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Graduate studies in health and the entrepreneurial state

Reinaldo Guimarães discusses the hypothesis that in Brazil, at least in human health, research is dependent on graduate studies, when the opposite should be true. In academic institutions, knowledge output should always have primacy, as expressed so simply by Carlos Chagas Filho: "*Teaching is done here because research is done.*"

In addition, he adds, research should be oriented by the demand for knowledge by society in general and by the productive sector (industry, agriculture, and services) in particular.

In the Brazilian case, the primacy of teaching (graduate studies in this case) over research reveals the immaturity of the innovation system, defined as "*a network of public and private institutions whose activities and interactions initiate, modify, and disseminate new technologies*".

If this immaturity can be characterized by the fact that the Brazilian innovation system is organized by the "supply" of knowledge, it particularly emphasizes the demand side's weakness, resulting from (1) Brazilian industry's economic and technological subordination to the international political and economic power centers and (2) civil society's weaknesses in the political arena.

According to the author's line of reasoning, although the essential requirement for the innovation system to "mature" (and consequently promote economic growth and social development) is to strengthen the demand side of knowledge (increasing the innovation rates in the national productive sector), it is important to adjust the supply side.

This adjustment requires changes in the graduate studies system, including its approach to evaluation, in order to promote a turnaround in primacies, for scientific research to orient teaching activities and to prioritize the kind of knowledge required for innovation.

In this sense, Guimarães recommends the following changes in Brazilian graduate studies: (1) include evaluators affiliated with non-academic institutions or sectors; (2) reevaluate the role of evaluation indicators, decreasing the relative weight of publication of scientific articles in indexed journals; and (3) abolish the "course offerings" format in order to value inter- or transdisciplinarity.

He further highlights that the emergence of executive master's programs has been the most significant adjustment among graduate studies programs in health, in the sense of drawing social and economic demands closer to the supply of knowledge.

In broad strokes, the author's hypothesis is more than plausible: suffice it to observe the vigor of research institutions in the health field that strengthened their teaching activities since the 1980s and the reduction in the relative importance of institutions that remained exclusively as research centers.

Still, the article does not discuss the explanations for the strengthening of graduate teaching as compared to scientific research. One can assume that it resulted from a political choice by Federal government in the 1970s and 1980s that prioritized the expansion of teaching to the detriment of investment in research.

This prioritization can be viewed as consistent with the need (perceived by policymakers at the time) to train qualified labor for the country's growing industry, in addition to legitimating the dictatorship in the eyes of the middle and lower classes that were seeking social advancement via schooling. This may be an explanation worth exploring.

(If this is true, it reconfirms the political competence of the Brazilian academic community, which was able to build a high-level graduate studies system, overcoming the narrowness of official policies, although without succeeding in guaranteeing the primacy of research over teaching).

The hypothesis is plausible and merits discussion, and the arguments are well linked, with the immaturity of the Brazilian innovation system as the point of departure.

It would also be relevant to discuss this assumption, or question the contribution and limits of the innovation system concept for explaining the development's dynamics.

If, on the one hand, the historical experience and studies on the role of technical progress have shown that innovation systems are necessary for knowledge and innovation to spread throughout the economy, on the other hand, the concept of innovation system has not focused on precisely defining the role of each specific actor (including the state) within the system. The concept particularly fails to value the fact that the state has been the central actor behind most of the technological revolutions and prolonged periods of growth [1].

Thus, in order to promote innovation and growth, it is essential to understand the roles played by the public and private sectors, which requires – beyond recognizing the importance of the innovation system – understanding each actor's contribution to the system's functioning, given the necessarily collective nature of innovation.

As emphasized by Mazzucato [1], state investment catalyzes, influences, and links the different actors, from producers of knowledge to the end users of innovations, playing a role that extends far beyond correcting market flaws or fomenting research and innovation. In fact, the state plays the leading role in the entire innovation process, including even the creation of markets. In practice, the risks (which are calculable), especially the biggest ones, and the uncertainties (which are incalculable) are born primarily by the state, which is thus the main entrepreneurial agent.

The idea of an entrepreneurial state shifts the debate's emphasis: it is no longer an issue of pursuing maturity for the innovation system, increasing the influence of demand on knowledge production, but rather of building symbiotic systems in which public investments do not replace private investments, but add to them. For this, both the supply and demand of knowledge need to be regulated by an agile and creative state.

From this perspective, interventions in the supply side of knowledge, or more specifically in the graduate studies system, are still relevant, but for them to become effective they need to be linked to state initiatives on the demand side.

Meanwhile, interventions in demand cannot be limited to stimulus (through subsidies or credits) for innovative activities in the private sector, but require strengthening public institutions with expertise and determination to invest in high-growth and high-risk areas. In short, the state needs to be capable of developing long-term growth strategies, which requires increasing (and not diminishing) its social status.

Building such a state will favor tackling the structural weaknesses of the Brazilian economy and society already identified by Guimarães, namely the country's subordinate position in the global capitalist system and incipient participation by civil society in public policy decision-making spaces.

Thus, not only the graduate studies system in health will be more sensitive to scientific research priorities, but researchers will also be more alert to the demand for knowledge and innovation, all contributing more effectively to national development.

1. Mazzucato M. The entrepreneurial state: debunking public vs. private sector myths. London: Anthem Press; 2013.