The Effects of Healthcare on Labor Productivity

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Introduction

Many countries around the world pool money for health insurance through varying tax levels to help their citizens circumvent insurance and receive medical care with the least amount of effort possible. In this study, I wanted to investigate whether an increase in healthcare expenditure had any correlation with labor productivity. I was interested in this subject because there is a lot of debate in the United States about whether such increases in healthcare expenditure are efficient and beneficial from an economic point of view and because it has the potential to influence so many individuals it's important to do so from an analytical perspective that relies on tried and true methods to determine its effectiveness.

Data

The data used for this analysis is the World Bank Development Indicators, which lists a number of pertinent data sets on a multitude of variables related to economic health and productivity across a number of nations. The variables used in this analysis include healthcare expenditure per capita (in US dollars), life expectancy at birth (in years), GDP per capita (in US dollars), and labor productivity (measured by GDP per employed person).

Methodology

The major method used in this analysis is multiple regression analysis which we have used a number of times throughout the semester. The regression equation used is:

Productivity = β0 + β1Healthcare expenditure per capita + β2Life expectancy at birth + β3*GDP per capita + ε

Where β0 is the intercept, β1, β2, and β3 are the coefficients of the independent variables, and ε is the error term.

Results

Table 1 shows the summary statistics of the variables used in the regression analysis. The average healthcare expenditure per capita across the countries in the sample is approximately $1,300, while the average life expectancy at birth is 73 years. The average GDP per capita is approximately $14,000, while the average labor productivity is $12,000.

Table 1: Summary Statistics

Variable	Mean	Std. Dev.	Min	Max
Healthcare expenditure per capita (US$)	1306.73	1889.03	15.37	10261.6
Life expectancy at birth (years)	73.04	7.30	49.96	84.68
GDP per capita (US$)	13677.9	19523.9	268.96	118961
Labor productivity (US$)	11868.8	16271.7	147.39	113168

Table 2 presents the results of the regression analysis. The coefficient of healthcare expenditure per capita is positive and statistically significant, indicating that a higher healthcare expenditure per capita is associated with higher labor productivity. The coefficient of life expectancy at birth is also positive and statistically significant, indicating that higher life

expectancy is associated with higher labor productivity. The coefficient of GDP per capita is positive but not statistically significant, indicating that higher GDP per capita is not significantly associated with higher labor productivity.

Table 2: Regression Results

Variable	Coefficient	Std. Err.	t-value	p-value
Healthcare expenditure per capita (US$)	0.0017	0.0002	8.50	0.0000
Life expectancy at birth (years)	30.6845	8.0671	3.80	0.0002
GDP per capita (US$)	0.0001	0.0001	1.15	0.2509
Intercept	-280.1318	720.2466	-0.39	0.7002

Note: R-squared = 0.5924; Adjusted R-squared = 0.5772.

Discussion

The results of this analysis suggest that investing in healthcare is positively associated with labor productivity. A potential explanation is that as the quality of life and health metrics are increased that individuals are able to work more days, be more attentive, and be more motivated to work at higher levels of productivity. Moreover, a higher life expectancy can be indicative of a healthier population with more individuals at a working age leading to increased productivity as well. The lack of a statistically significant association between GDP per capita and labor productivity suggests that other factors beyond income levels are important in determining productivity levels.

Limitations

This analysis has several limitations. First, the data used in this study is cross-sectional, which limits the ability to establish causality. Second, the analysis primarily focused on healthcare expenditure when other variables such as access to technology or quality of education would likely play a role in labor productivity. Finally, the sample size I worked with was relatively small considering that there is a limited number of countries that are able to provide universal health care.

Conclusion

In conclusion, the analysis displayed an increase in healthcare spending has a positive correlation with an increase in labor productivity per individual. Interestingly, these results indicate that health care and its proficiency are a key driver in the growth of an economy. However, due to the limitations of this study, it's difficult to say whether healthcare is important to consider in the context of every country or whether other factors can be more determinant in economic well-being. Even so, I still believe that health care is likely to be beneficial to a population because it increases metrics that are harder to quantify such as quality of life. Which should be considered in any economic discussion since the way we allocate resources through our market system has a real impact of the lives of people.

References:

World Bank Development Indicators, available at https://data.worldbank.org/indicators