
Progress Seminar

Seminar Title	: Understanding National and Regional Innovation Systems in India
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Abstract	: Innovation has been conceptualised as the collaborative effort of innovation actors to develop and incorporate knowledge in Schumpeter's theory of economic growth. With the growing importance of a knowledge-based economy, innovation as a systems approach has been much recognised. The national innovation system (NIS) is the collaborative network of institutions, policies, and stakeholders at the national level that promotes innovation via research organisations, universities, government agencies, and industries. In contrast, regional innovation system (RIS) emphasises the interaction and collaboration between local entities such as enterprises, universities, research centres, and government institutions within sub-national geographical boundaries. While many studies have been done on developed countries, research on NIS and RIS for developing countries like India is yet to be explored. This study aims to analyse the national and regional innovation systems of India, focusing on the various actors, input and output factors of innovation. Considering selected elements of the innovation system, the primary objectives of the study are: (i) To understand the triple helix model of innovation in a systematic way, (ii) to understand the role of R&D and higher educational institutions on regional innovativeness, (iii) To evaluate the interactions between universities and industries and its impact on research output and innovation within India, (iv) To examine the impact of related and unrelated variety on regional innovation and entrepreneurship. The first and third objective work are under progress. The second objective is analysed using negative binomial regression on 24 selected states during 2000-2020. It examines the effect of regional absorptive capacity (AC) in the form of business R&D expenditure and university count in a region and the presence of science and technology parks (STPs) on patenting activities in India. Our study shows that regions with higher business R&D expenditure and the number of academic institutes experience higher patenting activity. It also shows a positive relationship between the number of STPs in a region and regional patent applications, indicating the importance of knowledge networks for regional innovation. However, contrary to expectation, the moderating effect of STPs on the nexus between AC and regional innovation turns out to be negative. Our findings indicate the need for efficient resource and funding allocation among firms, institutions and parks within the same geographical area for innovation in India.

Keywords: Innovation, National Innovation System, Regional Innovation System, patents, publications, R&D, absorptive capacity