

Tejesh Pradhan

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SUMMARY PhD in Economics with over six years of expertise in economic modeling, as well as management, visualization and econometric analysis of household survey, census and administrative data.

More than three years of experience in international development, which includes working with the Africa, South Asia, and East Asia and the Pacific regional teams at the World Bank, and interning in the Finance Department of the IMF.

Certified Data Scientist with proficiency in machine learning, predictive analytics, data mining, distributed computing and natural language processing.

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| EDUCATION (Appendix A) | Ph.D. in Economics, American University Dissertation: <i>“Three Essays in Evidence-Based Approach to Development”</i> Advisors: Dr. Jessica Leight, Dr. Erdal Tekin, Dr. Bernhard Gunter | Dec 2019 |
| | M.A. in Economics, American University Concentration: Development Economics | Jun 2017 |
| | M.S. in Resource Economics, University of Massachusetts Amherst Concentration: Applied Econometrics | Jun 2015 |
| | B.A. in Economics and Mathematics, Williams College | Jun 2013 |

FIELDS AND INTERESTS Primary: Development Economics
Secondary: Program Evaluation, Applied Econometrics

PROFESSIONAL EXPERIENCE **The World Bank (Washington, DC))** Feb 2017 - Present
(Appendix C) Consultant

Applied descriptive analysis and quasi-experimental impact evaluation techniques to inform policymaking in South Asia, and East Asia and the Pacific regions.

Studying the contribution of geographic, human capital and economic endowments to spatial disparities in welfare across Afghan provinces. | Estimated the impact of protracted cutback in international development aid on poverty and inequality outcomes to inform national and regional level antipoverty strategy in Afghanistan. | Built, managed and designed *interactive visualization portal* of databases compiled from multiple public and private sources assessing over 200 district and province level social, economic and political indicators for Afghanistan to supplement country briefs addressing multi-sectoral development challenges. | Completed and interpreted Labor Force Survey data analysis for Bhutan Development Report and associated background papers. | Created and assessed comprehensive poverty, vulnerability and inequality profiles as a part of Systematic Country Diagnostic Reports of Papua New Guinea and East Timor using household survey data. | Analyzed primary survey data from 2,100 Indonesian public

schools to determine how a curriculum designed to enhance socio-emotional skills and aspirations of students affected their future educational outcomes.

Applied hierarchical modeling and small area poverty estimation using census and household surveys to inform social protection programs in Africa.

Completed multilevel econometric analysis of the impact of self-reported weather/rainfall shocks on household consumption in Sub-Saharan Africa to identify families vulnerable to extreme poverty and apprise efficient post-disaster response programs. | Co-authored a report analyzing the spatial distribution of poverty in Gambia using Small Area Estimation techniques.

International Monetary Fund (Washington, DC)

Jul 2017 - Sep 2017

Intern

Entrusted to conduct an independent research project for the Concessional Finance division of the Finance Department, assessing the role of the Poverty Reduction and Growth Trust and identifying socio-political preconditions of program success.

Completed an empirical impact evaluation of whether concessional IMF programs facilitate economic growth and income convergence in eligible low-income countries (LIC) | Presented findings to senior management for review and published the research in IMF Working Paper Series. | Collaborated with Strategy, Policy and Review department to discuss policy implications with Directors responsible for review of IMF facilities available to LICs.

Ethics and Public Policy Center (Washington, DC)

Jun 2016 - Aug 2016

Intern

Co-authored policy research columns addressing intergenerational inequality in Social Security and targeting inefficiency in Disability Insurance in the United States | Reviewed and summarized MACRA legislation, Congressional Budget Office's long-term economic outlook and worker compensation laws | Attended and reported on Congressional Budget Committee hearings and seminars on fiscal issues.

WORKS IN
PROGRESS
(Appendix B)

Job Market Papers

Tejesh Pradhan, "Catalyzing Club Convergence - The Role of IMF and World Bank in Catch-up Growth"

Tejesh Pradhan, "Effects of Educational Decentralization on Participation and Quality: A Case Study of Nepal"

Other Papers

Tejesh Pradhan and Ali J. Al-Sadiq, "*IMF-Supported Programs and Income Convergence in Low-Income Countries*," *IMF Working Papers*, 18/284 Dec 2018

Tejesh Pradhan, "Long Term Consequences of Local Birth Year Rainfall in Nepal," *Journal of Development Studies*, Revise and Resubmit Sep 2014

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| POLICY COLUMNS | Tejesh Pradhan and James C. Capretta, “Despite a temporary reprieve, the Social Security Disability Insurance program needs structural reform”, <i>AEI Economic Perspectives</i> Dec 2017 |
| | Tejesh Pradhan and James C. Capretta, “Social Security’s Intergenerational Conundrum”, <i>Real Clear Policy</i> Jul 2016 |
| SCHOLARSHIPS AND AWARDS | IPUMS Research Award , Institute for Social Research and Data Innovation Apr 2020 |
| | The Data Incubator Fellowship , The Data Incubator Sep 2019 - Nov 2019 |
| | Award for Excellence in Econometrics , American University Apr 2019 |
| | Award for Excellence in Econometrics , American University Apr 2018 |
| | Award for Excellence in Econometrics , American University Apr 2017 |
| | Peter G. Peterson Fellowship , Peter G. Peterson Foundation Jun - Aug 2016 |
| | Jack Larned International Management Prize , Williams College Jun 2013 |
| | Carl Van Duyn Prize in Economics , Williams College Jun 2013 |
| Shelby Davis Scholarship , Williams College Aug 2009 - Jun 2013 | |
| CERTIFICATES | Data Scientist , <i>The Data Incubator</i> (Washington, DC) Nov 2019 Highly competitive training program in Big Data and Data Science techniques, including web scraping, machine learning, distributed computing, natural language processing, database management, visualization, neural networks and deep learning |
| | Accredited Graduate Statistician , American Statistical Association (Washington, DC) Jan 2017 |
| CONFERENCES | Third SANEM-World Bank North America Discussion Forum “Effect of Educational Decentralization on Participation and Quality: A Case Study of Nepal” Session Title: Challenges of Social Sector. Washington, DC. |
| ACADEMIC EXPERIENCE | Teaching Assistant , American University (Washington, DC) |
| | ECON 301/ 401 Intermediate Macroeconomics Spring 2019 |
| | ECON 370 International Economics Spring 2019 |
| | ECON 600 Microeconomics Spring 2019 |
| | ECON 400/401 Mi/Macroeconomics Fall 2018 |
| | ECON 361 Economic Development Spring 2018 |
| | ECON 379 Economics of Environmental Policy Spring 2018 |
| | ECON 100 Macroeconomics Spring and Fall 2017 |
| | ECON 200 Online Microeconomics Summer 2016 |
| | ECON 680 Capstone Seminar Fall 2016 |
| | ECON 603 Intro to Economic Theory Spring and Fall 2016 |
| | ECON 300 Intermediate Microeconomics Fall 2016 |
| | ECON 322/623 Applied Econometrics Fall 2015, Spring and Fall 2016 |
| | Statistical Consultant , American University (Washington, DC) Fall 2017 Provided consultations related to research design, data collection and analysis, and statistical programming for faculty, staff, and students. |
| | Teaching Assistant , University of Massachusetts (Amherst, MA) |
| | RESECON 162 The Consumer in Society Fall 2014, Spring 2015 |
| | RESECON 314 Financial Analysis for Consumers and Firms Fall 2014 |

RESECON 212 Introductory Statistics
for Social Sciences

Fall 2013, Spring 2014

Research Assistant, University of Massachusetts (Amherst, MA)

Dr. Sheila Mammen

Summer 2015

Analyzed the influence of health, human, personal, and social capital on life satisfaction among rural low-income mothers in rural U.S.

Teaching Assistant, Williams College (Williamstown, MA)

EC 517 Tax Policy in Emerging Markets

Fall 2013

EC 205 Public Economics

Spring 2013

Research Assistant, Williams College (Williamstown, MA)

Dr. Jon Bakija

Summer 2013

Created database of local, state and federal tax parameters for over 25 U.S. states.

SKILLS

Programming: Python (Pandas, NumPy, SciPy, Scikit-Learn, TensorFlow, Matplotlib, Flask, Bokeh, Seaborn, PySpark) | STATA | SQL | Tableau | R | SAS | L^AT_EX

Data Science: Machine Learning | Natural Language Processing | Time-Series | Neural Network/ Deep Learning | Data Visualization | Geospatial Analysis (ArcGIS)

Languages: English (Advanced), Nepali (Native), Hindi (Advanced), Spanish (Intermediate)

DATA SCIENCE PROJECTS

The Role of FEMA Flood Insurance Programs in Social Protection 2019

Investigated the effectiveness of flood insurance in US counties that included underserved areas to evaluate flood risks to inform future program expansion and disaster management policy.

Understanding Nepal Through Data 2019

Visualized socioeconomic indicators and challenges to study cross-country metrics to better understand socioeconomic decisions needed for future economic success of the country.

REFERENCES

Dr. Erdal Tekin

Professor

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Dr. Jessica Leight

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Dr. Cesar A. Cancho

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APPENDIX

Appendix A **A1 Doctorate Courses in Economics**

Advanced Econometric Methods
Development Macroeconomics
Development Microeconomics
Development Finance and Banking
Economic History: Macroeconomic Aspects
Empirical Microeconomics Seminar
Empirical Macroeconomics Seminar
History of Economic Thought
Macroeconomic Analysis I
Microeconomic Analysis I
Microeconomic Analysis II
Micro Political Economy

A2 Graduate Courses in Resource Economics

Mathematical Methods for Economists
Applied Microeconomic Theory I
Applied Statistics
Econometric Methods
Applied Microeconomic Theory II
Environment and Resource Economics
Applied Econometrics
Topics in Advanced Econometrics
Time Series and Forecasting
Panel Data Econometrics

Appendix B **B1 IMF/IDA-supported Programs and Income Convergence in Low and Middle-Income Countries**

The International Monetary Fund (IMF) and the World Bank's International Development Association (IDA) have assumed a prominent role in strengthening policy buffers and revitalizing growth in the developing world. This paper examines whether IMF concessional loans and IDA credits accelerate income convergence among 139 eligible low- and-middle-income countries (LMICs) during 1967-2016. Addressing the adverse selection problem, I find that real GDP per capita of LMICs that participated in IMF concessional programs, IDA investment credit programs and both IMF/IDA-supported programs for extended periods respectively grew 3.2, 2.2 and 2.9 percentage points faster than that of LMICs that participated intermittently or did not participate. The rate of income convergence within the MICs – measured as the marginal decrease in average growth rate for every ten percent rise in initial real GDP per capita – is 0.13 percentage points greater among the extended participants in IMF-supported programs. Similarly, the rate of income convergence within the LICs is 0.1 percentage points greater among the extended participants in IDA-supported programs. Diminishing differences in fundamental factors of economic growth through preconditions of

aid could help close the widening development gap within LMICs.

B2 Effects of Educational Decentralization on Participation and Quality: A Case Study of Nepal

Decentralization has been increasingly adopted in education systems across developing countries but with limited consensus in the literature. This paper empirically analyzes the effects of decentralization on educational participation and quality. I perform this analysis in Nepal, where throughout the period of the Basic and Primary Education Programs (BPEP) (1992 to 2003), primary education was locally administered in program districts but centrally managed in non-program districts. I use this exogenous variation in the jurisdiction of school administration to identify the causal effect, applying the matched difference-in-difference approach to address the possible selection bias problem. The main empirical findings suggest that, on average, years taken to complete primary school declined by 1.3 years more for children in participating districts. This result should encourage governments to consider decentralization as a feasible policy solution to providing quality public education. Although, it is critical to determine the administrative and/or sociocultural bottlenecks that prevent female children from benefiting.

B3 Long Term Consequences of Early Life Rainfall Shocks: Evidence from Rural Nepal

Epidemiological literature suggests that the extrauterine environment has important implications for the development of infants into adolescence and adulthood. I test this hypothesis by studying the persistent impact of early-life rainfall shocks on adult and youth socioeconomic outcomes in Nepal. Using the exogenous spatial and temporal variation in historical rainfall patterns in 1951-1991, I find that adverse shocks in the year of birth is associated with reduced future productivity and earnings from education for females. There is some evidence to suggest that higher birth year monsoon rainfall is related to foregone education and more work for adults from marginalized backgrounds, but with increased years of schooling and fewer months of work for those from non-marginalized backgrounds. This finding has important policy implications regarding targeted agricultural insurance and safety net programs.

Appendix C

C1 Impact of Foreign Aid Reduction on Poverty and Inequality in Afghanistan

Increasing role of foreign aid in the past few decades has raised the hopes of reducing poverty and strengthening policy buffers to revitalize sustainable and equitable economic growth among fragile and conflict affected countries. On the flipside, the destabilizing effect of aid cutback could be devastating. This paper estimates the effect of a sharp reduction or protracted decline in USAID expenditure on poverty and inequality outcomes in Afghanistan. Using the matched difference-in-difference approach to address the potential selection-bias problem, the main empirical findings suggest that sharp reduction in aid worsens food poverty. Moreover, a protracted decline in aid increases food poverty, and overall poverty. Determining the consequences of the pullout of development aid could inform future assistance strategies to be tailored to the context and circumstances of recipient countries so as to prevent aid dependence.