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Knowledge policies and universities in developing countries: Inclusive development and the “developmental university”

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ABSTRACT

This paper links development approaches with innovation systems theory and social inclusion concerns. In exploring the relationship between development and knowledge, we propose a sequential analytical model that considers values, facts and policies as a coherent whole. This allows us to go deeper into the question of how policies for promoting the production and use of knowledge able to foster different facets of social inclusion can be formulated and implemented. We propose to call such policies “democratization of knowledge policies”; they are one of the means to achieve inclusive development. We provide examples of how these policies work in practice, and explore how the university, a vital part of any national innovation system, can play a role in the emergence and consolidation of the democratization of knowledge. Universities that embrace that role may be considered developmental universities. They fulfill it in great part by providing effective incentives to include in their research agendas the kind of problems whose solutions can lead to an enhancement of social inclusion. However, developmental universities cannot function in isolation. It is argued that their effectiveness depends on the rise of a sustained and strong demand that is able to put knowledge at the direct service of shared social goals, among which diminishing inequality is particularly important. The paper presents a case in Uruguay that illustrates an ongoing transformation towards a developmental university.

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1. Introduction

The striking and persistent disparities in development between regions, countries and even regions within countries that we observe today have been thoroughly analyzed from various perspectives. The ways of measuring such disparities have evolved over time, with complex indexes substituting single-sided views of this or that salient

divergence. The reasons evoked to explain the development/underdevelopment divide are sometimes difficult to disentangle from the effects of such divide, in a sort of chicken-or-egg causality dilemma that complicates the identification of some “first prime movers” of development which absence can provide a main explanation of underdevelopment. Disciplinary biases, probably inevitable in present times when the Renaissance ideal of wholeness is simply unattainable, add to the difficulties to reach integral perspectives on the persistence of underdevelopment in a great number of nations.

All these varieties and complications notwithstanding, it is fair to assert that one of the structural roots of the processes of differentiation in the paths followed by

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developed and underdeveloped countries relates to the capacities of the former, weakly present in the latter, to produce new knowledge and, partly based on it, to produce new goods and services that lead, in Nathan Rosenberg's terms, to significant "technological convergences" [44]. Is producing knowledge important for developmental purposes or is the real challenge to be able to use the knowledge produced elsewhere without attempting to catch a too fast train with a consequence of misused resources and discouraging results? This issue fueled big policy discussions some decades ago. Today it seems better understood that being able to use knowledge and being able to produce new knowledge are not sharply separated, even if the relationship between the two is far from direct. It can be safely said that even if being able to produce new knowledge does not lead linearly to a capacity to use knowledge produced elsewhere, the inability to produce new knowledge makes nowadays such capacity almost impossible to achieve.

"Developing countries", even if they can be commonly characterized as being much less proficient than developed ones in the production and use of new knowledge, are nonetheless far from homogenous in this regard. Some developing countries have become first rate high-level knowledge producers, while others are struggling to build baseline capacities to start producing knowledge. A main point that "underdeveloped" countries seem to have in common, though, all differences notwithstanding, is the difficulty to combine harmoniously the indigenous capacities to produce knowledge, at whatever level achieved, with the capacities to put all knowledge available to achieve satisfactory goods and services. We can characterize satisfactory goods and services by three main traits: (i) their production process does not harm the people involved in it and do not severely damage the environment, (ii) their production incorporates to some extent advanced knowledge, and (iii) at least some of such good and services provide solutions for problems people face.

The National Innovation Systems (NIS) approach is particularly well suited for analyzing the difficulty mentioned above. As shown in the national cases included in Nelson's seminal book [38], the approach pays attention to history, to the configuration of power relations within a country and in international terms, to the evolution of the productive structure and particularly to the style of knowledge utilization that such productive structure has gone through. In the NIS theorization, the mismatch between being able to produce knowledge as well as to understand knowledge produced elsewhere, and not being able to exploit such capacities to their full extent, relates to failures in the system. The check list of such failures reveals the preferences or emphases of the users of the NIS approach, which can be quite diverse. Ref. [31] for instance, stresses that under some circumstances user–producer relationships led to unsatisfactory (for the user) innovations due to "knowledge problems" of different kinds. The "Aalborg school", more generally, indicates that knowledge policies should give more importance to the doing-interacting-using (DIU) mode of innovation, which such policies usually overlook,

particularly so for small countries with a productive structure not based on high-tech production. From this comes the hypothesis that the way work is organized can be of utmost importance to understand the dynamics of innovation; this hypothesis was tested recently with quite convincing results [5].

For those with a special interest in the situation of developing countries, failures can be found everywhere. The useful challenge that the NIS approach proposes is to go beyond each of these failures as if they bear weak or no connection to one another and to look into relationships between parts of the system that should be there to smooth a systemic and self-reinforcing behavior but in fact do not exist or are too weak to be effective. From this inspiration we posit that the mismatch between knowledge capabilities and the capacities to put knowledge at work to achieve a reasonable production of satisfactory goods and services derives from the structural weakness of market knowledge demand stemming from production in developing countries [3]. If this is so, the consequences for knowledge policies are clear: pushing further R&D efforts is as important as it is insufficient.

The NIS approach cultivated by the "Aalborg school" has always put strong emphasis on the issue of learning. As early as 1994 Johnson and Lundvall proposed, in a vastly cited paper, the concept of learning economies, "in which knowledge is the crucial resource and learning is the most important process" [32]. From this emphasis came a new acronym, LICs, for "learning, innovation and competence building systems", a sort of broad term containing the specific NIS focusing device. As a consequence, this school of thought points out that R&D cannot be equated to learning, particularly when innovation is at stake. Lundvall indicates that the concept NIS suffered a "distortion" during its diffusion, focusing excessively on science-based innovations and pushing knowledge policies towards R&D, paying scant attention to other fundamental dimension of learning [35]. On the other side, he also states that universities, important actors of LICs, have been pushed somehow too much in the opposite direction, with the result that long-term R&D efforts are challenged by short term demands, both from industry and for academic productivity, the latter driven by "the accelerating rate and mass production of more or less trivial articles published in periodicals" ([34]: p. 6).

The concept of a "developmental university", understood as an institution which academic mission is to foster development, has been presented elsewhere [1,11]. Such universities are committed specifically to social inclusion through knowledge and, more generally, to the democratization of knowledge along three main avenues: democratization of access to higher education, democratization of research agendas and democratization of knowledge diffusion. In line with the NIS and the LICs approach, we posit that developmental universities are those involved in the promotion of processes of learning and innovation for fostering inclusive development. This idea will be put forwards in the paper. In doing this, we aim at contributing to an expanding body of research linking development policies with innovation systems theory and social inclusion concerns [9,13,15,25,28,42,47].

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