Chapter 14

Local Innovation System in Emerging Economies: Case Study of Córdoba, Argentina

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ABSTRACT

Systems of innovation are highly dependent on local conditions, where national boundaries give the general platform to it, but local systems play a key role in the path to development. In the developing world this is even more important. Córdoba, Argentina, is the case of a developing region in a developing country. The study goes in the direction of gathering and interpreting data from the three major players of its innovation system: government, universities, and private companies, assessing the links among them and establishing conclusions about how they work as a system. Finally, it makes a proposal for the improvement of the local system of innovation to the different forces and the policymakers of the province. The study shares a common ground with similar regions around the world, and its lessons are applicable to them.

INTRODUCTION

At the beginning of the 20th Century, the economist and Harvard professor Joseph Schumpeter (1934) stated that when an economy is in a static equilibrium, it doesn’t generate value. In such situation, the incomes would be only good enough to pay for the means of production. Therefore, the added value only would be possible under the precondition of the imbalance of the economic system. The leading forces of such imbalances are spontaneous changes in the preconditions of an industry, in the techniques used, and in the productive organization. Therefore, development...
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proceeds from the spontaneous and discontinuous changes in the circular economic flow, not in its equilibrium. One way to break that equilibrium is through innovation.

Following his line of thinking it can be said that the closer a market is to perfect competition, the lesser are the benefits for the companies. As its corollary, since innovation has no competition at the beginning, the price, whole or partially, acts under the principles of the monopoly.

He listed as sources of innovation: (1) the introduction of a new good; (2) the introduction of a new method of production; (3) the opening of a new market; (4) the conquest of a new source of supply of raw materials or half-manufactured goods; (5) the creation of a new organization of any industry.

Schumpeter also said that through time some of the different roles that the entrepreneur has in the development process could be progressively replaced by some sort of “automatisation” of them. Therefore, part of the entrepreneurial process could rest in different forces, acting as an entrepreneur.

Between the end of 1980s and the beginning of the 1990s Freeman (1987), Lundvall (1992), and Nelson (1993) go further with this concept of “automatisation” of the innovation/development activity, reducing the role of the entrepreneur and putting it on the hands of an interlinked system. They established the leading principles of what was recognized as the theoretical framework of the national innovation system (NIS).

According to Lundvall (1992), a national innovation system “is constituted by elements and relationships which interact in the production, diffusion and use of new and economically useful knowledge […]”; Freeman (1987) described it as “[…] the network of institutions in the public-and private sectors- whose activities and interactions initiate, import, modify and diffuse new technologies”.

A well-organized system of innovation may enable a country in a pre-developed stage to make very rapid progress through appropriate combinations of imported technology and local adaptation and development. According to the Organisation for Economic Co-operation and Development (OECD, 1997), there are a number of factors that interact to make the innovation activities more or less dynamic. Among them, we can find the institutional framework, the development of the science and technology (S&T) system, the transfer factors and the innovation capacity inside the companies. These elements can give us an idea about the complexity of the innovation systems.

In the 90s, Michael Porter (1990b) added a new chapter establishing the way in which countries and regions compete, creating competitive advantage through a systemic process. Innovation has a key role in that process. Porter’s studies lead to the definition of a model of four forces acting simultaneously: the structure of rivalry among firms, the factor conditions, the demand conditions and the related and supporting industries. In a world of fierce competition, nations and regions have become more important than in the past. As the economic wealth is shifting from productive to knowledge based processes, the creation, dissemination, and the economic appropriation of the knowledge has increased the importance of the national framework in which all forces move. Government and chance have a role too in its model. Government has the duty to create part of the framework conditions indispensable for the system to operate.

Knowledge, created or learned at the inside of the diamond, is not always possible to be transmitted. Knowledge is not necessarily exchangeable with information. It differentiates from the information in its accessibility and capacity to be transmitted. The second can move easily from place to place, but the first is highly attached to the minds of the people and the localized systems. As a consequence, great part of the competitive advantage of one country is highly dependant on small geographical areas—clusters, which are immersed in national and region values, culture, legal and economic rules and regulations, institu-