

DEPARTMENT OF ECONOMICS

Research Program

Research Objectives:

1. To produce cutting edge research in the area of economics and other related fields which utilizes advanced theories, principles and analytical techniques to address key issues in economics, business, and public policy.
2. To collect and analyze primary and secondary data from Pakistani and international sources in order to support the research objectives of the students and faculty and share with local and international academics, researchers, policy makers, businesses and other stakeholders.
3. To support local and international collaboration between researchers, academics, policy makers, the business community and other stakeholders in order to produce research that is relevant, timely, and impactful.
4. To publish research articles in leading national and international academic journals in order to disseminate the findings of the research to a larger community.
5. To publish the findings of the research produced in a broad variety of media, such as books, working papers, newspapers, blogs, and social media in order to increase the accessibility and impact of the research being conducted.

Research Program 2024-25:

The research program of the Faculty of Economics is divided into three components:

1. Research and publications of the faculty as a result of ongoing projects (listed below).
2. Research and publications of the faculty as a result of local and international collaborations (listed below).
3. Publication of books, working papers, newspaper articles, blog posts, etc. based on completed research.
4. Research and publications from PhD and MPhil/MS students based on their research work and theses.
5. To promote collaborations with international researchers on relevant cutting edge research (listed below)
6. To obtain International grants to fund cutting edge research (listed below)

Research Program 2024-2029:

The research program of the department is centered around a series of projects which will yield working papers, policy briefs, newspaper articles and journal articles.

The main projects of the department over the next five years are:

1. *ITC, Lahore School of Economics in WTO Chairs Programme*

ITC, Lahore School of Economics was the only institution from Pakistan, among seventeen other universities from least-developed and developing country members, selected as a member of the prestigious WTO's Chairs Programme. The role of the centre, being part of the WTO Chair Programme, would be to enhance knowledge and understanding of the international trading system among academics and policy makers in the country.

The objectives of the WTO Chair at the Lahore School of the Economics are threefold: First, to further

the understanding of trade related issues (including trade theory, implications of restrictions on trade, the role of international bodies like the WTO, etc.) amongst students, the business community, policy makers and other stakeholders. Second, to conduct timely, relevant, and broadly inclusive research on trade related issues which is not only of the highest academic quality but is also relevant to stakeholders. Third, to disseminate the findings of its activities (both research and stakeholder consultations) to a broader audience through an effective dissemination campaign.

2. ***Nudging Firms in Pakistan to Invest in Renewable Energy: The Role of Information Provision***

Researchers: Theresa Chaudhry (Lahore School of Economics), Azam Chaudhry (Lahore School of Economics), Phillip Garner (Utah Tech), and Nikita Grabher-Meyer (University of East Anglia)

In this exploratory study, we will design and administer a survey across a sample of enterprises in central Punjab to better understand the main structural, informational and behavioral barriers that prevent business owners from switching to greener energy sources. In particular, we will elicit respondents' personal preferences, beliefs and attitudes around greener energy sources, as well as their intended behavior or expected likelihood of adopting greener energy. In addition, we will conduct a randomized information experiment, embedded within the same survey, to test whether information provision targeted at changing specific respondents' beliefs is effective at increasing their intention of purchasing solar energy.

3. ***Estimating the Impact of Foreign Demand Shocks on Firm-Level Emissions in Pakistan.***

Researchers: Theresa Chaudhry (Lahore School of Economics), Azam Chaudhry (Lahore School of Economics), and Nida Jamil (Early Career Researcher, School of Economics, University of Edinburgh)

Pakistan has experienced limited export growth and, at the same time, has been negatively affected by higher pollution and climate change-related shocks. This implies that controlling emissions is an important issue for policymakers and other stakeholders. This research will look at the link between foreign demand shocks that occurred as a result of trade agreements signed by Pakistan and firm-level emissions. We will use the changes in product-level tariffs due to Pakistan's trade agreements to analyze how foreign demand shocks impact the level of energy usage and emissions by Pakistani manufacturers. We will also test to see if the destination of exports differentiates the size of these effects and if these differences can also be attributed to decisions made by firms, such as the use of new technology or changes in their product mix. These results will be critical for policymakers and stakeholders as they consider trade agreements and policies for industrial growth and lower emissions.

4. ***Fixed Costs of Innovation as Barriers to Upgrading in the Surgical-Goods Sector in Sialkot***

Researchers: Azam Chaudhry (Lahore School of Economics), Shamyla Chaudry (Lahore School of Economics), Amit Khandelwal (Yale University), Eric Verhoogen (Columbia University) and David Atkin (MIT).

We propose to offer grants for innovations that increase exports and for innovations to produce new products (i.e. that have not previously been produced in Sialkot). The main goal is to evaluate the effectiveness of the grant program in promoting innovation among treated firms. We will also look for spillovers of innovations to other (untreated) firms through network links.

5. *Understanding the Nature of Pakistan’s trade policies over the last decade and testing their impacts on Pakistan’s trade performance.*

Researchers: Azam Chaudhry (Lahore School of Economics), Aymen Junaid, Gul Andaman

In recent years, the debate surrounding free trade versus protectionism has intensified, particularly as industrialized countries refocus on industrial policy. This argument is of particular importance to Pakistan which faces slowly growing exports but a high level of imports, which in turn has resulted in multiple balance of payments crises. This study will quantify the types of trade-restricting and trade-promoting policies and quantify the depth of these policies. This study will analyze the impact of trade policies on Pakistan’s trade performance over the last decade. We will use the Global Trade Alert (GTA) database, which contains comprehensive data on cross-country trade policies, and evaluate the nature and extent of trade-enhancing and trade-restricting policies in Pakistan over the last decade. We will then empirically test the impact of these policies on Pakistan’s export performance over this time. Both the methodology and the results will be shared with policymakers and other stakeholders to contribute to the debate on the success or failure of policies aimed at improving Pakistan’s trade performance.

6. *Using Pakistan’s Product Space to Promote Higher Exports.*

Researchers: Azam Chaudhry (Lahore School of Economics), Gul Andaman, Aymen Junaid

A persistent problem faced by Pakistan has been the balance of payments deficit. This is because Pakistan’s exports have been considerably lower than its merchandise imports and also reflects that Pakistan’s exports are mostly lower value-added products. This study will explore potential high value-added products that can become part of the export basket of Pakistan based on Pakistan’s cumulative knowledge and capabilities. We will use Hausman’s product space mapping, available in the Atlas of Economic Complexity, to explore which potential high-value-added products can be added to Pakistan’s export basket. This framework identifies the products and sectors that the country can focus on based on its cumulative knowledge and capabilities and has special relevance to Pakistan because of its narrow manufacturing and export base and the persistent balance of payments crises that the country experiences. This can be used to identify important areas of industrial and export growth and can be shared with relevant policy makers and stakeholders.

7. *High Costs of High-Quality Inputs as a Barrier to Upgrading in the Football Sector in Sialkot*

Researchers: Azam Chaudhry (Lahore School of Economics), Shamyla Chaudry (Lahore School of Economics), Amit Khandelwal (Yale University), Eric Verhoogen (Columbia University) and David Atkin (MIT).

We develop an experiment to offer subsidies for high-quality rexine to a random subset of firms and examine if this subsidy spurs upgrading. We look at two related but distinct dimensions of behavioral responses by firms. First, since high-quality inputs are likely to be complements in production, the subsidy may induce firms to purchase complementary high-quality inputs and produce higher-quality footballs, using their existing technologies and production processes. Second, the subsidy may potentially stimulate learning and spur technological improvements in the production process, if for instance innovation has a higher return in high-quality segments of the industry or if producing higher-quality balls leads firms to transact with more knowledgeable buyers. Accordingly, we intend to track complementary changes in other inputs, shifts in the composition of output toward higher-quality

footballs, and other process innovations.

8. *Heterogeneous Adoption of Knowledge Capital and its impact on the firm's Performance*

Researcher: Rabia Arif (Lahore School of Economics)

We will use detailed primary data already collected by the Lahore School from firms in the textile, light engineering and automotive sectors to explore two important aspects of innovation:

First, we explore the heterogeneity in the adoption of 'knowledge capital' (defined as the new set of knowledge acquired, produced and used in the value creation process) at firm level in textile, light engineering and automotive sectors in Punjab to estimate its impact on the firm level outcomes such as revenue, cost of production, quality of the final product and market price of the final product.

This heterogeneity in the adoption of knowledge capital is introduced in two distinct ways:

First, the uneven distribution of the sources of innovation acquired across firms in different sectors. The heterogeneous sources of innovation at firm level are introduced via five distinct ways i.e., technology (equipment), product, process, marketing and business model innovation. Amongst these five different types of innovation, we estimate how significantly each of these sources of innovation have affected firm level outcomes, in different sectors.

Second level of heterogeneity is introduced in terms of the variation in technology adoption across firms based upon its origin (local versus international technology), recent versus already established technology and how often a firm upgrades their respective technology to explore how it may affect the firm level outcomes in different sectors differently.

Next, we argue that organizational and market rigidities may play an important role to motivate (deter) the firm to innovate (or not to innovate). We determine the probability of the firms to engage in innovation (product, process, marketing and business) based upon these factors as well as explore whether different sources for funding the innovation at firm level may play a trivial role in the firm's probability to innovate across different sectors.

Last, we explore if any of these factors affect the firm level outcomes and the probability of innovation for the exporting and non-exporting firms any differently.

In addition to the analysis above, we explore one more important aspect of exporting firms in global market. We argue that global competition that the local exporting firms face, may affect their tendency to innovate in terms of its both intensity and direction. While intensity is measured on a scale from 0-5 as the aggregate of five heterogeneous sources of innovation at firm level i.e., technology (equipment), product, process, marketing and business model innovation.

9. *Household Decision-Making Inefficiencies and Young Women's Skill Investment in Pakistan*

Researchers: Hamna Ahmed (Lahore School of Economics), Zunia Saif (Lahore School of Economics), Rebecca Wu (University of Chicago) and Emma Zhang (University of Chicago)

Despite the availability of incentivized income-generating skills-training programs for low-income

women in Pakistan, organizations report low take-up and low completion rates amongst female target participants due to family opposition and social stigma surrounding their income-generating activities. Low take-up is particularly puzzling among lower-income teenage girls who do not yet participate in the labor force, as the incentives represent over 10% of monthly household income. We aim to understand whether two inefficiencies in household bargaining can help explain such observed underinvestment in daughter's income-generating human capital by randomly varying incentives and information for a skills training program to the parents of interested female students.

10. *From Jobs to Careers: Lifting Constraints to Women's Career Advancement in South Asia*

Researchers: Hamna Ahmed (Lahore School of Economics), Farzan Afridi (Indian Statistical Institute and University of Toronto), Raymond Robertson (Texas A&M University) and Danila Serra (Texas A&M University)

In this project, we explore what are the most important demand-side and supply-side constraints on women's job-to-career transition in garment factories in Bangladesh, India and Pakistan? We test whether interventions such as targeting either managerial decision-making (demand-side), female workers' information about career possibilities and own skills and potential (supply-side), or female workers' support within the household, lift some of these constraints and promote women's career advancement in South Asia? This project is funded by G2LM:LIC

11. *Empowering Women, Transforming Industries: A Green Transition Initiative in Pakistan*

Researchers: Hamna Ahmed (Lahore School of Economics), Raymond Robertson (Texas A&M University) and Danila Serra (Texas A&M University)

The transition to the Green Economy provides a valuable opportunity for inclusive growth and women's empowerment. Any economic transition requires the acquisition of new skills and knowledge. Helping previously excluded groups gain these new skills and knowledge increases their potential value to employers and business partners. The goal of this project is to foster the Green Transition by facilitating the active participation and inclusion of women. This will be achieved through the implementation of training programs aimed at aligning women's skills with the changing needs of employers in the context of environmental conservation and green initiatives within the apparel industry.

12. *Exploring the incidence of informal lending on SME financing and development in Pakistan*

Researchers: Hamna Ahmed (Lahore School of Economics), Zunia Saif (Lahore School of Economics) and Emma Zhang (University of Chicago)

The goal of this exploratory research project is to generate data on the impact and prevalence of informal lending within registered SMEs in Punjab. We partner with the Government of Pakistan's Small Medium Enterprise Development Authority (SMEDA) to estimate whether the average cost of informal financing for SMEs is higher or lower than formal financing. The answer to this question will inform both who and how the government can best target its actions to strengthen private enterprise development. This research is funded by the Fama Miller Center.

13. *The Global Gig Economy: Pakistan's Opportunity to Become a Leader in Service Exports?*

Researchers: Theresa Chaudhry (Lahore School of Economics) and Hamna Ahmed (Lahore School of

Economics)

Sustainable growth and balance of payments stabilization requires targeted policies to improve Pakistan's export performance. Decade after decade Pakistan has continued to have a narrow base of low value-added exports. Freelance employment can be a promising solution to low export revenue. In FY 2022, a total of 2.6 billion dollars' worth of IT exports were recorded of which freelancing export remittances accounted for 4 million dollars (The Express Tribune, 2022). Recently the prime minister has called for increasing IT exports to 15 billion dollars by 2026 (Radio Pakistan, 2023). Despite its huge potential, there is little research on growth of the gig economy for independent freelance workers in developing countries including Pakistan. Through this project, we hope to bridge this gap in the literature. We scrape data on Pakistan-based freelancers from the sites Guru.com and Freelancer.com to learn more about the landscape of freelancing in Pakistan.

14. Political Alignment and Crime

Researchers: Hamna Ahmed (Lahore School of Economics), Dareen Latif, Kate Vyborny (Duke University) and Punjab Police

We investigate how political influences affect the response to crime by police in Lahore, Pakistan. We test how an area's alignment with the political party in power affects the recording of and response to reported crime. To identify effects, we exploit variation in political alignment occurring over an election cycle when the party in power at the national level changed. We find that alignment with the party in power robustly decreases the seriousness with which police respond to citizen complaints. Alignment reduces the number of First Information Reports (FIRs) registered, particularly for lower level crime as well as the probability of a complaint moving to FIR. We explore potential mechanisms to explain our results; whether alignment changes response times of police action against crime and/or postings of police officials. We rule out the possibility that the results are explained by better crime prevention or reduced crime in politically aligned areas: policing resources and responsiveness in aligned areas actually decrease, and serious complaints once made are less likely to go to the FIR stage.

15. Learning Losses during COVID-19: Evidence from Pakistan

Researchers: Hamna Ahmed (Lahore School of Economics), Sadia Hussain, Kate Vyborny (Duke University) and Ijaz Bajwa (The Citizens Foundation)

We collaborate with The Citizens Foundation (TCF) to study the effect of prolonged school closure on learning outcomes. The research team plans to use a panel data providing test score before the lockdown in March, 2020 and another round of test score data after the reopening of schools in October, 2020. Data is used to understand how does the learning loss relate to (i) baseline learning levels; (ii) parents' education and compensatory activities during the school closure period and (iii) whether there are particular topics that were subject to more loss requiring dedicated targeting by teachers for re-building concepts in those areas.

16. Gender and Choice over Co-workers: Experimental Evidence

Researchers: Shamyala Chaudry (Lahore School of Economics), Shan Aman-Rana (University of Virginia), Clement Minaudier (University of Vienna) and Brais Alvarez Pereira (Universidade Nova de Lisboa). (Nov 2019 –To Date)

We study whether choice over co-workers matters for performance in gender-diverse teams. We carried out a lab-in-the-field experiment where students were randomly assigned co-workers meant to help them perform on tests. Co-worker allocation was randomized on two dimensions: (1) gender and (2) student preference for that co-worker at baseline. We find that randomly chosen male co-workers reduce the performance of females (12% of the average score), while preferred male co-workers have a positive yet statistically insignificant effect (6% of the average score). These effects are heterogeneous across the gender stereotype of the questions and materialize even though the two types of male co-workers have the same average ability. To investigate the mechanism behind these effects, we randomly allocated hints as an additional source of information across questions. We find that some (but not all) of these differences are driven by difficulty in accessing additional information or hints in the presence of random male co-workers.

17. *Community Driven Development in Rural Pakistan: Impact evaluation of the SUCCESS program. Randomized Controlled Trials (RCTs) 2016-2022*

Researchers: Waqar Wadho (Lahore School of Economics) Andreas Landmann (Paris School of Economics), Fazal Saadi (RSPN), and Abdur Rehman Cheema (RSPN)

18. *Why are Cousin Marriages so common in Pakistan? Examining the Effects of Cultural Norms, Dowry, and Economic Development as Potential Drivers*

Researchers: Mary Shenk (Penn State University), Saman Naz (East Tennessee State University), and Theresa Chaudhry (Lahore School of Economics)

We use the framework of intensive vs. extensive kinship patterns to study consanguineous marriage patterns in Pakistan, which has the highest rate of cousin marriage in the world. Our theoretical framework contrasts motivations to move from a strategy of solidifying/reinforcing kin networks (intensive kinship) vs. expanding existing kin networks (extensive kinship) in response to economic development. We predict that factors related to traditional, intensive kinship systems will increase the likelihood of cousin marriage, whereas higher market engagement and aspects of family, kinship, and marriage systems associated with extensive kinship systems, will decrease the likelihood of cousin marriage. We also discuss why cousin marriage rates in Pakistan are so high compared to other parts of the world.

19. *Fertility and the Female Decision to be Self-Employed – Testing for Bidirectional Causation in Punjab, Pakistan*

Researchers: Rabia Arif (Lahore School of Economics) and Ayesha Mir

Numerous studies, mostly from the developed countries, report a positive correlation between the number of children or fertility decisions and the choice of becoming self-employed amongst women. However, the direction of this relationship has remained ambiguous. Contingent upon the direction of causation between children and women self-employment, policies directed towards achieving a certain goal, such as facilitating women in maintaining an appropriate balance between family and work, may have varying ramifications on female self-employment. Using cross-pooled MICS data for the years; 2011 and 2014, this study aims at testing two competing hypotheses; first whether having more children influence women to prefer self-employment? Second, is it employment-specific attributes associated

with self-employed females that impact their decision to reproduce? The paper contributes to the literature by testing for bidirectional causation between female self-employment and children using an instrumental variable approach for bringing exogenous variation in fertility and female self-employment decisions, respectively. Using this approach and controlling for various individual, household, and regional characteristics, the findings of this study reveal that the direction of causality runs from being self-employed to giving birth to children (fertility) in a positive manner, mostly driven by educated, middle-aged women dwelling in urban areas. There is no significant impact found of fertility on female self-employment decisions. Being self-employed is likely to lower the opportunity costs of raising (more) children, that is, forgone income and depreciation of skills, would be more prominent in dependent employment. This supports the argument that occupation specific characteristics, such as self-employment being self-run, flexible in terms of scheduling working hours and leisure time in between, routine-friendly, and exhibitivive of lower incompatibility between mother and worker roles, bring a considerable degree of ease for women in raising more children. Thus, considering there is a higher degree of compatibility attached to self-employment as well as in expectations of raising a suitable heir of their family business, self-employed women in Pakistan may prefer having an additional child – a finding that has a tad bit of empirical evidence in the past literature.

20. *The Effects of External Migration on Enrolments, Accumulated Schooling, and Dropouts in Punjab*
Researchers: Rabia Arif (Lahore School of Economics) and Azam Chaudhry (Lahore School of Economics)

In developing countries, external migration tends to ease household income constraints because of the external remittances that are generated. Using data on the Punjab, this working paper attempts to determine whether the external migration of individuals in a household has a positive effect on children's schooling outcomes as measured by school enrolments, the accumulated level of schooling, number of days spent in school, and dropouts. We use historic migration rates to instrument for migration in an analysis of school outcomes for children aged 5–17, 5– 11, and 12–17 to determine which group is most affected by external migration. The results show that external migration has a significantly positive impact on the school enrolments of younger children, whereas the accumulated level of schooling among older children increases significantly if there is an external migrant in their households.

21. *Determining the Extent of Gender Discrimination in Education Sector: A case of Pakistan*
Researchers: Rabia Arif (Lahore School of Economics) and Maham Khalid

Gender bias in developing countries may restrict educational opportunities for girls in comparison to boys. This paper attempts to measure the gender disparity in education amongst children from 5 years to 18 years of age across Pakistan. Using the data from PSLM 2010-2011 and applying Oaxaca decomposition with probit estimation we measure the gender gap. The results interestingly show that although a strong bias exists against females in overall enrollment rates, but as we explore further, we see that males drop out of private schools more as compared to females and the accumulated level of schooling of the male adults is also lower than that of females. We find that much of these differences are not due to the endowment effects. Large negative deviation for males may be attributed to the unobservable pressure and society's norms regarding the role of males that affect them in an adverse manner.

22. *Impact of Temporary External Migration & Remittances on Child Health Outcomes in Punjab, Pakistan*

Researchers: Mydda Aslam and Rabia Arif (Lahore School of Economics)

Primary motive of temporary migration in developing countries like Pakistan is generally in response to the income constraint faced by the households. Therefore, to relax the resource constraint, migrants tend to remit back to their families in home countries. This study attempts to look at the impact of temporary external migration and remittances on child health outcomes as measured by height-for-age (HAZ) & weight-for-age z scores (WAZ) in Punjab, Pakistan. Further, we test for the presence of intra household resource allocation bias where boys get preferential treatment in term of health care as compared to girls. Using historic migration rates and number of banks in each district to instrument for external migration and remittances from overseas, respectively, we employ an Instrumental Variable Approach estimated through Two Stage Least Square and Treatment Effect Model. Our results suggest significant positive impact of external migration and remittances on both the indicators of child health outcomes. Further this study confirms the presence of increased bargaining power of women in households headed by females resulting in a greater share of resources being spent on girls relative to boys.

23. *Measuring Mother's Empowerment Through Culture of Son Preference in Pakistan*

Researchers: Aimal Tanvir and Rabia Arif (Lahore School of Economics)

This study highlights whether giving birth to a son plays a role in determining mother's empowerment in Pakistan and in particular, if the birth-order of the son has any additional impact in uplifting the mother's status within a household, using the Pakistan Demographic and Health Survey (PDHS) 2012-13. In Pakistan, the household's economic conditions make parents treat their sons and daughters differently and ultimately, giving preference to sons over daughters, in terms of education, health and nutrition, as the social and economic utility of a son, overpowers that of a daughter. In the presence of this culture of son preference, if women then give birth to a son or a number of sons, then it should help empower them. The results of the study show having a son significantly helps in empowering mothers in Pakistan. In contrast, the son's birth-order (both higher and lower) is not an important factor for improving mother's empowerment. Mother's empowerment is mainly driven by the number of sons, and age of the son, and these results are more pronounced in rural areas of Pakistan, and for mothers belonging to poor households.

24. *Measuring Actual TFP Growth: Stripping away Omitted Price Bias and Demand Shocks*

Researchers: Nida Jamil (Early Career Researcher, School of Economics, University of Edinburgh), Theresa Chaudhry (Lahore School of Economics) and Azam Chaudhry (Lahore School of Economics)

25. *ITT Estimates of Impact of Ramadan Exposure on Mothers and Children*

Researchers: Theresa Thompson Chaudhry (Lahore School of Economics)

26. *Innovation and Firm Performance in Developing Countries: The Case of Pakistani Textile and Apparel Manufacturers*

Researchers: Waqar Wadho (Lahore School of Economics), Azam Chaudhry (Lahore School of Economics)

The researchers are conducting a firm-level survey of Pakistani textile manufacturers that builds on a similar survey that the researchers conducted in 2015 to construct a unique panel dataset to test the

hypothesis that innovation is conducive to employment generation and sales growth, and that this is especially the case for smaller and younger companies. The firm level innovation study involves gathering primary data from 377 textiles manufacturers located in 12 different districts of the Punjab and Sindh provinces through an in person survey based questionnaire. The respondents of the survey will be the top managers of firms. This data then will be combined with the earlier survey in 2015 to generate a panel of 6 years and 377 manufacturers.

The institutional level development strategy will focus on engaging with the Punjab and Sindh bureaus of statistics to collect data and conduct training with their staff on survey design and implementation as well as providing them with a multidimensional view of innovation and development. We also plan to develop the capacity of the Lahore School's Innovation and Technology Centre by training a core group of junior researchers (with a focus on female researchers) with a focus on survey instrument, questionnaire design, data collection and on data reporting.

The research team also plans to organize seminars in Pakistan and Oxford to disseminate and discuss the findings with various stakeholders including manufacturers and their associations/chambers, bureaus of statistics, policy makers and academics.

27. *The BOP Crisis in Pakistan, Stabilization versus Growth*

Researchers: Moazam Mahmood (Lahore School of Economics) and Shamyla Chaudry (Lahore School of Economics)

Pakistan's BOP crisis, have increased in their frequency, duration and intensity, as preceding analyses of the current crisis have noted. This project will attempt to systematize some of the behavioural relationships that can be observed to hold over the past thirty years, and the efficacy of policy impact on them. It has been observed that there are large capital outflows. These comprise of the primary income account balance on the current account and domestic outflows from the capital account.

As a result, the researchers propose that the following relationship exists between these variables. As exchange rate goes down the capital outflows will increase unless the interest rate are increased. If interest rates are held constant with devaluation, it leads to capital outflows. Thus, one proposal that is likely to work is controls of capital as it stabilizes the economy and does not dampen growth.

28. *Impact of Physical Distance on Health Facility Choice: Evidence from Kashf's Health Microinsurance Program*

Researchers: Hamna Ahmad (Lahore School of Economics) and Dareen Latif

Health micro insurance offers a promising mechanism to protect the poor against risk and vulnerability. We study the impact of physical distance to hospitals on utilization of health services in the context of the Kashf Health Micro Insurance (HMI) Program in Punjab, Pakistan. We address three main research questions; first, what is the impact of physical distance on choice of health facility? Second, is the burden of physical distance greater for women? Third, whether the spread positive information influencing perceptions of quality could be a possible mechanism through which, the burden of distance may be reduced? We employ a Probit model with administrative data on hospitalization claims made between 2014 to 2017. Our findings show that as distance to panel facilities increases, individuals are more

willing to make out of pocket expenditures at nearby non panel hospitals. Therefore, distance impedes individuals from making panel claims. Moreover, this negative impact of distance is more pronounced for women. Furthermore, we find that positive information influencing these perceptions regarding better quality of treatment at panel facilities helps in raising the incentive for individuals, especially women, to use panel facilities for treatment.

29. *Barriers to Upgrading in the Sialkot Football Sector*

Researchers: Azam Chaudhry (Lahore School of Economics), Shamyla Chaudry (Lahore School of Economics), David Atkin (MIT), Amit Khandelwal (Columbia University) and Eric Verhoogen (Columbia University)

The project has been developed under the *International Growth Centre (IGC)* and the *Private Enterprise in Developing Countries (PEDL)* initiative. In this project, the researchers investigate the extent to which high costs of high-quality inputs are a barrier to upgrading in the football sector. One of the primary inputs into football production is an artificial leather called rexine. They propose an experiment to offer subsidies for high-quality rexine to a random subset of firms and examine if this subsidy spurs upgrading. They will look at two related but distinct dimensions of behavioural responses by firms. First, since high-quality inputs are likely to be complements in production, the subsidy may induce firms to purchase complementary high-quality inputs and produce higher-quality footballs, using their existing technologies and production processes. Second, the subsidy may potentially stimulate learning and spur technological improvements in the production process, if for instance innovation has a higher return in high-quality segments of the industry or if producing higher-quality balls leads firms to transact with more knowledgeable buyers.

30. *Social Mobilization, Poverty Dynamics, Political Participation, Patronage, and Women Empowerment*

Researchers: Waqar Wadho (Lahore School of Economics), Andreas Landmann (Paris School of Economics) and Abdur Rahman Cheema (NRSPN).

This project is a Randomized Controlled Trial (RCT) with 2300 households in rural Sindh, funded by the European Union and implemented by National Rural Support Program Network. The project is already rolled out and we are expecting to have more than one research paper from this intervention.

31. *Institutional Capacity as an Organizational Challenge: A Field Experiment in Pakistan*

Researchers: Hamna Ahmed (Lahore School of Economics), Kate Vyborny (Duke University), Simon Quinn (University of Oxford) and Asha Gul (University of New South Wales)

This project is a novel field experiment involving a large donor organization and over 800 recipient community organizations across Pakistan. The project involves two components: The first component aims to study whether community organizations can be incentivized to improve their performance through: (i) systematic self-assessment and reporting of defined Key Performance Indicators (KPIs), and (ii) A transparent non-financial rewards scheme based on these KPIs. *Pakistan Poverty Alleviation Fund (PPAF)* and *International Growth Centre (IGC)* have funded this component of the project. Initiated in 2014, four rounds of reporting and incentives for recipient organizations have been completed to date.

The second component of the project will explore (i) how each part of a large, complex organization (the donor) responds to new information on performance (of recipient community organizations) on KPIs; (ii) How the responses of both donor and recipients to new information and incentives relate to organizational characteristics of theoretical importance, including divergence of preferences between members of the organization; communication costs between parts of the organization; and decentralization of decision-making authority. This part will build on an existing initial stage of the research carried out in component 1 of the project. *National Science Foundation (NSF)* is providing support that will allow the continuation and strengthening of Component 1 and expansion of the scope of the study to cover component 2. A first pilot of this component was carried out in February 2018. The full experiment will be carried out in summer while the endline survey for the study is scheduled for fall of this year.

32. *Overcoming Constraints to Female Labor Force Entry*

Researchers: Hamna Ahmed (Lahore School of Economics), Farah Said, and Zunia Saif Tirmazee (Lahore School of Economics)

The project has been funded by the *Private Enterprise Development in Low-Income Countries (PEDL)* Exploratory grant, 2017 This study is a randomised controlled trial to test the impact of two low-cost interventions to overcome psychological and information constraints to female labor force participation (FLFP). The research questions that this project aims to address are, (i) does motivating female students and (ii) does providing information about the job market, promote female labor force entry.

The project focusses on female students, in their final year undergraduate degree, and enrolled in women only Public colleges in urban Lahore, the second largest metropolitan city in Pakistan, comprising of approximately 11 million people. While socioeconomic background, information on available jobs and job skills are significant determinants of entry into the labor market (Humphrey et al 2009; Jenson, 2012); studies have shown only modest impacts of job search assistance and skills training on employment and wages (McKenzie 2017). Further, skills training programmes in particular often suffer from low enrolment (Cheema et al., 2012, 2015) and high cost (Adhoho et al., 2014); suggesting it is time to think of new interventions that can complement traditional skills training programmes to promote employment. One possibility for these results may be presence of psychological barriers and low motivation as binding constraints to FLFP which this project aims to address.

33. *Barriers to Product Upgradation in the Sialkot Surgical Goods Sector*

Researchers: Azam Chaudhry (Lahore School of Economics), Shamyla Chaudry (Lahore School of Economics), David Atkin (MIT), Amit Khandelwal (Columbia University) and Eric Verhoogen (Columbia University)

The project has been developed under the *International Growth Centre (IGC)* and the *Private Enterprise in Developing Countries (PEDL)* initiative. In this project, they investigate the extent to which fixed costs of innovation are a barrier to upgrading in the surgical-goods sector in Sialkot. If there are externalities in the process of innovation, there may be an important role for governments in subsidizing the costs of innovation. A leading policy idea is to provide matching grants, in which governments provide supplemental funding for projects chosen by individual firms. However, there has never been a rigorous randomized evaluation of such a program (Campos et al, 2012). The research team is conducting such an evaluation in the surgical-goods industry in Sialkot and plan to offer matching grants

for innovations that increase exports.

34. *The Role of Information in Utilization of Health Microinsurance*

Researchers: Sadia Hussain (Lahore School of Economics), Hamna Ahmad (Lahore School of Economics) and Muhammad Ahmad Nazeef (Lahore School of Economics)

We propose a randomized controlled trial (RCT) to (i) test the causal impact of providing information about program use and quality of local hospitals on utilization of health services in Punjab, Pakistan (ii) investigate whether, the impact of providing information on program use, more effective when seeded through social networks of clients. We will work with Kashf Foundation, a large microfinance institution in the country working solely with female borrowers from low to middle income groups. Kashf rolled out a large scale health microinsurance program in 2014. However, only 2.3 percent of the client-base used the program between 2014 and 2017. The primary objective of the study is to explore effectiveness of information dissemination in program use. Essentially we divide the clients into three categories: treated, spillover and pure control. Enrollees in the first treatment arm will receive information about the insurance program, its cost structure, services that it provides names of panel hospital, distance to the nearest hospitals and process of reimbursement. In the second treatment group, clients will be given contact details of a borrower who successfully used the health microinsurance program in the past and lives in close geographical proximity of the client. We also account for information spillovers across social networks by comparing program use across clients who were not assigned to the second treatment arm. Enrollees in the placebo group will not receive anything. This design will allow us to test for (i) the impact of information about the program (ii) the role of diffusion channels in determining impact of information on program use. The project fits the thematic focus of the Research Development Fund to improve the effectiveness of social sector delivery in Pakistan. The findings from this study will facilitate policymakers with regards to efficacy of providing health programs in Pakistan.

35. *Essay on Identifying Constraints to Female Labor Force Entry*

Researcher: Zunia Saif Tirmazee

Higher education (HE) is a critical part of the development of specialized skills and knowledge, contributing to skilled employment and growth. What is also noteworthy is that as opposed to the previous decades lately the girls' enrollment in tertiary education has risen substantially.

At the same time the urban female labor force participation (FLFP) in Pakistan has been chronically low: urban FLFP stands at a mere 11.4% (Pakistan Jobs Diagnostic, 2017) which is less than half compared to that of Bangladesh. Moreover, the unemployment rate amongst girls having an education of intermediate and above is 20% compared to 5% amongst boys (Labor Force Survey, 2011). This is despite the fact that almost half the students at intermediate, graduate and post-graduate level in urban Pakistan are women.

Given this backdrop an in depth analysis of factors both from the demand and the supply side of labor markets is required to see what constrains the educated women from entering the labor force. In this respect my focus in this thesis is specifically limited to the gender wage gap and the employers' preferences from the demand side and the career aspirations of young female graduates from the supply side as potential constraints to female labor force entry.

36. *A General Equilibrium Macroeconomics Model for the Pakistan Economy*

Researchers: Moazam Mahmood (Lahore School of Economics), Azam Chaudhry (Lahore School of Economics) and Aimal Tanvir

The Pakistani economy has struggled to gain momentum over the last decade and economic policy makers have failed to understand the impact of key decisions (such as the multiple IMF stabilization programs) on economic outcomes. One major reason for this is the lack of a formal model of the Pakistani economy to project key economic variables over time. ITC researchers have developed a macroeconomic model for Pakistan's economy. The researchers have worked in collaboration to present a policy simulation tool which helps to provide estimates for macroeconomic aggregates using values for key policy variables. The model is both a policy simulation tool and both a didactic tool taught at the undergraduate level and will further be taught at the graduate level. The model can be used to simulate key macroeconomic variables such as: (i) aggregate demand, (ii) long-run growth rates, (iii) labor market outcomes, (iv) income distribution, (v) price levels, (vi) interest rates and (vii) exchange rates.

37. *Business Confidence Surveys of the Business Community in Lahore*

Researchers: Azam Chaudhry (Lahore School of Economics), Aymen Junaid and Theresa Chaudhry (Lahore School of Economics).

The Pakistani business sector is characterized by low productivity and low growth which in turn has had a major impact on export growth, economic growth and household incomes. While there has been research conducted on specific firm-level issues the business community, there has been very little work done on understanding the level of business confidence. In 2015, the ITC conducted its first annual business confidence survey to understand the perceptions of the business community regarding the prevailing economic conditions and the level of innovation being done. The results of this survey were summarized in the ITC's first Business Confidence Report. The ITC has continued to take the lead in understanding business confidence by conducting yearly survey and publishing yearly business confidence reports.

University Collaborations

Bates College, Bocconi University, University of Bonn, University of California Berkeley, University of Cambridge, University of Chicago, Duke University, Erasmus University Rotterdam, University of Essex, University of Exeter, University of Gottingen, Harvard Kennedy School, Massachusetts Institute of Technology, University of Michigan, Montpellier Business School, New Economics School, University of New South Wales, University of North Carolina, University of Nottingham, University of Oxford, Paris School of Economics, Politecnico di Milano, Sorbonne University, Stanford University, Toulouse University, United Nations University (UNU-Merit), University of Warwick, Washington University in St. Louis and University of Wisconsin

International Research Projects Grants

Sr. No.	Project Title	Award Date	End Date	Funding Sources
1.	Promoting Investment in Solar Energy across SMEs in Pakistan	2023	ongoing	International Growth Centre (FCDO, UK)
2.	Understanding the Freelancing Market in Pakistan: Market Access and Digital Skills Utilization.	2023	ongoing	University of Chicago, GLM/LIC
3.	Firm Side Constraints to Hiring Women	2022	Ongoing	PEDL/ IGC
4.	World Trade Organization (WTO) Chairs Programme	2022	Ongoing	WTO
5.	Training effective altruism	2020	Ongoing	World Bank
6.	Intergenerational Transmission of Conservative Social Norms	2020	Ongoing	World Bank
7.	Training Policy-Makers in Econometrics	2020	Ongoing	World Bank
8.	Why do you want your inheritance share? Triumph of social norms over laws: Evidence from Pakistan	2020	Ongoing	Max Planck Germany
9.	Strengthening schools accountability mechanisms through participation: addressing education quality	2019	Ongoing	ESRC/ Washington University
10.	Search and Matching Frictions in Casual Day Laborers (2)	2019	Ongoing	PEDL
11.	Social Networks and Search frictions in Day Laborers (1)	2019	2019	PEDL
12.	Overcoming Constraints to Labor force entry (2)	2018	Ongoing	GLM LIC

Lahore School Research Development Fund Grants

Sr. No.	Project Title	Award Date	End Date
1	Underdog Entrepreneurship: A Model to Predict Entrepreneurial Capabilities and Success in the Condition of Poverty	2023	2023
2	Investing Corporate Transgressions and Protest Behaviour in a Non Western Culture	2023	2023
3	The role of non-cognitive skills in improving academic performance	2019	2022
4	Political consequences of reliable electricity	2019	2021
5	Systematic corruption in public bureaucracy	2019	2020