

What Country Level Factors are Associated to Average Life Expectancy in a Country?

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Abstract

Things matter

Introduction

This is a paper

Background

Theory

Countries that are more “well-off” will probably live longer.

Previous Work

Some previous work stuff

Methods

The data we used was assembled from individual variable datasets that were downloaded from Gapminder World. The data we used from gapminder was provided to them by the World Bank, the World Health Organization and Gapminder themselves. We combined these smaller data sets into a data set containing all of the variables that we were intested in examining. Our data has various country level information taken between the years 1995 and 2007. Each observation in our data set is our set of country level information, like population or gdp per capita, for a specific country in that specific year. Overall our data contains 1944 complete observations with 10 variables per observation.

For a full overview of each individual variable in our data set, see description below:

country = Name of Country

year = Year our variables were measured for

lifeExp = Average life expectancy (years) (**Response Variable**) Population = Total population GDPCap = GDP/capita (US\$ inflation-adjusted)

FoodSupply = Kilocalories available on average for each person each day (Kilocalories)

growth = GDP growth per year (%)

GovHealthSpending = Government health spending as % of total gov. spending

GovShareHealthSpend = Government share of total health spending (%)

LaborForce = Age 15+ labour force participation rate (%)

Results

Start this sections with data visualization. Then move on to say final model and give summary of model, then interpretations.

Discusion

Robustness

This is where we can talk about any heteroscedasticity we found, which I am sure we will have, we will also probably have some sort of geographical relationship for our residuals which we just won't be correcting for, but could with random effects.

We also probably won't have lifestyle variables.

We have some outliers, but taking them out doesn't seem to change the coefficients much so just leaving them in.

We could also potentially have some polynomial terms that could have been significant.

Limitations and Future Work

With this type of study we must make it clear that we are looking at association and not causation. Our results do not indicate that by increasing population in a country is going to cause an increase in average life expectancy in a country. Our results suggest that population size is associated with higher life expectancy, not the cause of it.

Another limitation of our work is that we could be missing explanatory variables in our initial model and so some of the associations that we found may be significant only because we are missing other explanatory variables. If we had more time we would have liked to found more observations that contained some other variables that were mentioned in some of the papers like smoking or alcohol use. These kinds of lifestyle variables could definitely have an effect on life expectancy but we were unable to find enough country level data on these lifestyle variables to use them in our model.

It also would have been interesting to look at the possible different factors that are significant in different geographical areas of the world. For example fitting a model for average life expectancy in North America and fitting a model for life expectancy in Africa and then comparing what variables were significant in either model and trying to figure out why some things may have been significant in one model and not the other.

In the future it would be interesting to also look at this model with a heirarchichal linear regression model. This type of model would be able to account for differences between country and continent over time and we could then examine if some of the variables we deemed significant in our model would still be significant. This also has the potential to change the effects of our variables after adding all of the random effects.

Appendix (If needed)

Works Cited/Bibliography or whatever this section is supposed to be called.