

CHAPTER 11

ECONOMICS

Doctoral Theses

01. AGARWAL (Grima)
Biological Constraints to School Participation for Adolescent Girls in India.
Supervisors: Prof. Rohini Somanathan and Prof. Sudhir Shah
Th 26011

Abstract

Events in women's biological life cycle interact with social norms to create constraints for economic participation. Puberty is one such event that may affect schooling and policy intervention may be effective. Chapter 1 examines effects from the Delhi Government's Kishori Scheme providing free access to sanitary napkins at school using grade-level aggregate attendance data. Girls in grades 6-9 experienced daily attendance gains, most likely coinciding with the timing of the first period. Chapter 2 explores the existence of identifiable menstrual patterns of absenteeism using individual daily attendance records from schools in Delhi. There is no evidence for periodic absenteeism but there are strong gender-neutral factors affecting daily absence. Simulated attendance data show that proposed methods are able to detect periodicity if the share of menstrual absence is large enough. Chapter 3 is based on primary data collected from girls in Delhi's public schools and shows that the major contributors of absenteeism are gender-neutral. While the overall share of menstruation in absenteeism is low, it is the largest contributor amongst the subsample reporting period leave. Greater period pain and stress at school during periods are associated with higher menstrual absenteeism, while communication about periods and better menstrual practices are associated with lower menstrual absenteeism. Chapter 4 evaluates the effects of a national Menstrual Hygiene Scheme facilitating the sale of subsidized sanitary napkins to and creation of local discussion forums for rural adolescent girls through community health workers. Data from the National Family Health Survey (2015-16) finds no evidence for impact on napkin use or menstrual awareness for beneficiary girls in treatment districts. Aside from poor implementation, features of program design may have created barriers to uptake. This program represents a missed opportunity given potential benefits to short and long term life outcomes for girls. Female-targeted policies relieving specific constraints are worth exploring further.

Contents

1. Introduction 2. Attendance and product access 3. Identifying menstrual absence 4. Survey finding on absenteeism 5. Valuating the MHS. Conclusion. A Supplementary Table. Bibliography.

02. BADHWAR (Surbhi)
Economic Growth in Developing And Developed Countries: A Comparative Analysis
Supervisors: Prof. Pami Dua and Prof. Mausumi Das
Th 26008

Abstract

This study represents a theoretical and empirical attempt to understand the dynamics as well as the cross-sectional heterogeneities of economic growth and its underlying economic processes. It consists of three essays which approach this issue from different perspectives. First essay theoretically explores the role of initial wealth inequality and expectations by the agents in technology adoption, leading to economic growth through expansion of the modern sector. The second and the third essays are both empirical exercises, which account for cross-sectional heterogeneities in economic growth by categorizing countries into various groups based on their per capita income and conducting dynamic panel data analysis. The second essay empirically explores the data generating process underlying economic growth by investigating the unit root properties of the output time-series and panels. The third essay investigates the role played by various proximate and fundamental factors in determination of economic growth by setting up dynamic heterogeneous panels. The first research issue highlights the role of initial wealth inequality in determining the technology adoption decision of firms, which in turn impacts upon the overall productivity in an economy. Wealth inequality interacts with producers expectations to generate multiple equilibria: poor economies where initial wealth inequality is too high are perpetually stuck at a bad equilibrium with poor technology; economies with moderate degree of inequality can oscillate between the bad and the good equilibria depending on producers expectations; and rich economies with sufficiently low degree of wealth inequality always enjoy a self-sustaining good equilibrium, characterized by the adoption of advanced technology. Our second research question relates to data generating process of output across countries. Nearly four decades after Nelson and Plosser (1982)'s provocative classic paper, this issue remains unresolved, and is in fact a matter of fierce contro-versy. In view of the econometric and macroeconomic significance of this issue, this paper attempts to (a) test for unit roots in GDP panels across countries, (b) identify differences in these results based on income level of countries and (c) examine the results for relative strength of common and idiosyncratic factors. For 73 countries (14 low income, 34 middle income and 25 high income) for 1960- 2016, we conduct 7 panel unit root tests (Levin, Lin, and Chu (2002), Im, Pesaran, and Shin (2003), Maddala and Wu (1999), Choi (2001), Choi (2006), Pesaran (2007a), Moon and Perron (2004)), a panel stationarity test (Hadri (2000)), 2 recent panel stationarity tests allowing for structural breaks (Silvestre, Del Barrio-Castro, and López-Bazo (2005) and Hadri and Rao (2008)) and finally, Panel Analysis of Nonstationarity in Idiosyncratic and Common Components (PANIC) (Bai and Ng (2004) and Bai and Ng (2010)). It is one of the first attempts to address these concerns in such a large and diverse dataset and yet unified testing framework. We find (a) strong evidence of presence of unit roots across panels, which is robust after factoring in both cross-sectional interdependence and structural breaks; (b) stronger evidence of presence of unit roots in low and middle income countries compared to high income countries; and (c) idiosyncratic component plays a more important role in presence of unit roots in low and middle income countries, but common factors play a bigger role in presence of unit roots in high income countries. These findings suggest persistent impact of shocks; importance of idiosyncratic factors in low and middle income countries suggest that policymakers need to take country-specific factors more seriously while formulating policies in these countries. The third research paper examines relationship between economic growth and its macroeconomic correlates, across countries during 1994-2019. Our focus is on comparing these linkages between low income, middle and high income countries. We attempt to answer these questions in a macroeconometric framework, using heterogeneous non-stationary panel data techniques. We conduct sequential panel cointegration methods, including new tests that are appropriate to our dataset. For

a sample of 23 low-income, 32 middle-income and 31 high-income countries, we find many interesting results. First, a positive and significant role for both physical and human capital accumulation across all the three sets of countries. Second, financial development is most crucial for middle income countries. Third, causality between proximate factors and economic growth differs across the three sets of countries. We find from our study that all the proximate as well as fundamental factors positively affect economic growth in all the three sets of countries. However, there are substantial differences in the magnitude, and the level of significance of the coefficients from the FMOLS results, underscoring the difference in the underlying economic processes in these three sets of countries. Human capital though the most important driver of growth in all the three sets of countries, turns out to be the most critical factor of economic growth in the low and middle income countries. For low income countries, the return from investments in education is the highest. For high income countries, on the other hand, investments in physical capital acquires a relatively larger role. In middle income countries, on the other hand, credit is the most important determinant of growth. Trade negatively affects economic growth without lag, and positively affects economic growth with a lag of one period. Government consumption expenditure negatively affects GDP per capita in all the three sets of countries; however, in middle income countries, its coefficient turns positive when controlled with an institutional variable.

Contents

1. Introduction 2. Inequality and expectations in a models of technology adoption and growth 3. Data generating process in GDP panels during 1960-2016: do low, middle and high income countries differ 4. Human capital, financial development and economic growth in low, middle and high income countries during 1994-2019: a comparative analysis using panel cointegration approach. Conclusion. References.
03. GUPTA (Disha)
Essays in farm power pricing groundwater irrigation and agricultural productivity in Punjab
 Supervisors: Prof. J.V.Meenakshi and Prof. Abhijit Banerji
Th 26010

Abstract

India is the world's largest user of groundwater for irrigation with an increasing dependence on electric-operated tubewells for groundwater extraction facilitated by farm power subsidies. The state of Punjab subsidizes farm electricity to the extent that it is free and thus, farmers do not have an incentive to use the groundwater resources efficiently. The unsustainable rates of groundwater overexploitation have implications for food security in India. In this context, this dissertation examines farm power pricing policies, groundwater irrigation and agricultural productivity in Punjab. The dissertation consists of three essays. The first examines the impact of a change in policy regime from fixed and at rate pricing to a policy of free electricity, that is, a price of zero. The policy was introduced in Punjab in February 1997. Using the village-level data from the second and the third rounds of the Minor Irrigation Census and a difference-in-differences estimation framework, we find evidence of a differential increase in the number of electric-operated tubewells and horsepower load of pumps in Punjab as compared to an agriculturally-similar and neighbouring state, Haryana, which is taken as the control group. Through these channels, we find that the percentage deviation in groundwater depth from its mean in the baseline period increased by 16 per cent more in Punjab. Nationally-representative well-level data on groundwater depths from the Central Ground

Water Board shows an impact heterogeneity with a sharper effect on the groundwater depths for wells that are lying closer to the cut-off of about 10 meters where a technological shift from centrifugal to submersible pumps is required in order to maintain access to groundwater pumping. The findings of this paper highlights the need for agricultural reforms in the form of alternative pricing policy for farm power or other incentives to be given to the farmers for efficient utilisation of water and energy resources.

Contents

1. Introduction 2. Free power, irrigation and groundwater depletion: impact of the farm electricity policy of Punjab, India 3. Pricing farm electricity, water use and efficiency: the case of paddy cultivation in Punjab 4. Relationship between farm size and productivity in agriculture: evidence from Punjab, India

04. JHA (Amit Kumar)
Economic Analysis of Copyright Piracy
 Supervisor: Prof. Sunil Kanwar
Th 26007

Abstract

India offers a huge and growing market for activities that come under the purview of copyrights. Even though India is amongst the leading countries in activities that require, and indeed use, copyright protection, it is also an indisputable fact that copyrights are routinely violated in all these different markets. We through this thesis have tried to sum up 'who, why, what and how' of copyright piracy. The first chapter explains the prevalence of piracy among students in four specific domains of the Copyright law i.e., Cinematography, Musical works and sound recording, Software and Literary Works. It looks at three specific forms of piracy i.e. unauthorized copying (duplication), purchasing pirated materials and unauthorized downloading in each of the above domain and also factored in the photocopying of books as another form of literary piracy. For this purpose, a survey is conducted among the students of University of Delhi focusing on both the quantitative and behavioral aspects. The sample size of 1350 students produces results which are quite intuitive and provide relevant insights into the world of piracy. Moreover, it remained robust and hardly changed even with the use of instrumented variables. We find that purchasing pirated products is the least among all variants of piracy considered under this study. Males are more involved in piracy. They are more of the risk takers as their involvement in illegal copying and downloading is higher. We observe non linear relationship between income and cinematographic piracy. The importance of access to gadgets is clearly seen all almost all the forms of piracy. For the students enrolled in postgraduate courses and as researchers, we observe less piracy for cinematography, Musical works and sound recording and Literary works except for the software where we find more engagement of the researchers. Software (unauthorized downloading) piracy is more skill based and students' income has nothing to do with it.

Contents

1. Introduction 2. Copyright piracy and education 3. Software protection and software piracy 3. Movie piracy and its effect on legitimate movie sales in India. Conclusion. References

05. SAGAR (Anshika)
Role of Opportunity in Enhancing Educational Quality
Supervisors: Prof. Rohini Somanathan and Prof. Anirban Kar
Th 26009

Contents

1. Introduction 2. Admissions in kendriya vidyalayas 3. Performance in kendriya vidyalayas 4. Welfare implications of class and caste based reservations. Conclusion