Innovation and Technology Centre

ITC 2023-2024 Newsletter

Innovation and Technology Centre

The Innovation and Technology Centre (ITC) at the Lahore School of Economics plays a pivotal role in advancing economic research and shaping actionable policies tailored to Pakistan's dynamic economic landscape. By integrating insights from various economic domains, including macro and microeconomic studies, the ITC tackles complex issues such as productivity growth, technological advancements, and the structural constraints that firms face. This interdisciplinary approach enables the centre to explore and address a range of economic challenges that are critical for sustainable development.

The ITC conducts detailed annual surveys targeting manufacturers, exporters, and policymakers. These surveys are crucial as they collect data on business confidence, technological adoption, innovation practices, and export competitiveness. The insights derived from these surveys help in shaping policy recommendations and identifying key areas where intervention is necessary to boost economic growth and stability. Furthermore, the centre maintains strong connections with significant economic stakeholders, including federal and provincial policymakers, chambers of commerce across major cities, and local manufacturers. These relationships enhance the ITC's capacity to influence economic policy and ensure that its research outputs are both relevant and practical.

Emphasizing export promotion and environmental sustainability, the ITC guides projects that aim to improve market access for Pakistani products and integrate sustainable practices into industrial processes. In addition to research, the ITC is committed to capacity building within the local economic community through workshops, seminars, and collaborative projects. These initiatives disseminate knowledge, foster innovation, and equip policymakers and business leaders with the tools necessary to drive economic growth. Through its comprehensive approach, the ITC not only contributes to academic advancement but also plays a crucial role in practical policymaking, offering well-informed solutions tailored to the unique context of Pakistan's economy

ITC Team Members:

Dr. Azam Amjad Chaudhry:

Co-Director of the Innovation and Technology Centre, Dr. Azam Chaudhry is Professor of Economics, Dean of the Faculty of Economics, and the Pro-Rector of the Lahore School of Economics.

Dr. Theresa Thompson Chaudhry:

Co-Director of the Innovation and Technology Centre, Dr. Theresa

Chaudhry is Professor of Economics, and a fellow of the Centre for Research in Economics and Business (CREB) at the Lahore School of Economics. She is also a research affiliate with the International Growth Centre (IGC) in the UK.

Dr. Moazam Mahmood:

Dr. Moazam Mahmood is Professor of Economics at the Lahore School of Economics, and a Visiting Professor at the Capital University of Economics and Business, Beijing, China. Dr. Mahmood heads the Macroeconomic Modelling Lab at the ITC, and was formerly Director of Research at the International Labour Organisation. He was responsible for producing the latter's annual flagships reports on "World Employment and Social Outlook" and "Global Employment Trends".

Dr. Rabia Arif

Dr. Rabia Arif is an Associate Professor of Economics at the Lahore School and a Research fellow at the ITC. She completed her PhD at the Lahore School of Economics in 2023. and has been affiliated with esteemed institutions notably the University of Oxford, the Paris School of Economics, and Warwick. Her current research focuses on migration, trade, family studies, women's empowerment, and innovation, driven by a passion for inquiry and societal betterment.

Dr. Gul Andaman

Dr. Gul Andaman is a Teaching and Research Associate at the Lahore School of Economics. She holds a Master of Science (MSc) degree from the University of Warwick, UK, and a Doctor of Philosophy (PhD) degree from UPM, Malaysia. Her research interests encompass international trade, foreign direct investment (FDI), domestic investment, and product space analysis.

Mr. Khalid Aziz Mirza

Mr. Khalid Mirza is a Senior Fellow in Business Administration at the Lahore School of Economics. Mr. Mirza served as the founding Chairman of the Securities & Exchange Commission of Pakistan. He has also served as Sector Manager for Financial Sector Development, East Asia & Pacific Region, The World Bank, Washington DC, USA; Chairman and Chief Executive, Monopoly Control Authority founding Chairman and Chief Executive Competition Commission of Pakistan, and as a member of the Competition Appellate Tribunal.

Mr. Adnan Ahmad Chaudhri

Mr. Adnan Ahmad Chaudhri is a Research Fellow with the ITC, with an interdisciplinary background rooted in the humanities, he has worked extensively in academia and the development sector. Prior to joining the ITC, he worked with the development sector journal *Third World Quarterly* in the UK.

Ms. Aymen Junaid

Aymen Junaid is currently working as a Teaching and Research Fellow with the Department of Economics at the Lahore School of Economics. She holds a double major in Economics and Finance, followed by an MSc in Economics from LSE. Aymen's research focuses on trade policies and capital flight.

Ms. Seemab Sajid

Seemab Sajid is a Visiting Research Associate with the ITC Modeling Lab at the Lahore School of Economics. She is currently working on a regional and country general equilibrium macro model and managing the Modeling team at the Lahore School Modeling Lab. Ms. Sajid is part of the production team of the State of the Pakistan Economy reports published every quarter, and are disseminated to governments and multilateral organizations, serving as a basis for analytical and policy debate.

Ms. Amna Noor Fatima

Amna Noor Fatima serves as a Research and Data Analyst at the ITC Modeling Lab, Lahore School of Economics. She is currently assisting in the development of a regional and country general equilibrium macroeconomic model and is responsible for data collection and analysis for the quarterly State of the Pakistan Economy reports, distributed to government entities and multilateral organizations. Alongside this, she is currently completing her M.Phil. dissertation with the Department of Economics at the Lahore School, which looks at First and Second welfare theorems from Arrow Debreu's General Equilibrium, to analyze poverty in Pakistan

ITC, Lahore School of Economics in WTO Chair Programme.

In November 2021, the Innovation and Technology Centre (ITC) at the Lahore School of Economics achieved a significant milestone by being selected to join the prestigious WTO Chairs Programme. This recognition placed the ITC among seventeen other institutions from the Global South, highlighting its prominence in trade education and research. Dr. Azam Amjad Chaudhry, the co-Director of the ITC, Dean of Economics, and Pro-Rector of the Lahore School of Economics, was appointed as the WTO Chair for Pakistan, marking a significant achievement as the only institution from Pakistan to be included in this initiative.

The objectives of the WTO Chairs Programme are diverse. Firstly, it aims to deepen the understanding of trade-related issues among students, the business community, policymakers, and other stakeholders. This includes exploring trade theory, the implications of trade restrictions, and the role of international organizations like the WTO. Secondly, the program is committed to conducting high-quality, timely, and inclusive research on trade issues that not only holds academic value but is also highly relevant to stakeholders. Lastly, it focuses on effectively disseminating research findings and insights from stakeholder consultations to a broader audience, enhancing the general knowledge and understanding of international trade mechanisms.

Throughout 2023 and 2024, the ITC has actively engaged in various initiatives, research publications, and events aimed at reinforcing and increasing awareness of trade negotiation processes and mechanisms. These activities are part of the ITC's strategic efforts to strengthen its role as a key player in shaping trade policies and educating future leaders in the complexities of the global trading system. The upcoming section titled "ITC Events" will provide a detailed list of these activities, showcasing the ITC's dynamic involvement in promoting trade education and research under the WTO Chairs Programme.

ITC Research Projects:

The following are some of the projects that are currently ongoing as of July 2023- June 2024 academic year onwards:

1. Innovation in the Pakistani Textile Sector

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

Abstract: This project, developed under the International Growth Centre (IGC), examines innovation and competitiveness as crucial components of private sector-led economic growth and its sustainability in Pakistan. Despite the significant role of innovation, little is known about its nature, extent, determinants, and obstacles within the Pakistani textile industry. In the absence of empirical data, policies aimed at promoting innovation can be misdirected and ineffective. Addressing this gap, the researchers surveyed a sample of 500 textile firms across Punjab and Sindh, measuring both technological (product and process) and non-technological (organizational and marketing) aspects of innovation. An innovation, in this context, is defined as the introduction of a new or significantly improved product, process, organizational method, or marketing method by an enterprise. The study categorizes innovation into four types based on enterprise responses about their activities during 2011-13: product, process, organizational, and marketing. Furthermore, it employs multiple measures to gauge innovation: (1) Innovation rate, based on whether enterprises innovated in the specified period; (2) Innovation input, calculated as the ratio of R&D expenditure to sales; (3) Innovation output, reflected by the ratio of new product sales to total sales; and (4) Innovation efficiency, defined by the ratio of new product sales to R&D expenditure. Through comprehensive analysis, this study aims to unravel how innovative the textiles sector in Pakistan is, identify the factors promoting or hampering innovation, and ultimately guide effective policy-making to enhance the sector's growth and international competitiveness.

2. Nudging SMEs 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 University) , and Nikita Grabher-Meyer (University of East Anglia)

Abstract: This study designs a survey for small-medium manufacturing enterprises in central Punjab to better understand the barriers that prevent these businesses from adopting renewable energy sources. The survey aims to elicit respondents' personal preferences, beliefs, and attitudes about greener energy solutions as well as their intentions or likelihood of adopting such technologies. By identifying the main structural, informational, and behavioral obstacles, this research intends to formulate strategies that can encourage more widespread use of sustainable energy among SMEs, contributing significantly to environmental preservation efforts.

3. 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) , Eric Verhoogen (Columbia University) , and David Atkin (MIT)

Abstract: This project introduces a grant program aimed at encouraging innovation among firms in Sialkot's surgical-goods sector. The study evaluates whether providing financial support for innovation leads to the adoption of new product designs or improvements in existing products. It also examines if these innovations have spillover effects to neighboring non-participant firms, potentially leading to broader industry-wide enhancements.

4. 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) , Eric Verhoogen (Columbia University) , and David Atkin (MIT)

Abstract: This study tests whether providing subsidies for high-quality raw materials, specifically rexine, to football manufacturers in Sialkot can lead to higher quality output. The research explores how such subsidies affect firms' decisions to upgrade their products and whether these changes lead to improvements in production processes or the adoption of new technologies.

5. 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

6. **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.

7. **Relationship Between Firms' Productivity and Its Export Market Participation**

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

Abstract: This research examines the relationship between productivity and export behavior using data from the Census of Manufacturing Industries. It aims to determine whether more productive firms are more likely to engage in exporting due to inherent efficiencies or if engaging in export markets enhances a firm's productivity over time. The study provides insights into how Pakistani firms can leverage exports for growth and competitiveness.

8. **Heterogeneous Adoption of Knowledge Capital and Its Impact on the Firm's Performance**

Researcher: Azam Chaudhry (Lahore School of Economics), Rabia Arif (Lahore School of Economics)

Abstract: This study uses 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 the firm level in textile, light engineering, and automotive sectors in Punjab to estimate its impact on 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 the 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 has affected firm-level outcomes, in different sectors.

Second, the 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 in motivating (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 the 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 the 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 the firm level i.e., technology (equipment), product, process, marketing, and business model innovation.

This comprehensive study provides an in-depth analysis of how diverse forms of knowledge adoption impact business performance across several industrial sectors, aiming to inform policy and strategic decisions for fostering innovation and economic growth in Pakistan.

9. **Product Space: Exploring Potential for Higher Exports in Pakistan**

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

Abstract: This paper uses the product space framework to identify high-value-added products that Pakistan could potentially export to diversify and expand its export basket. By analyzing connectedness and complexity, the study estimates potential gains from exporting identified products and provides policy recommendations for industrial expansion.

10. **Can Foreign Aid Trigger Unofficial Capital Outflows? Panel Data Analysis**

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

Abstract: This paper investigates the impact of foreign aid on capital flight, specifically through the mechanism of trade misinvoicing in a panel of 114 countries over 23 years. The study explores how aid might inadvertently lead to capital outflows, especially in regions prone to such dynamics like Africa, developing Europe, South and Central Asia, and the Middle East, and discusses policy implications for managing foreign aid effectively.

11. Understanding the Nature of Pakistan's Trade Policies and Testing their Impact on Pakistan's Trade Performance

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

Abstract: This study analyzes the impact of trade policies on Pakistan's trade performance from 2008 to 2022, highlighting the country's slow export growth and high imports, which have led to multiple balance of payments crises. Using the Global Trade Alert (GTA) database, it evaluates the effectiveness of trade-enhancing and trade-restricting policies. Findings show that while Pakistan employs various policies, only certain measures, like import tariffs and internal taxation, significantly affect trade volumes. The study recommends shifting focus from traditional strategies to more effective policies, such as reducing tariffs, subsidizing export credit, investing in export-focused infrastructure, and aligning with global trends like clean energy. This approach could help drive sustainable export growth and reduce reliance on currency depreciation

ITC Surveys and Reports:

The following are the surveys and reports conducted by the ITC during the July 2023- June 2024 academic year:

12. Promoting investment in solar energy across SMEs in Punjab (2023)

The Innovation and Technology Centre (ITC) at the Lahore School of Economics has conducted a survey focusing on promoting solar energy adoption among small and medium enterprises (SMEs) in Pakistan. The report highlights the enormous potential for solar energy in the country, revealing that even utilizing a small portion of land for solar installations could meet Pakistan's entire electricity demand.

A survey of 514 SMEs in central Punjab indicated that only 16% of firms currently use solar energy, with those adopting it reporting an average 40% reduction in electricity costs. Despite this, 84% of firms have yet to invest in solar power, citing concerns over installation costs and financing.

Key takeaways from the report include:

- Most firms discovered the benefits of solar energy through word of mouth, rather than formal channels.
- While reducing electricity costs and mitigating load shedding were primary motivations for adopting solar energy, environmental concerns were less prominent.
- There is growing interest in solar energy, with 51% of non-adopters considering future investment.

The report concludes with a call to address cost and financing barriers, suggesting that better access to information and incentives could accelerate solar adoption in SMEs. A randomized information experiment is planned to assess whether providing targeted information increases the likelihood of solar adoption.

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

The Modelling Lab at the Innovation and Technology Centre (General Equilibrium Macroeconomic Model for the Pakistan Economy)

The Modelling Lab Team at the Lahore School of Economics' Innovation and Technology Centre has made significant progress in economic modeling with the development of a General Equilibrium Macro (GEM) model for Pakistan. Over the past two years, this team has meticulously crafted this model to serve as a foundational tool for policy simulations and educational purposes. The GEM model allows for an in-depth analysis of the Pakistani economy by simulating the effects of various economic policies under different scenarios, thus providing valuable insights for policymakers.

Recognizing the success and utility of the model, the Lahore School has initiated quarterly updates to keep the model current with the ongoing economic changes and trends within Pakistan. This regular updating process ensures that the model remains a relevant and robust tool for economic analysis and decision-making.

Building on this local success, the Lahore School is expanding its scope to include global macroeconomic modelling, beginning with the European Union. This move towards international modeling aims to broaden the understanding of global economic dynamics among students and researchers at the Lahore School, while also enhancing the school's capacity to influence and contribute to global economic discussions. This initiative not only marks a significant advancement in the school's modeling capabilities but also positions it as a key player in both local and global economic analysis arenas.

1. State of Pakistan Economy Report No. 01-2024

Authors: Dr. Moazam Mahmood (Lahore School of Economics), Dr. Azam Chaudhry (Lahore School of Economics), Seemab Sajid (Lahore School of Economics), & Amna Noor Fatima (Lahore School of Economics),

Executive Summary

The Lahore School of Economics macro model for the Pakistan economy projects that GDP growth over the fiscal year July 2023 – June 2024, (FY 2024), will be 2.71%. This estimate for the whole fiscal year FY 2024, is based on observed values for just its first quarter (Q1), for the months of July to September of 2023. Which are then projected for the remaining three quarters (Q2-Q4), for the months of October 2023 to June 2024.

GDP Growth Analysis

The GDP growth for FY 2024 is discussed in detail. The analysis notes that growth is stifled by persistent import constraints due to a challenging balance of payments situation, depreciating currency, and low foreign exchange reserves. This situation limits the ability to achieve higher growth rates seen in previous years when imports were more robust. The report emphasizes the need for structural changes to address the current account deficits and suggests that reliance on IMF loans is not a sustainable solution.

The report breaks down growth by major sectors: agriculture, industry (including large-scale manufacturing), and services. Each sector faces its unique challenges, with agriculture and manufacturing not recovering as expected from the previous fiscal year's setbacks. The slow recovery in these sectors contributes to the overall modest growth projection.

Inflation Dynamics

The section on inflation delves into the various drivers of the high inflation rate observed. The depreciation of the exchange rate and the fiscal deficit are cited as major factors. Additionally, increases in energy prices, partly due to higher taxation, significantly contribute to inflation. The report discusses the impact of energy price adjustments on consumer prices and suggests that while necessary to cover rising costs, a substantial portion of the price increase is due to higher taxes.

Policy Recommendations

The final sections of the report focus on policy challenges and recommendations for FY 2024. It calls for pragmatic fiscal policies to manage the budget deficit without exacerbating inflation, particularly through careful consideration of taxation strategies. The report argues for a more sustainable approach to economic management, focusing on long-term structural reforms rather than short-term financial aids.

Link to the Article: FY 2023-2024 Q1 Report.pdf (lahoreschool.edu.pk)

2. **State of Pakistan Economy Report No. 02-2024**

Authors: Dr. Moazam Mahmood (Lahore School of Economics), Dr. Azam Chaudhry (Lahore School of Economics), Seemab Sajid (Lahore School of Economics), & Amna Noor Fatima (Lahore School of Economics),

Executive Summary

The report provides a detailed assessment of Pakistan's economic performance for the fiscal year 2023-2024, highlighting a subdued GDP growth rate of 1.68%. This rate is significantly lower compared to previous years, with sectoral weaknesses particularly noted in manufacturing and agriculture. The report anticipates an uptick in GDP growth to 3.3% for the upcoming fiscal year 2024-2025, assuming improvements in economic conditions. Additionally, inflation is reported at 18.9% for the year, driven largely by the currency's depreciation and ongoing fiscal deficits.

GDP Growth Analysis

This section of the report delves into the factors contributing to the low GDP growth observed throughout the fiscal year. The report looks at sectoral performance where both, the manufacturing and agricultural sectors showed weaker-than-expected output, continuing a trend of stagnation. This has been a significant drag on overall economic growth.

The report also explains Pakistan's heavy dependence on imports for achieving growth which has led to a cycle of needing to build foreign exchange reserves followed by periods of high growth that deplete these reserves, necessitating further IMF intervention.

Inflation Dynamics

Inflation remains a critical issue with several contributing factors. Currency depreciation and fiscal Deficits remain the primary drivers of inflation, though the impact of currency depreciation has lessened slightly compared to previous quarters.

The report highlights that policy-driven price increases in the energy sector have further fueled inflation. Adjustments in energy prices, particularly in response to global commodity price changes and domestic tax policies, have had a pronounced inflationary effect.

Economic Policies and Fiscal Challenges

The report critiques current economic policies and identifies key challenges. There is considerable concern over the sustainability of government economic policies, particularly the high reliance on borrowing and ambitious tax revenue targets that may not be achievable. Moreover the upcoming fiscal year's budget is described as overly ambitious, with substantial increases in expenditures that are expected to be funded by increased borrowing and tax revenues.

Recommendations

To address the economic challenges outlined, the report offers several recommendations. A critical suggestion is to cut government expenditures and reduce reliance on borrowing to manage the budget deficit more effectively.

Secondly, the report calls for structural reforms aimed at enhancing economic efficiency and reducing the cyclicality of growth that stems from external imbalances.

Link to the Article: FY 2023-2024 Q4 Report.pdf (lahoreschool.edu.pk)

Members of the ITC team have published the following journal articles over the course of June 2023 – June 2024 (listed chronologically):

1. Arif, R., and Chaudhry, T.T. (2023). Heterogeneous effects of emigration on labor market activity and investment decisions in Punjab, Pakistan. *Advances in Life Course Research*, 56: 100547.
2. Chaudhry, T., Tirmazee, Z., & Ayaz, U. (2023). Experimental Evidence on Group-based Attendance Bonuses in Team Production. *Journal of South Asian Development*, *18*(1), 90-110.
3. Arif, R., Chaudhry, T.T., and Chaudhry, A. (2023). Emigration's Heterogeneous Impact on Children's Wellbeing in Punjab, Pakistan. *Child Indicators Research*: 1-45.
4. Arif, R., Jamil, N., & Chaudhry, A. (2023). Strategic Trade Policy for Pakistan's Textile Sector in 2018: Enhancing High Value-Added Exports through Low-Priced Intermediate Input. *The Pakistan Development Review*, 145-166.90-110.

ITC Events

- July 10, 2023: The ITC welcomed Mr. Matthew Stephenson, the World Economic Forum's Head of Investment Policy and Practice, to discuss the ITC's research outputs and involvement in the WTO Chairs Programme. Dr. Azam Chaudhry introduced the ITC team and outlined its key "pillars." Mr. Stephenson discussed the WEF's projects in Pakistan, with a particular focus on expanding Digital Foreign Direct Investments (Digital FDIs). Ms. Gul Andaman, Visiting Fellow, along with Drs. Nida Jamil and Rabia Arif, presented the ITC's research and outreach activities, including conferences, reports, and workshops. They emphasized that Pakistani firms, while having surpluses to invest, require domestic stability before committing to infrastructure or technology investments.

- August 1, 2023: An online session titled "Economic Challenges Faced by Pakistan and Way Forward" was conducted for the Ministry of Commerce, Islamabad, by Dr. Azam Amjad Chaudhry, Pro-Rector and WTO Chair for Pakistan. Dr. Chaudhry discussed Pakistan's GDP breakdown and highlighted the challenges in transitioning from agriculture to industrial growth, as seen in other South Asian economies like India and Bangladesh. He also touched on Pakistan's stagnant services and manufacturing sectors, the balance of payments situation, and inflation.
- August 8, 2023: The ITC held a workshop on Geographic Information Systems (GIS) for students, academics, and stakeholders. Mr. Imtiaz Younis, GIS specialist from the Punjab Urban Unit, conducted the workshop, focusing on QGIS and ArcGIS software tools, which enable economic and social analysis by extracting data from images.

- August 23-25, 2023: The ITC and the Centre for Research in Economics and Business (CREB) co-hosted the 5th International Annual Development Economics (ADE) Conference, in collaboration with the International Growth Centre (IGC) and the Consortium for Development Policy Research (CDPR). The conference aimed to highlight research with lasting policy impacts, offer early-career researchers feedback on their work, and foster collaboration among researchers. Dr. Shahid Chaudhry, Rector of the Lahore School of Economics, opened the conference, thanking international participants for advancing the institution's vision of sustainable and equitable solutions.

- Key presentations: Dr. David K. Evans (Senior Fellow, Center for Global Development) delivered a plenary address on improving teacher recruitment and professional excellence. Anri Sakakibara (King's College London) discussed the gender implications of expanding female-intensive industries, and Dr. Hamna Ahmad (Lahore School of Economics) explored how digital skills training impacts young women's employment in urban Pakistan. Dr. Theresa Thompson Chaudhry presented on Pakistan's export challenges and opportunities amidst economic uncertainty.

- September 11, 2023: Dr. Azam Chaudhry presented remotely at the "Uzbekistan's Pathway to WTO Accession" conference, hosted by the Ministry of Foreign Affairs of Uzbekistan. As WTO Chair for Pakistan, Dr. Chaudhry shared lessons learned from Pakistan's free trade policies and emphasized the role of academic institutions in fostering trade-related research and capacity building.

- November 15, 2023: Dr. Azam Chaudhry, WTO Chair for Pakistan, and Dr. Wang Shida of the China Institutes of Contemporary International Relations, discussed strategies to enhance trade and economic relations between Pakistan and China.

- January 29, 2024: Dr. Azam Chaudhry presented at a digital seminar on "Trade-Related Industrial Policy" in collaboration with Pakistan's Ministry of Commerce. His presentation focused on the need for an industrial policy that reduces import tariffs, provides investment, and integrates with broader export strategies based on higher value-added products. He stressed the importance of exploring sectors connected to Pakistan's current export basket.
- March 6, 2024: Dr. Azam Chaudhry met with Secretary of Commerce, Mr. Muhammad Sualeh Ahmed Faruqui, to discuss the WTO Chairs Programme's activities and the direction for future development.
- March 14, 2024: Dr. Azam Chaudhry met with US Consul General Kristin K. Hawkins at the Lahore School of Economics to discuss WTO Chairs Programme research and efforts to prepare students for Pakistan's economic development. They also discussed initiatives to support students from underrepresented communities.

- March 18, 2024: Dr. Azam Chaudhry gave a guest lecture at Pakistan's National School of Public Policy, focusing on balance of payments-constrained growth, the impact of IMF policies, and strategies for sustainable growth. Dr. Chaudhry, along with Dr. Shamyla Chaudhry, also received funding from the International Growth Centre for a project promoting high-value-added surgical goods exports from Pakistan. The project involves MIT, Columbia, and Yale researchers.

- May 3, 2024: Dr. Azam Chaudhry published an article in the Express Tribune titled "Is There a Future for Export-Led Growth in Pakistan?". [Link: Is There a Future for Export-Led Growth in Pakistan]

- May 6, 2024: Dr. Azam Chaudhry met with key figures, including Dr. Adnan Qadir Khan (FCDO), Clara Strandhoj (FCDO Head for Punjab), and Andy Hinsley (FCDO Growth Research Team leader), to discuss trade-related projects under the WTO Chairs Programme. Meetings also included Hamed Yaqoob Sheikh (REMIT head) and Mr. Nabeel Ahmad Awan (Chairman Planning and Development Board) to review capacity-building initiatives.

- May 9, 2024: Dr. Azam Chaudhry met with Dr. Tasneem Zafar, Chief Instructor at Pakistan's Civil Services Academy, to discuss WTO Chairs Programme collaboration and potential lectures on trade-related capacity building.
- May 9, 2024: Dr. Theresa Chaudhry participated as a discussant at the World Bank-IGC workshop on "Agenda Setting for Climate Change and Energy" in Islamabad. She discussed her project promoting solar energy adoption by Pakistani textile exporters.
- May 11, 2024: Dr. Azam Chaudhry met with Dr. Najma Najam (Vice-Chancellor, Karakoram International University) and Dr. Khalid Mahmood (Vice-Chancellor, University of Punjab) to discuss WTO Chairs Programme research collaboration and curriculum development.
- June 26, 2024: Dr. Azam Chaudhry presented his research on trade at the Annual WTO Chairs Conference in Geneva, Switzerland, during a panel with WTO Chief Economist Dr. Ralph Ossa.

- July 15, 2024: Dr. Azam Chaudhry met with members of the Pakistani government to discuss tariff rationalization and strategies for hitting an export target of USD 60 billion over the next three years. The meeting was convened by the Minister for Commerce at the Pakistan Secretariat in Islamabad.