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RESEARCH PROPOSAL FOR NBER WITH REGARD TO THE POST-DOCTORAL FELLOWSHIP IN INNOVATION POLICY

Introduction

The following is a proposal of a research project for the Post-Doctoral Fellowship in innovation policy written by Dr. Natalia Irena Gust-Bardon, a permanent U.S. resident, who was awarded a doctoral degree by the Faculty of Management and Economics of Services (*Wydział Zarządzania i Ekonomiki Usług*) of the University of Szczecin (*Uniwersytet Szczeciński*) in March 2015.

The scope of the research project entitled **“Comparative analysis of regional innovation systems – Lessons from selected countries (China, South Korea, the United States of America)”** can be classified using the Journal of Economic Literature classification codes as follows: O31 Innovation and Invention: Processes and Incentives, O38 Government Policy, P25 Urban, Rural, and Regional Economics, R11 Regional Economic Activity: Growth Development and Changes, R58 Regional Development Planning and Policy.

The objective of this project is to investigate the influence regional governments and universities have on regional innovation systems in China, South Korea, and the United States of America. The scope of the proposal befits research interests of NBER members in Productivity, Innovation, and Entrepreneurship. In particular, it is highly complementary to the work of Prof. Jeffrey L. Furman (in terms of innovation policy in China), Prof. Fiona E. Murray, and Prof. Scott Stern (in terms of the role the public sector plays in the innovation process).

Theoretical framework

The notion of a regional innovation system (RIS) originated as a territorially oriented approach to innovation processes in the early 1990s from a broader concept of a national innovation system (NIS) which views innovations as dynamic and interactive learning processes between companies and other organizations whose activities lead to creations, diffusion, and modification of new technologies and determine the innovative performance of firms.

The majority of definitions pertaining to the term RIS generally perceive this notion as a number of elements (actors) and the relationships between them. For example, Doloreux (2003) defines an RIS as “a set of interacting private and public interests, formal institutions and other organizations that function according to organizational and institutional arrangements and relationships conducive to the generation, use and dissemination of knowledge.” The multitude of actors participating in an RIS are also stressed by Cooke and Memedovic (2003) who state that “a strong regionalized innovation system is one with systemic linkages between external as well as internal sources of knowledge production (universities, research institutions and other intermediary organizations and institutions providing government and private innovation services) and firms, both large and small.” Cooke et al. (2004) came up with a short yet fitting definition of an RIS that considers an RIS to be a constellation of institutions at a regional level contributing to the innovation process.

It is commonly accepted that the innovative performance of regions is boosted when companies are encouraged to evolve into better innovators by interacting with other companies and various actors which contribute to the innovation process within a particular geographical proximity (Schlossstein and Yun, 2008). The RIS approach stresses that actors do not innovate in isolation but require regular interactions and close collaboration. The aforementioned interactions are significantly influenced by the institutional environment which is strongly dependent on the national and the regional government.

Research objectives and main questions

The scope of the work outlined in this proposal are regional innovation systems of Chinese, South Korean, and American regions. Taking into account that South Korea and the United States rank highest in innovative performance (Hollanders et al., 2015) and China is among leaders with regard to global innovation growth rates, regions of those countries are interesting to study when it comes to their innovation policy, innovation systems, organizations contributing to innovation processes, etc. The tasks set forth in this proposal are as follows:

- to study the innovation policy in selected regions;
- to identify and study organizations contributing to the innovation processes, such as: universities, technology transfer offices, venture capital firms, research institutes, technology-oriented companies, etc.;
- to study the role of the national and the regional government in regional innovation systems;
- to study the role of universities in regional innovation systems;
- to study the collaboration between the regional government and universities;
- to study the collaboration between the regional government and businesses.

Completing these tasks should lead to answers to the following research questions:

1. What strategies do national and regional governments use to develop the collaboration between actors of the innovation process and to provide an efficient institutional environment?
2. What strategies do universities use to become entrepreneurial organizations in innovation systems and to increase interactions with the regional environment?
3. How innovation policy can contribute to inclusive and sustainable regional growth?

To complete these tasks and to answer the main research questions, the applicant plans to analyze innovation-related programs commenced in chosen regions and policy-related documents referring to the project's objective. The next step is to study organizations responsible for the innovation policy and actors contributing to the innovation process. The research will also be supported by secondary data from scientific journals, statistic databases, yearbooks, etc. The work will commence with the analysis of the innovation policy at the national level through the study of relevant documents. Thereafter, the focus will shift to the regional level. This top-down approach allows a comprehensive analysis of innovation processes in chosen countries.

Preparatory work

The applicant has demonstrated a long-standing commitment to the research on innovation policy. The submission of the diploma thesis entitled "The Innovativeness of Polish Regions" to the Faculty of Finance of the Cracow University of Economics in 2010 had been preceded by an internship in the Innovation and Technology Unit of the Polish Agency for Enterprise Development. Subsequently, she commenced work on the doctoral dissertation entitled "The Development of Regional Innovation Systems in the European Union."

The first academic year as a doctoral student resulted in the submission of three papers written in Polish: “The Evaluation of the Level of Innovativeness of Selected Member States of the European Union” (“Ocena poziomu innowacyjności wybranych krajów Unii Europejskiej”), “The Innovation Policy in Poland” (“Polityka innowacyjna w Polsce”), and “The Innovativeness on a Regional Level” (“Innowacyjność w aspekcie regionalnym”).

Having received a scholarship funded by the European Union, she spent the second academic year at the Fraunhofer Institute in Germany, conducting research and collecting data for the thesis. During that time she wrote two papers in English and one in Polish: “Regional Development in the Context of an Innovation Process”, “The Role of Geographical Proximity in Innovation: Do Regional and Local Levels Really Matter?”, and “Innovation in the Economic Thought from the 18th to the 20th Century: Analysis of Selected Issues” (“Innowacja w myśli ekonomicznej od XVIII do XX wieku: Analiza wybranych zagadnień”). Owing to a scholarship financed by the Austrian Federal Ministry of Science and Research, the applicant conducted research at the Institute for Multi-Level Governance and Development of Vienna University of Economics and Business for eight months. By the time of her doctoral defense, she had published another paper entitled: “The Structural and Functional Analysis of Innovation Systems: Outline of the Polish Case.”

The aim of the doctoral dissertation was to study the mechanism resulting in the efficient development of regional innovation systems in the European Union. The research, focused on Upper Austria, Baden-Württemberg and the Polish province of Zachodniopomorskie, showed that the development of an innovation system is based significantly on the complementarity of the roles of the public sector, the private sector, and the academia — in accordance with the principle of the Triple Helix model.

Expected outcomes

The outcome of the work on regional innovation systems would result in cognizance of the Chinese, South Korean and American approaches to the innovation policy on the regional level. The research would indicate what can be learnt from those countries with regard to:

- the innovation and development policy,
- the scientific framework,
- creating regional networks,
- taking advantage of geographical proximity to other actors of the innovation processes.

The result of this project together with the outcome of the applicant’s doctoral dissertation could be a basis for a book dedicated to the innovation policy in selected countries in Asia, North America, and the European Union. The book could serve as a guide for developing countries.

References

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