CHAPTER V
CONCLUSION

After analyzing the estimation results of the two models, this chapter will present conclusions and some suggestions that can be taken.

5.1 Conclusion

This research aims to analyze the impact of innovation and other factors (human capital, population growth, physical capital, and institution) on the economy in developed and developing countries. This research uses secondary data collected with the number of 30 Countries in total. The model chosen in this research is BB-GMM (Sys-GMM) for developing countries and FD-GMM (AB-GMM). Empirical studies have found that innovation can boost economic growth with the quality of the patent and weaken the performance of economic growth through the quantity of patents.

The study concludes that these variables partially impact economic growth in different types of countries. The estimation results indicate that the indicator from innovation, which are the number of patent application and the number of patents granted, has different outcome effects on economic growth.

The number of patent applications negatively affects the economic growth in developed countries and positively affects the economic growth in developing countries but is statistically insignificant. While the number of patents granted in developed countries positively affects economic growth, in developing countries, the number of patents granted negatively affects economic growth, and it's not statistically significant.

The results indicate that the sample size from real GDP per capita growth or the number of patents in developing countries is too low or the random variation too large to find an apparent significant effect even if an effect exists. It can happen due to high inflation, where the inflation rate is just the percentage change in the GDP deflator from one period to the next. And the number of patents from each developing country tends to have significant variations in size. Out of the data collected, it was discovered that half of the selected developing countries were not concerned with the number of patent applications filed. They have other GDP

growth-affecting factors like agriculture, the service industry, assembling new technology from outside, etc.

The effect of both innovation indicators concludes the author's approach's second hypothesis. Because developing countries have no significant impact on economic growth, patent applications and granted patents are not better markers of innovation. Furthermore, the patent can be used sensibly as a monetary policy tool to incentivize R&D investment. These supported Samimi and Alerasoul's (2009) study, which concluded that R&D does not contribute to economic growth in low-income or poor nations because patents do not significantly affect economic growth, implying that patents in developing countries cannot drive investment in R&D.

Then, the effect of Population Growth on economic growth as the control variable appears that the estimation results indicate that population growth negatively affects the economic growth in developed and developing countries. However, this effect is only significant in developed countries.

The remaining factors, which include the physical capital stock, human capital, and institutions, are statistically negligible predictors of economic performance in both types of countries.

5.2 Recommendations

This study certainly has many drawbacks. Nevertheless, the results of this study can contribute to providing some suggestions. Innovation was found to generate different effects on growth in developed and developing countries with two types of indicators: the number of patent applications and number of patents granted. This difference is due to the different levels of the number of patents and real GDP per capita growth of developed and developing countries.

Focus on achieving innovation is necessary, as is a continual analysis of policy design and financing demands, and governments must replicate strategies that are increasingly employed in other nations to stimulate innovation. Furthermore, the country's governmental agencies should oversee funding S&T (Science and Technology) and innovation projects, develop monitoring and assessment systems based on qualitative and quantitative data and indicators, and support programs and expected outputs and outcomes.

This study also has some limitations. The indicator for measurements of variables, such as the life expectancy at birth (human capital), can be changed to other indicators that can help to improve the nexus between innovation and economic growth.

For the following studies, the writer suggests,

1. choosing different proxies for some variables, the life expectancy at birth (human capital) that can be changed to other indicators that can help to improve the nexus between innovation and economic growth,

2. patent application and granted patents (innovation) that can change or added other indicators that can help to boost the performance of innovation on economic growth, and especially for real GDP per capita growth for economic growth measurement.

3. Moreover, future studies can consider using a different period of analysis by using a more extended period because some empirical studies indicate that the longer term triggers the relationship between innovation and economic growth.