

Economic impact of Physician

by Wilson Rajagukguk

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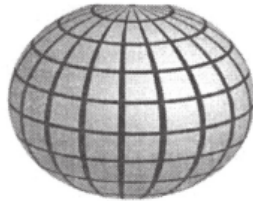
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Economic impact of Physician

²
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Faculty of Economics and Business, Universitas Kristen Indonesia, Jakarta Indonesia

Abstract

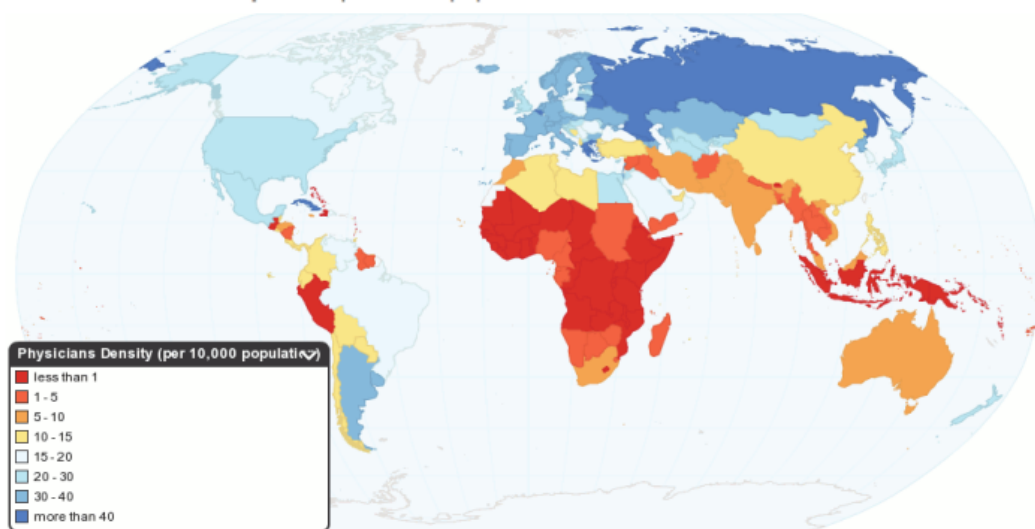
This study aims to investigate the impacts of the number of physician on economic growth. The macroeconomic impacts of the number of physician are limitedly studied. IQVIA (2018) defined that the total macroeconomic impacts are direct and indirect. Direct impacts are on four main economic barometers: consumption, investment, government expenditure, and export and import. Meanwhile, indirect impacts on the same barometers are generated through physician- supported industries. National impacts are the total of the four barometers at national level. The data used in this study came from the World Bank data bank. The data covered 185 countries in the world. The period of analysis varied from 2006 to 2015. A multiple regression model was employed in the analysis. The independent variables are the number of physicians per 1,000 people and percentage of population with electricity. Meanwhile, the dependent variable is the gross domestic product (GDP) per capita at constant price in 2000. The results of the study show that an additional of 1,000 physicians in a country will increase the GDP per capita as much as US\$ 7,302.951 yearly, an additional of foreign direct investment, net inflows (% of GDP), will increase GDP per capita as much as US\$207.146, and an additional of 1% access to electricity will increase GDP per capita as much as US\$57.808.

Keywords: Economic growth, physicians, electricity, multiple regression, Indonesia.

Introduction

⁶
The third goal of the sustainable development goals (SDGs) is to ensure healthy lives and promote wellbeing for all at all ages and SDG 8 is to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. SDGs aim to improve people's welfare through health and economic growth for all. It can mean that healthy life can promote welfare and then economic growth aims to improve welfare. Data show that countries with higher number of physicians per 10,000 people are those with higher economic growth (Figure 1). Meanwhile, countries with lower number of physicians per 10,000 people are those with lower economic growth. Does health development, in this case, the number of physicians affect macroeconomic growth?

⁸
The relationship between the number of physicians and economic growth has been studied and found can happen in two directions. Cooper et al. (2002) carried out the time series and cross-sectional data analysis for the United States in 1929–2000. They found that the economic growth (gross domestic product/GDP per capita) positively influenced the demand for physicians per capita. A 10% increase in GDP per capita would increase the demand per physicians per capita by 7.5% (US Department of Health and Human Service, 2006).



Source: World Health Organization (2010).

Figure 1
Global Distribution of Physicians per 10,000 people: 2000–2009

Jack and Lewis (2009) argued that at macroeconomic level, the impact of health on economic growth is debatable and ambiguous since there is difficulty in measuring health and in the methodology needed to study the causal link. Does public investment in medical care affect health aspects? In some developing countries factors such as the absence of public goods provision in health, poor budget, and ineffective management worsen public health and as a consequence have impact on people's welfare and probably in the long run can exacerbate national income.

Economic growth and its development depend on healthy people. Investment in health system can have multiplier effects that can enhance inclusive economic growth. It can happen through the creation of decent jobs. Investment in health system, including healthy labor force, can promote economic growth in and through economic output, social protection, innovation, and health security.

Physician can contribute to economic growth in two ways, opposite sides (Reilly, 2012). On one side, a number of physicians can care the health of population that will improve workers' productivity and will enable workers to return to work place immediately after getting ill. In addition, the type of profit-seeking behavior of physicians can promote economic growth. However, on the other side, too many physicians in a market can create supplier-induced demand (SID). SID can keep labor force from leaving the labor market in a longer period and as a result can have negative impact on economy. Further, extra number of physicians can increase more expensive specific jobs.

Limb (2016) argued that the demand for health workforce is growing together with the population ageing and the increase of non-communicable diseases. Global

economy projected to create around 40 million occupations in health sector in in 2030 (WHO, 2016). In addition, WHO (2016) proposed that investment in health workforce is needed to achieve the sustainable development goals, including the achievement in health sector, global security, and inclusive economic growth. Further, WHO (2016) reported that in some countries in the world, health sector has created labor force growth, in particular female occupation, which is higher than other sectors in the last 10 years. Around half private sector jobs are in health sector. In The European Union, health sector and social sector employ 20 million workers or about 10% of all working opportunity. Around 80% of female labor force work in health sector. Does the number of physicians affect the economic growth even after controlling for the effects of foreign direct investment and access to electricity? This study aims to investigate the impact of the number of physicians on the economic growth controlling for the effects of foreign direct investment and access to electricity.

Research method

The data used in this study came from the databank of the World Bank (<https://databank.worldbank.org/data/source/world-development-indicators#> accessed on September 1, 2019). The study covered 185 countries in the world during 2008–2016 according to the availability of the data. It means, no all countries have the same time period. Some countries had no data with the same time period so that in this study those data were treated as fixed effects longitudinal data. The independent variables are the number of physicians per 1,000 people, foreign direct investment net inflows (% of GDP), and percentage of population with electricity. Meanwhile, the dependent variable is the gross domestic product (GDP) per capita at constant price in 2000.

Analysis method

The data was analyzed descriptively and inferentially. Descriptively, summary statistics of variables in the model and scatter diagrams between independent and dependent variables were presented. Inferentially, simple and multiple regression analysis were conducted to examine the relationships between independent variables and dependent variable, both using bivariate and multivariate analyses. The regression model is as follows.

$$Y = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \varepsilon \quad \dots\dots\dots (1)$$

Y = GDP per capita (constant price in 2010 in US\$), X_1 = number of physicians (per 1,000 people), X_2 = foreign direct investment, net inflows (% of GDP), and X_3 = access to electricity (% of population), α_0 = intercept of the model, α_1 , α_2 , and α_3 are

regression coefficients for the number of physicians, foreign direct investment, and proportion of population with electricity respectively, and \mathcal{E} is error term.

Results

The summary statistics for variables in the analysis (the number of observations n and minimum, maximum, mean, and standard deviation values) are presented in Table 1. It can be seen that the number of observations is not the same for each variable is different because the period of data availability is different. It can also be seen that there is a great variation in GDP per capita across countries from US\$294 to S\$108,601. Meanwhile, the number of physicians per 1,000 people also varied greatly across countries from only 0.01 to 7.52.

Table 1: Summary statistics of variables in the analysis

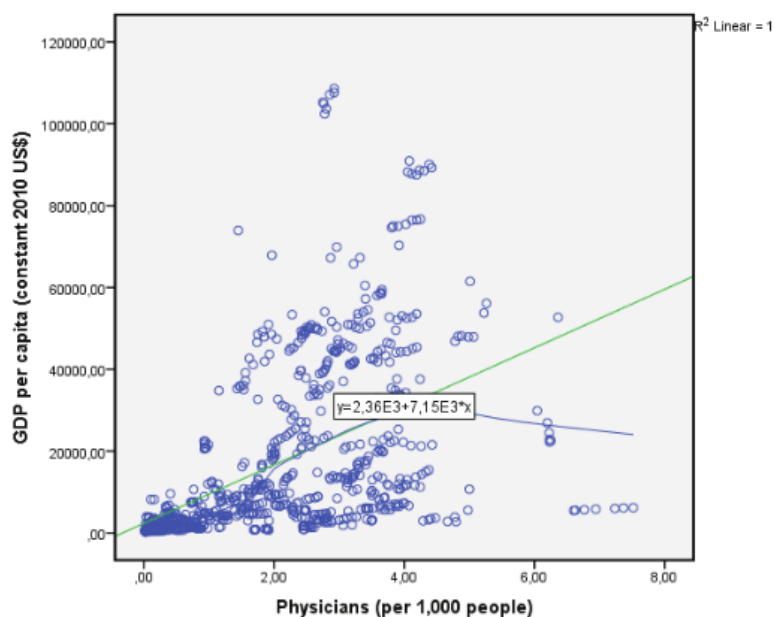
Variables	n	Minimum	Maximum	Mean	Standard deviation
GDP per capita (constant price in 2010 US\$)	802	293.85	108,600.93	16,797.89	20,972.56
Physicians (per 1,000 people)	817	0.01	7.52	2.04	1.54
Foreign direct investment, net inflows (% of GDP)	792	-43.46	252.31	5.91	14.53
Access to electricity (% of population)	817	1.75	100.00	84.97	26.74

Source: World Bank (2019) (Author's calculation).

The results of bivariate analysis using scatter diagram show that there is positive relationship between the number of physicians and GDP per capita. The higher the number of physicians per 1,000 people is the higher GDP per capita (Figure 2). An increase of one physician per 1,000 people in a country will increase GDP per capita by US\$7,150.

The results of bivariate analysis indicate that there is a positive relationship between the foreign direct investment and GDP per capita. The higher the foreign direct investment, net inflows (% of GDP) is the higher GDP per capita (Figure 3). An increase of 1% in foreign direct investment, net inflows (% of GDP) in a country will increase GDP per capita by US\$228.

The results of bivariate analysis reveal that there is a positive relationship between the proportion of population with electricity and GDP per capita. The higher the proportion of population with electricity is the higher GDP per capita (Figure 4). An increase of 1% in proportion of population with electricity in a country will increase GDP per capita by US\$322.



7
 Source: World Bank (2019) (Author's calculation).

Figure 2

Number of physicians and GDP per capita

7
 Source: World Bank (2019) (Author's calculation).

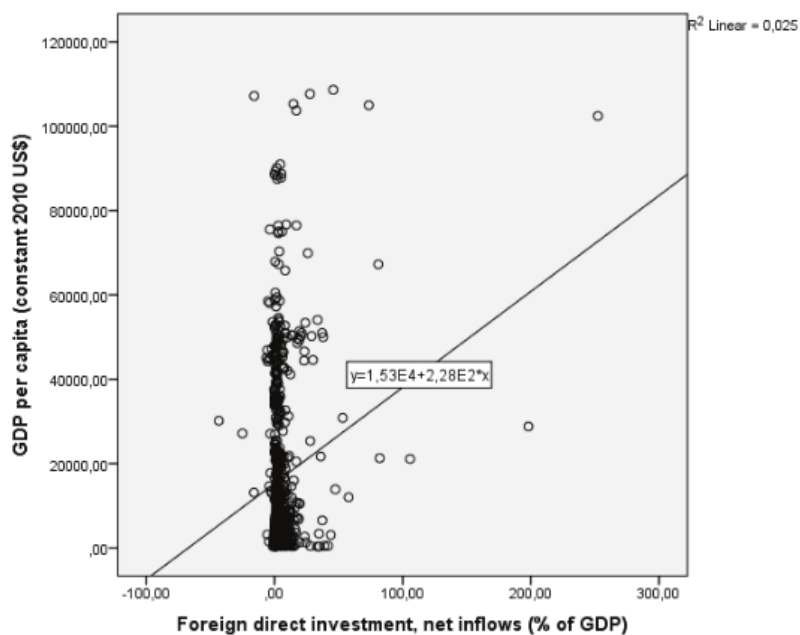
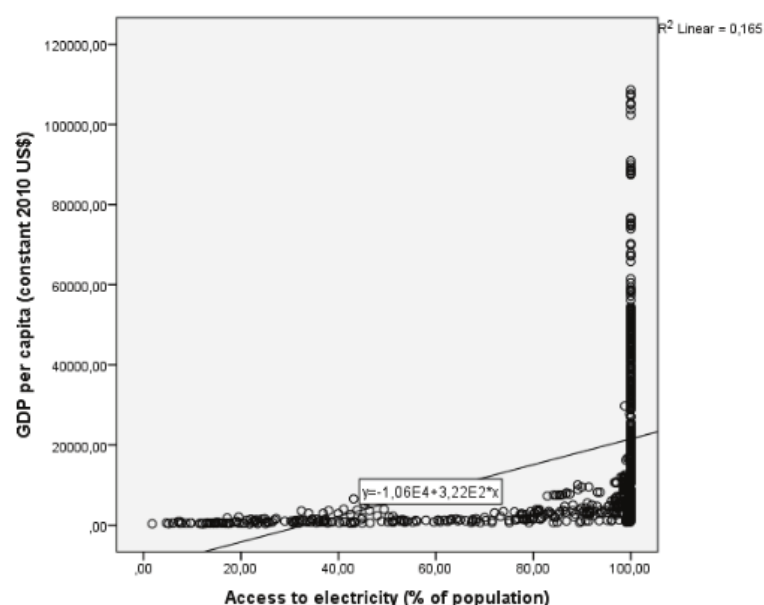


Figure 3

Foreign direct investment and GDP per capita



7 Source: World Bank (2019) (Author's calculation).

Figure 4
Access to electricity and GDP per capita

The results of multivariate analysis of the relationship between the number of physicians and GDP per capita are presented in Table 2 (regression coefficient, standard error, t statistics and p -value). The number of physicians statistically and positively affects GDP per capita significantly, even after controlling for the effects of foreign direct investment and access to electricity. Other things being the same, an increase in the number of physicians per 1,000 people will increase GDP per capita by US\$7,302.951. Meanwhile, statistically, foreign direct investment and access to electricity also affect GDP per capita significantly and positively. Ceteris paribus, an increase of 1% in foreign direct investment and access to electricity will increase GDP per capita by 207.146 and 57.808 respectively. The coefficient of determination of the model (R^2) is 0.331, meaning that around one third variation in GDP per capita can be explained by the variation in the number of physicians, foreign direct investment and access to electricity.

5 Table 2

Regression coefficient, standard error, t statistics and p -value of the regression equation of the impacts of the number of physicians on economic growth

Variables	Coefficient	Standard error	t	p- value
Constant	-3,821,858	2,137.593	-1.788	0.074
Physicians (per 1,000 people)	7,302.951	568.787	12.840	0.000
Foreign direct investment, net inflows (% of GDP)	207.146	41.762	4.960	0.000
Access to electricity (% of population)	57.808	30.524	1.894	0.059

Source: World Bank (2019) (Author's calculation).

Conclusions

A number of studies were carried out to analyze the microeconomic impact of a physician. However, studies on the macroeconomic impact of the number of physicians are limited. This study investigates the macroeconomic impact of the number of physicians using the World Bank data, covering 185 countries in the world. The results of the study show that the number of physicians (per 1,000 people), foreign direct investment, net inflows (% of GDP), and access to electricity (% of population) have positive effects on economic growth. Therefore, it is recommended to the government of countries to improve the availability of physicians, foreign direct investment, and access to electricity in their country in order to promote economic growth. The world certainly needs health development, in this case improving and increasing health human resources development in particular physicians, for economic growth. More physicians can mean better access to health care, healthier workforce, higher productivity, higher income, higher consumption, higher investment, and higher economic growth.

References

- Cooper, R.A., Getzen, T.E., McKee, H.J., and Laud, P. 2002. Economic and demographic trends signal an impending physician shortage. *Health Affairs*, 21(1): 140–154.
<https://databank.worldbank.org/source/world-development-indicator>
- IQVIA. 2017. *The National Economic Impact of Physicians: National Report*
- Jack, William & Lewis, Maureen. 2009. *Health Investments and Economic Growth: Macroeconomic Evidence and Microeconomic Foundations*. Policy Research working paper. No. WPS 4877. World Bank. <https://openknowledge.worldbank.org/handle/10986/4072>
License: CC BY 3.0 IGO."
- Limb, Mathew. 2016. World will lack 18 million health workers by 2030 without adequate investment, warns UN, *BMJ News* <https://doi.org/10.1136/BMJ.I5169>.
- Martin et al. 2014. National Health Spending in 2012: Rate of Health Spending Growth Remained Low for the Fourth Consecutive Year. *Health Affairs*, 33:67–77.
- Reilly, Mary. 2012. "Do Physicians Contribute to Economic Growth? An Empirical Analysis Honors Scholar Theses. 242. http://digitalcommons.uconn.edu/srhonors_theses/242.
- United Nations. *Transforming Our World: The 2030 Agenda for Sustainable Development*

<https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>.

U.S. Department of Health and Human Services. 2006. Physician Supply and Demand: Projections to 2020, Health Resource and Service Administration.

<https://www.who.int/workforcealliance/media/news/2016/health-workers-economic-growth/en/>

Merritt Hawkins. 2014. The Economic Impact of Physicians, a Fact Sheet Examining the iEconomic Contribution Physicians Make to Their Communities and to Their Affiliated Hospitals, Drive Irving.

World Health Organization. 2010. *World Health Statistics 2010*. ISBN 978 92 4 156398 7, World Health Organization, Geneva 27, Switzerland, viewed 16th September, 2010. <http://www.who.int/whosis/whostat/2010/en/index.html>>.

World Health Organization. 2016. Working for health and growth: investing in the health workforce—report of the High-Level Commission on Health Employment and Economic Growth. WHO, 2017, National Health Workforce Accounts: A Handbook. Geneva.

World Health Organization. 2018. *World Health Statistics 2018: Monitoring Health for The SDGs, Sustainable Development Goals*, Geneva: License: CC BY-NC-SA 3.0 IGO.

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