Research Proposal: IPR of Basic Research in a Two-Countries Setup

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1 Purpose

The purpose of the proposed research is to investigate the impact of retaining or not intellectual property rights (IPR) of basic research in one country on the dynamics of growth in a two-countries setup. The proposed research aims to develop a new framework that assesses the impact of local IPR appropriation of basic research on economic growth, innovation and employment. Retaining IPR of basic research in one given country has the potential benefits of increasing national competitive edge and foster local economic growth. On the other hand, retaining basic research in an economy that is less dynamic and smaller in size may impede the opportunity to realize its full value. The intent is to explore how this affects the dynamics of innovation and employment in both countries at an aggregate level.

2 Background

Economists widely agree that innovation is the source of sustained growth. Akcigit et al. (2021); Cozzi and Galli (2014) found that sustained economic growth requires complementary basic and applied research. Basic research is defined as the discovery of fundamental knowledge that enables the opportunity for applied research. Basic research correlates with multi-industries presence as a higher number of industries of operation would lead a higher return on investment in basic research. Under this rationale, both the basic research owner and a given large firm would have the incentive to facilitate the transfer of basic research IPR to capitalize on its value. The existing literature looking at the optimal share of basic and applied research from macroeconomic structural perspective is focused on closed economy scenario.

The process of innovation realization does not take in one country in today's interconnected world. As proposed by Stansbury et al. (2022), for smaller and open economy, the level of productivity and wage may be determined abroad rather than domestically. A concrete example is Canadian universities' contribution in artificial intelligence. The development of the mathematical and physical algorithm was largely under the efforts of professors at Canadian universities. But, firms that have capitalized the most on such development are the giant US tech firms, who in turn made significant investment in R & D in Canada. What if the knowledge sharing between countries was impeded? Under the assumption that basic research requires applied research capacity to realize value added, if one country has significantly more applied research capacity, then we would observe the phenomenon of patent sales instead of local retention given that the local economy has less capacity to fully explore the value of basic research. In fact, this phenomenon is observed in Canada. Based on USPTO patent data, Gallini and Hollis (2019) finds that Canadians are increasingly likely to transfer or sell their IP to foreign entities rather than continuing to develop it in Canada. Hinton et al. (2023) also finds that a large 75% of patent originated from Canadian universities are owned by foreign firms.

At the policy level, in 2024, following the finding about Canadian public-funded patent transfers, Senatorial Committee on Banking, Commerce and the Economy has recommended that the federal research grants be conditional on significant intellectual property rights being retained in Canada for the benefit of the Canadian economy. From a national interest perspective, given that basic research is, in large part, publicly funded, public may be demanding for accountability and the ownership.

3 Suggestive Empirical Evidence

References

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