Impact of innovation on economic growth: evidence from Malaysia

ABSTRACT

This study empirically investigates the effect of innovation on economic growth using the neoclassical economic growth model. Embarking from the traditional labour growth, physical capital and human capital framework, innovation is postulated to be the main driver for robust economic growth. Using time series techniques, we discover very attention-grabbing findings that highlight the impact of innovation on economic growth for Malaysia. First, the innovation measured by the quantity of a total number of a patent application is statistically insignificant. The result is robust for various innovation measurements, including total local patent application and total foreign patent application. Interestingly, switching to total patent grant instead of a total number of patent application (local or foreign), the empirical result shows a significant impact on economic growth. The finding indirectly reveals the crucial impact of quality innovation rather than the quantity concern. Neglecting both quality and the commercialisation process of these new technologies may not solve the rigidity of knowledge commercialisation paradox. Finally, we test for the prominent institutional quality in mediating economic growth under a knowledge-based economy. The interaction between institutional quality and the total patent grant has significantly accelerated the role of innovation channel to economic growth. The empirical findings imply that inadequacy of innovative technology flow over the long term has a detrimental effect on national innovative capacity. Thus, the innovation-economic growth nexus needs to be complemented with a good institutional quality framework, skilled human capital and broader networking to commercialise the innovative product to ensure that the innovation activities promote economic growth.

Keyword: ARDL; Economic growth; Innovation; Institutions; Quality innovation