CHAPTER 19

ECONOMICS

Doctoral Theses

01. MADHURI H. S.
Technology and Market Structure
Supervisor: Prof. Uday Bhanu Sinha
Th 28999

Abstract

The thesis focuses on the incentive of firms to innovate and disseminate technology. We first analyse the level of innovation given a market structure. Then we examine how an innovating firm transfers its new technology to a rival firm. Finally, we study a government's role in promoting technology in the context of international trade and environmental pollution. In Chapter 2, we introduce partial cross ownership (PCO) to the standard R&D organization framework. In a deterministic R&D model with spillovers under Cournot duopoly, we show that PCO can give rise to higher R&D investment for some parameter configurations, but it can also reduce the consumer surplus. In Chapter 3, we consider a Cournot duopoly where only one firm undertakes deterministic cost-reducing R&D, and firms mutually hold PCO shares. We show that PCO can improve welfare and innovation. Further, for certain cases PCO may decrease the producer surplus, indicating a need for divestment. The welfare effects of PCO crucially depend on the R&D efficiency parameter, which is rarely examined by earlier studies. In Chapter 4, we analyse a licensing game in a downstream Cournot duopoly where the input is supplied by an upstream monopolist. We characterise the optimal licensing strategy when the choices are a per-unit royalty contract and an ad valorem profit sharing contract. Further, we present the welfare implications of our model under different antitrust constraints and input pricing regimes. In Chapter 5, we examine a trade model where two exporting countries produce a homogeneous good that generates local pollution. The countries cooperate either on a broad objective of improving welfare or on a narrow target of reducing pollution. We show that welfare coordination minimizes net emissions and environmental damage. Interestingly, if countries coordinate only to reduce environmental damage, the net emissions are higher than the levels under no cooperation.

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1. Technology and Market Structure 2. Partial Cross Ownership and Cooperative R&D with Spillovers 3. Partial Cross Ownership and Asymmetric R&D 4 Optimal Licensing and Antitrust Policies in a Cournot Duopoly with an Upstream Monopolist 5. Environmental Taxation and Trade Policy: The Role of International Coordination.

02. MEETA KUMAR
Leadership and Development: A Study of Progressive Policy in Indian Princely States
Supervisors: Prof. Rohini Somanathan and Prof. Jyotsna Jalan
Th 29000

Abstract

Colonial India provides potential to study the role of leadership in development because 40% of its area was under princely states with autocratic rulers, who had considerable autonomy in determining policy. While data on princely states is generally scarce, literacy provides a viable proxy for development in these states. At the time of Independence, literacy in India was low on average, but some areas were clear outliers. Baroda, the focus of our study, was one. It was one of the largest princely states in western India, and had much higher literacy by 1931 than the all-India average. The ruler of Baroda introduced a set of remarkable education policies early in the twentieth century that combined compulsion with public provision of schools, including special schools for ostracized castes. Baroda was also dispersed in several non-contiguous tracts that shared boundaries with multiple British districts and princely states. Rulers of areas surrounding Baroda - British or Indian - did not adopt such progressive policies. The history and geography of Baroda provide us with a near-ideal natural experiment, allowing us to evaluate the effect of its policies through a comparison with contiguous areas under different administrations. We use census data on literacy, digitized and adjusted for administrative boundary changes, for 1872-2011. We show that Baroda`s high literacy by 1931 can be attributed to its unique policies. Our analysis shows that gains to the `lower` castes were relatively larger than those to the `upper` castes. We also find that the impact of these policies persists at least till 1981, and begins to weaken only by the close of the twentieth century. Keywords: Literacy, caste, education policy, compulsory education, vernacular education, persistence, colonial India, princely states, Baroda, Bombay JEL Classification: I21, I28, N35

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1. Introduction 2. Princely States 3. Literally Different? Compulsory Education in Baroda,1872-1931 4. Bridging Caste Differences 5. Persistent Effects of Compulsory Education 6. Conclusion, Bibliography.