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 two years of experience in international development, which includes working with six country 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.

EDUCATION (Appendix A)	**Ph.D.** in Economics, American University Dissertation: *"Three Essays in Evidence-Based Approach to Development"* 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.S. in Economics and Mathematics, Williams College	Jun 2013
FIELDS AND INTERESTS	Primary: Development Economics Secondary: Program Evaluation, Applied Econometrics	
PROFESSIONAL EXPERIENCE (Appendix C)	**The World Bank (Washington, DC))** Consultant	Feb 2017 - Present

Applied quasi-experimental impact evaluation techniques, hierarchical modelling and small area poverty estimation using census and household surveys to inform socioeconomic policymaking in six countries across ESAPV, GPV, EAPCE, GMF and GSP units. | 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 multisectoral development challenges. | Analyzed 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. | 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 | 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.

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, "IMF/IDA-supported Programs and Income Convergence in Low and Middle-Income Countries"

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

POLICY
COLUMNS

Tejesh Pradhan and James C. Capretta, "Despite a temporary reprieve, the Social Security Disability Insurance program needs structural reform", *AEI Economic Perspectives*   Dec 2017

Tejesh Pradhan and James C. Capretta, "Social Security's Intergenerational Conundrum", *Real Clear Policy*   Jul 2016

SCHOLARSHIPS AND AWARDS	**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 Duyne Prize in Economics, Williams College	Jun 2013
	Shelby Davis Scholarship, Williams College	Aug 2009 - Jun 2013

CERTIFICATES   **Data Scientist**, The Data Incubator (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   Jan 2017
(Washington, DC)

PRESENTATIONS   **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, data analysis, and statistical programming for faculty, staff, and students carrying out qualitative and quantitative research.

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 the U.S. using rural American household survey data.

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 states in the
U.S.

SKILLS   **Programming**: Python (Pandas, NumPy, SciPy, Scikit-Learn, TensorFlow, Matplotlib, Flask, Bokeh, Seaborn, PySpark) | STATA | SQL | R | SAS | LaTeX

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

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

DATA SCIENCE   **The Role of FEMA Flood Insurance Programs in Social Protection**   2019
PROJECTS   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. Jessica Leight
Research Fellow
Poverty, Health and Nutrition
International Food Policy Research Institute
Washington, DC, USA
office: (202) 885-3148
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Dr. Nandini Krishnan
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The World Bank
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Dr. Ali Al-Sadiq
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International Monetary Fund
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Mr. James C. Capretta
Resident Fellow and Milton Friedman Chair
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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 Throught
Macreconomic Analysis I
Micreconomic Analysis I
Micreconomic 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**

Economic vulnerability among less developed countries in the past few years has increased the role of the International Monetary Fund and the World Bank to strengthen policy buffers and revitalize development and sustainable growth. This paper focuses on the issue of whether IMF concessional programs and World Bank's International Development Association (IDA)-supported investments accelerate conditional income convergence among eligible low and middle-income countries (LMICs). For the purposes of this paper, I use an unbalanced panel data for 140 LMICs over the 1967-2016 period. I consider only and all IMF concessional facilities and IDA investment loans available to eligible countries. I employ two different econometric methods to address the selection bias problem; Endogenous Treatment Effects (ETE) and Propensity Score Matched Treatment Fixed Effects (MFE). The main empirical findings suggest that real GDP per capita in LMICs with extended simultaneous participation in IMF/IDA-supported programs (with more than five years in a decade) grew statistically significantly faster (by 3.2 percentage points, on average) than that in countries that participated intermittently or in countries that did not request support. When

considering the programs independently, extended participation in IMF-supported programs (IDA-investments) is, on average, associated with approximately 4.4 percentage points lower (3.18 percentage points higher) growth rate of real GDP per capita. More importantly, IMF-supported programs accelerated conditional income convergence exclusively among MICs during the sample period. Further investigation is needed to identify specific channels through which the IMF and the World Bank programs work to support income convergence.

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 heterogeneous effects of decentralization on educational participation and quality. I perform this analysis in Nepal, where the Ministry of Education introduced and gradually expanded in phases the Basic and Primary Education Programs (BPEP) (1992 to 2003) as a policy response to the global declaration of Education for All initiative. Throughout the period of the BPEP, primary education in program districts were locally administered and that in non-program districts were centrally managed. I use this exogenous variation in the jurisdiction of school administration as a result of these policy intervention to identify the causal effect of decentralization, 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 relative to those in non-participating districts. There is some evidence that decentralization boosted primary school enrollment for males. The impact of decentralization is progressive, as the magnitude of change in enrollment and years taken to complete primary education is largest for the poorest households in participating districts. The increase in primary enrollment in these districts is greater, on average, for children belonging to households of non-marginalized castes, and households that have easy access to primary schools and bus stops. 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

Early life extrauterine environment has important implications for development of infants into adulthood, especially in rural, rainfed subsistence agricultural settings, where rainfall shocks are one of the most important risk factors. This paper studies the persistent and heterogenous impact of early-life weather conditions on future socioeconomic outcomes of youths and adults in rural Nepal. Controlling for birth district and birth year fixed effects, and district-specific linear time trends, I find that higher birth-year rainfall leads to improved schooling and literacy status for Nepalese females. This positive relationship holds even when accounting for the effects of rainfall in the years before and after the birth. For both males and females, top quintile of absolute level of rainfall is statistically significantly associated with higher schooling relative to the bottom quintile. Furthermore, there is some evidence to suggest that higher birth year monsoon rainfall is associated with foregone education and more work for adults from

marginalized backgrounds but with increased years of education and fewer months of work for those from non-marginalized backgrounds. These results have important policy implications in favor of agricultural insurance and safety net programs, the likely benefits of which should be seriously considered when structuring antipoverty interventions targeted, in particular, for females and individuals from marginalized backgrounds.

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 Least Developed Countries (LDCs). On the flipside, the destabilizing effect of sharp reduction or protracted decline in foreign aid could be devastating, particularly for fragile LDCs. This paper explores the heterogeneity in the impact of cutback in international aid on welfare in Afghanistan. Specifically, the paper estimates the effect of reduction in USAID expenditure on various measures of consumption, poverty status and inequality. Using the matched difference-in-difference strategy, the main empirical findings suggest that sharp reduction in aid worsens food poverty, increases the share of population in the bottom decile, and reduces provincial median consumption. Moreover, protracted decline in aid decreases mean consumption, the share of population in the top decile, as well as provincial mean and median consumption, and increases food poverty, overall poverty and the share of population in the bottom decile. Determining the consequences of development aid cutback could inform future assistance programs to be better tailored to the context and circumstances of recipient countries so as to prevent aid dependence.