the production and utility function. We first assume that the capital share equals the inverse of intertemporal elasticity of substitution and then solve our model for the balanced growth path. Unique low growth equilibrium is attained when environmental quality is given less weight in the utility function. Multiple equilibria exist if environmental quality is given greater weight in the utility function. These results hold even when we consider fairly general values of capital shares and intertemporal elasticity of substitution.