

The University of Queensland - IIT Delhi Academy of Research Joint PhD Project

PROJECT TITLE	TECHNOLOGY REGULATION IN THE MACROECONOMY: ROBOTS AND ARTIFICIAL INTELLIGENCE
PROJECT CODE	UQIDAR 00155
PROJECT DESCRIPTION	<p>Over the last few decades, the adoption of automation particularly in the form of robots and artificial intelligence technologies' has gained unprecedented momentum. As documented by Acemoglu and Restrepo (2018), for example, the stock of industrial robots in the United States and Western Europe has nearly quadrupled between the 1990s and the 2000s. These new technologies affect different sectors and members of the economy in different ways: while robots may improve our living standards as households, they may also displace ourselves as workers in the labor market. This research project aims at deepening our understanding of the adoption of automation technologies in the economy, both from a positive and from a normative perspective. From a positive perspective, our goal is to develop a pioneering macroeconomic framework to advance knowledge on two fronts: (i) the different causes of technological adoption of robots and artificial intelligence across countries, and (ii) the impact of this process on across productive sectors, firms, consumers and families, and on the aggregate economy. Our objective is to provide both theoretical and quantitative insights on each these issues. On the normative side, this research project aims at studying the optimal response of government policy in the face of robotics and artificial intelligence innovations. Taking into account the distributional consequences of the technology adoption, we intend to characterize the features of an optimal regulation policy, and to quantify the corresponding welfare gains/losses across different sectors and social groups within the economy. We will also gauge the power of partial reforms whenever fully optimal regulation policies are politically or administratively infeasible.</p> <p>References * Acemoglu, Daron and Pascual Restrepo, "Robots and Jobs: Evidence from US Local Labor Markets," mimeo MIT, 2018.</p>
PROJECT OUTCOMES	<ul style="list-style-type: none"> • Advance knowledge in the area of macroeconomics • Disseminate research findings via publications in peer-reviewed high-quality journals, seminar and conference presentations, and through the media • Provide a basis for applying for external funding (through the Australian Research Council, or through other agencies) • Shed light on ongoing policy discussions around the governments role in the face of technological innovation
ADVISORY TEAM	<p>Associate Professor Begoña Domínguez https://economics.uq.edu.au/profile/2108/begona-dominguez b.dominguez@uq.edu.au School of Economics The University of Queensland</p> <p>Dr Sourabh Paul http://web.iitd.ac.in/~sbpaul/research.html sbpaul@hss.iitd.ac.in Department of Humanities & Social Sciences Indian Institute of Technology Delhi</p>

	<p>Dr Andres Bellofatto https://economics.uq.edu.au/profile/2363/andres-bellofatto a.bellofatto@uq.edu.au School of Economics The University of Queensland</p>
TYPE OF STUDENT	<p>Applications are open to i/a students who meet eligibility criteria. note: i-students must have own scholarship to apply (CSIR, UCG-NET, etc)</p>
DISCIPLINE BACKGROUND OF STUDENT	<p>Ideally, this project requires students with a background in economics, finance, statistics, mathematics, engineering</p>
IDEAL CANDIDATE	<p>Bachelor with a high degree of achievement (e.g., first class Honours), or Masters level qualifications in the following (or related) subjects: - Economics - Finance - Statistics - Mathematics - Engineering Some economics background is expected.</p>
APPLICATION PROCESS	<p>Apply online by the due date: https://www.uqidar.org/students/how-to-apply/</p>