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Understanding STIP in Developing Countries: Another Dance?

Abstract: This paper is work-in-progress in the framework of the introductory chapter of the edited book "International Research Handbook on Science, Technology and Innovation Policy in Developing Countries: Rationales and Relevance;" Kuhlmann, S. and Ordóñez-Matamoros, H.G. (Eds), to be published (hopefully) this year by Edward Elgar. It proposes a systemic view of innovation policy in developing countries as resulting from dynamic interactions (or the lack thereof) between innovation theory, policy and practice which, seen as three diverse and changing "poles," influence and/or respond (or not) to each other, leading to a variety of innovation, policy-practice-theory configurations. In so doing, the Innovation Policy Dance Metaphor proposed by Kuhlmann, Shapira and Smits (2010) is used, adapted and expanded, as a device to analyse the cases of Brazil, Colombia, India and South Africa. According to this approach, "ideas, rationales and instruments of innovation policy emerge as a result of interactive learning among actors involved in innovation practice (I), innovation-related public intervention strategies (P), and innovation research and theory (T), where mutually learning (by interacting), they constantly create and change IPT configurations, and where sometimes innovation practice is the driving force in a configuration, sometimes theory, sometimes public or private policy. The dancers may happen to bump into each other or may enjoy phases of pure harmony."

Preliminary conclusions regarding the rationales and relevance of science, technology and innovation policy in developing countries are proposed based on text analyses studying innovation policy in the selected set of countries. The aforementioned metaphor is used to interpret ITP trajectories in these countries and by so doing to identify voids or systemic failures. The instrumental value of the metaphor is also assessed.

'Dancers' and their 'moves' include: a) entrepreneurs, who tend to think in terms of market success and strategic advantages or, in the case of NGOs, they have their issues to pursue (e.g. health improvement, clean environment, etc.); b) government agencies, who have overall goals like security, quality of life, sustainability, etc., under which a variety of actions are implemented; and c) researchers, who strive for understanding the world around them, and for creating original or applicable ideas. These dancers, are not homogeneous "poles", however, as "conflicts" or tensions exist and change overtime (for example between innovations theories, between roles assigned to governments, and between strategies for learning, adopting and innovation practices).

Types of 'learning-by dancing' include a) first-order learning: reacting to observed changes in a conservative manner, and b) second-order learning: adopting or developing new assumptions, targets and measures. Forms of learning are: a) formal learning (FL) in "classrooms," particularly fruitful for entrepreneurs and policymakers; b) learning by using (LU) in applying policy measures (key for entrepreneurs) and using performance and impact

evaluations (key for policymakers); c) learning by interacting (LI) in working with consultants, exchanging ideas, attending workshops, etc. (valuable for all dancers); learning by searching (LS) in desks, labs, interviews, evaluations, etc. (typical among researchers); and learning by anticipating (LA) in strategic intelligence forums and observation activities (presumably/potentially present among all).

Preliminary findings about the role of theory from the cross country analyses include: a) explicit innovation policies (discourse + action) emerged by mid-90s, led by western/northern (OECD-type of) reasoning (capitalist systems of innovation). However, in some countries such "policies" continue to be more fancy discourse-framing devices than facts; b) loans from international financial organizations (e.g. IDB, WB, etc.), play important roles into transferring ideas to actions (for good and for bad…); c) during the 2000s, innovation policy rationales continued to be mostly "imported" and discursive, but new indigenous ideas (and to a lesser extent programmes) surfaced (e.g. social innovation, innovation for inclusion, etc.); d) overall, innovation practice lags behind, mostly due to 'rentism'/shortermism,' lack of learning opportunities and support; and d) those sectors 'connected' to the rest of the world, improved fast, leading to increased inequality.

Preliminary findings about the role of policy include: a) innovation "policies" are more "documents" and intentions/desires than actions/programmes/projects ($€?); b) they are mostly 'elitists'; and c) they are more focused on innovation than on learning. Lack of policy impact evaluations makes difficult to judge their actual role, however.

Regarding the metaphor as analytical device, it a) proved useful for better understanding theory, practice and governance issues around STI; b) helps in looking at (rival) explanations, and in making 'visible' logical connections that can be overlooked, mostly due to lack of information or dedicated reflection. In fact, although "logical connections" do not explain "reality", they do help in creating plausible stories and narratives, which not only nurtures relevant debates, but that can also become latter hypotheses and objects of study in future STI policy research; c) helps finding theoretical lacunae, systemic failures, policy voids, and room for further exploration, experimentation or advocacy; and d) allows the analysis of national systems as "dynamic objects" from a historical and contextual perspective, something that the traditional National of Innovation System approach fails completely.

However, the metaphor exhibits some weaknesses as well. These are: a) it can mislead understanding if it is not applied correctly. In fact, it may lead to overemphasizing the role of theory, as the device can be used as an ex-post facto framing tool, therefore overlooking the "real" role of both political opportunistic/innovative governments, or entrepreneurs. For example, in the case of Colombia, it is possible that the new STIP configuration (resulting from the SGR scheme since 2011) has no relation with a specific theory/model/concept/idea inspiring it (this is in fact an open question today), but that it resulted from debates on corruption involving the royalty producing regions, or after claims made by left-wing movements and armed groups, or more plausible, a combination of all these factors; b) by emphasizing on the learning outcome, it does not allow capturing truly disconnected 'events': cases where the partners do not seem to 'learn' (e.g the Sisyphus tragedy referred elsewhere), which seem common in some developing countries. For example, in the case of Colombia, as Salazar claims, Colciencias' capabilities and experience in managing R&D built

the least 50 years is today completely ignored, where in the regions the people seem to be sort of “re-inventing the wheel.” Policymakers do not seem to have learned from theory and practice; and c) as Kuhlmann et al acknowledge, “although at first sight industry, academia and the politico-administrative system appear clearly different in terms of membership, constituency, relevance criteria and reward mechanisms, taking a closer view one would face a more blurred picture.” For example, the role of key people affiliated with the OECD who belong to both types of dancers of government and theory. Or the role of government research organizations, which may be both policy and practice dancers.

This paper is relevant for the current Manchester EU-SPRI Conference as it points to contribute to better understand a) policy dynamics and policy impacts in developing countries; b) the rise of goal, challenge or mission orientation in science and technology policies in these countries; and c) questions and claims of responsible governance in science and technology policies increasingly debated in these countries.

In particular, it explicitly addresses topics such as a) policy emergence, implementation, diffusion and transfer; b) national science policies and the global scientific enterprise; and c) one size does not fit all? STI policies for less-developed and emerging economies.