

Innovation at the Service of the Traditional Economy

Extended abstract

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Introduction

While innovation is widely recognized as a major driver of economic growth, large segments of the economy remain unable to fully benefit from its potential. These include a broad range of activities based on traditional production processes that lack the capabilities required to adopt or integrate innovative tools and practices. This limitation is particularly evident among small and medium-sized enterprises (SMEs), as well as in lower-income countries and in remote or peripheral regions. In such contexts, national or regional innovation ecosystems often fail to provide the necessary conditions for innovation to emerge and diffuse, due to factors such as weak digital infrastructure, limited access to research institutions, geographical distance from markets and services, and shortages of relevant skills.

As a result, socio-economic disparities between countries, regions, and economic structures, especially along core-periphery lines, continue to widen. At the same time, innovation potential remains underutilized as a means to enhance productivity in traditional economic activities and to improve the well-being of broad segments of the population.

Although research addressing these challenges does exist, it has received considerably less attention than the dominant innovation literature, which tends to focus on R&D-intensive sectors, start-ups, and high-technology activities. Expanding and deepening research on innovation at the service of the traditional economy, as well as of weaker regions and societies, is therefore essential. Such work can contribute to productivity growth, social inclusion, and the reduction of territorial and structural disparities.

Objective and concept

The primary objective of this study is to assess the appropriate growth policy for a traditional economy and derive the required policy measures for its implementation and adaptation to the needs of robust sustainable development.

The primary assumption of this study is that sustainable economic growth requires innovation. An economic growth policy that does not include innovation will lead to degradation of the economy, and not only a lower level of growth because innovation is occurring worldwide, thereby leading to higher levels of productivity. Therefore, countries or regions that do not promote innovation are expected to be unable to compete in the global market and thus deteriorate in their economic situation.

However, there is no “one size fits all” innovation process. Although innovation is the subject of this study, it is not the objective, but rather an instrument for achieving priority development goals. Determining an appropriate innovation policy depends on the development priorities (e.g., increasing growth and income, reducing unemployment and social or regional gaps).

Instead of a “competitive” approach, this study explores an “integrative” approach, grounded in the concept that innovation is a multifaceted phenomenon encompassing a diverse range of activities. This research aims to identify the mechanisms that sustain the innovation process in low-income regions compared to high-income regions. In addition, in both low and high-income regions, the study intends to identify practical policies for the introduction of innovative processes in traditional businesses in order to achieve higher productivity levels.

Contribution

This study aims to inform more effective public policies that use innovation and technological advance, beyond the role of national economic technological growth, for the promotion of productivity and growth of more traditional economic activities, or poorer regions or countries. It challenges the common perception among policymakers that equates innovation solely with startups, patents, and new technologies, encouraging a more nuanced understanding of innovation dynamics. The concrete areas in which this study is expected to contribute may be summarized as follows:

- a. National or regional economic growth: although innovation is a major engine of economic growth, still the non high-tech employment constitute the major part of the economy, even in high-income countries or regions. Supporting traditional activities with the introduction of new processes is expected to increase productivity in the major parts of the economy.
- b. Diminution of economic and social gaps: a policy of focus on innovation implementation more than on knowledge creation is expected to lead to improved employment opportunities, increased income levels and improved services in poorer regions, thus decreasing economic and social gaps.
- c. Prevention of regional degradation and rural-urban massive migration: the diminution of gaps is expected to attenuate a major problem of rural-urban massive migration that characterizes many developing countries or international migration, leading on one hand to the degradation of regions and on the other hand to major difficulties in the receiving countries or regions.
- d. Improving regional innovation ecosystem factors: the adoption of knowledge and its implementation in the traditional economy requires the reinforcement of basic ecosystem factors such as ICT, university-industry collaboration, infrastructure investments, that may serve as an initial phase for the introduction of the peripheries into knowledge creation activities.

Methods and data

We first detect three target populations that face difficulties in integrating into the innovation-led growth. One is the population of traditional economic activities within low or medium or even high income regions that lack the ability to absorb and adapt new innovative processes that could increase their productivity. These may be traditional manufacturing companies, or small or medium-sized enterprises, or agricultural and rural activities. The second is the population of peripheral regions, within medium or high income countries, that encounter significant difficulties in competing with the metropolitan or central regions in their country for the attraction of innovative activities. The third is the population of low-income countries that lack the appropriate conditions and innovation ecosystem factors for the assimilation into the innovation trend. Naturally, these three populations are not necessarily self exclusive.

Based on the Global Innovation Index (GII) latest data for about 125 countries at various income levels and on relevant literature, we identify the main ecosystem factors that influence the national or regional level of innovation. We distinguish between two major types of innovation: knowledge creation (as measured for example by PCTs) and knowledge practical implementation (as measured for example by high-tech manufacturing). On the background of the revealed insights, we next use selected illustrative case studies from the populations mentioned above to analyze the potential contribution of innovation, as follows.

Results

The revealed differences between the impact of different ecosystem factors on different types of innovation led to a classification of three levels of potential contribution of innovation in different constellations. The first is the contribution to increased productivity in traditional activities within all types of populations. The second is support for the integration of low income regions into knowledge implementation activities (as differentiated for knowledge creation). The third is the support for some initial introduction into knowledge creation activities in peripheral regions or low income economies that have already experienced some knowledge implementation activity.

Increased productivity in traditional activities

A regional innovation agent: in a peripheral region of the state of Ceara in Brazil, where no ecosystem factors were available and all the economic activity was concentrated in traditional manufacturing (mostly tile industry), a regional innovation agent sponsored by the state government supported the adoption of new production processes, increasing productivity. His main measures were the identification of technological needs, guidance to groups of corporations with common interests, fostering collaboration with research institutions.

Reverse mentoring: a pilot project implemented in SMEs in the state of Ceara (Brazil), where selected students in innovation studies support traditional businesses as innovation agents (two for each business) by connecting them with ecosystem factors such as sources of knowledge, information on markets and suppliers, and so on. The results in 22 pilot cases

(dairy products, shoes, ceramics, confection, mining) show major improvements in the production processes and in marketing.

Adoption and adaptation of improved processes in agriculture: a research project in Ethiopia finds an almost total unavailability of innovation ecosystem factors, reaches the conclusion to avoid investments in knowledge creation and to focus on the main economic activity there, agriculture, by supporting the introduction of improved technologies.

Introduction of knowledge implementation activities into low income countries

An analysis based on GII data for 132 countries shows a clear distinction between the ecosystem factors that affect knowledge creation and those that affect knowledge implementation. The analysis of lower-income countries reaches a few major conclusions. First, knowledge implementation is strongly influenced by the availability of relevant skills, the capacity to import and adapt knowledge, and the presence of a large local market. Second, the system governing knowledge implementation in low-income countries is more structured and more efficient than the system driving knowledge creation. Third, low-income economies can more effectively close the gap with high-income economies by prioritizing knowledge implementation.

Introduction of knowledge creation activities into peripheries

The periphery in a high income country may not be able to compete with the metropolitan centers in knowledge creation because of the concentration tendency of innovation activities. A case study for Israel detects an imbalance between the adaptation of the local labor force of the peripheral region to the innovation trends (by acquiring higher levels of education and skills) and the lower flexibility of demand by incoming innovation activities, as a consequence of heavier constraints of local ecosystem factors. The attraction of knowledge creation activities to the periphery therefore requires increased investments in such factors such as digital and physical infrastructures, access to services, and so on.