

The effect of Economic Development on Population Health

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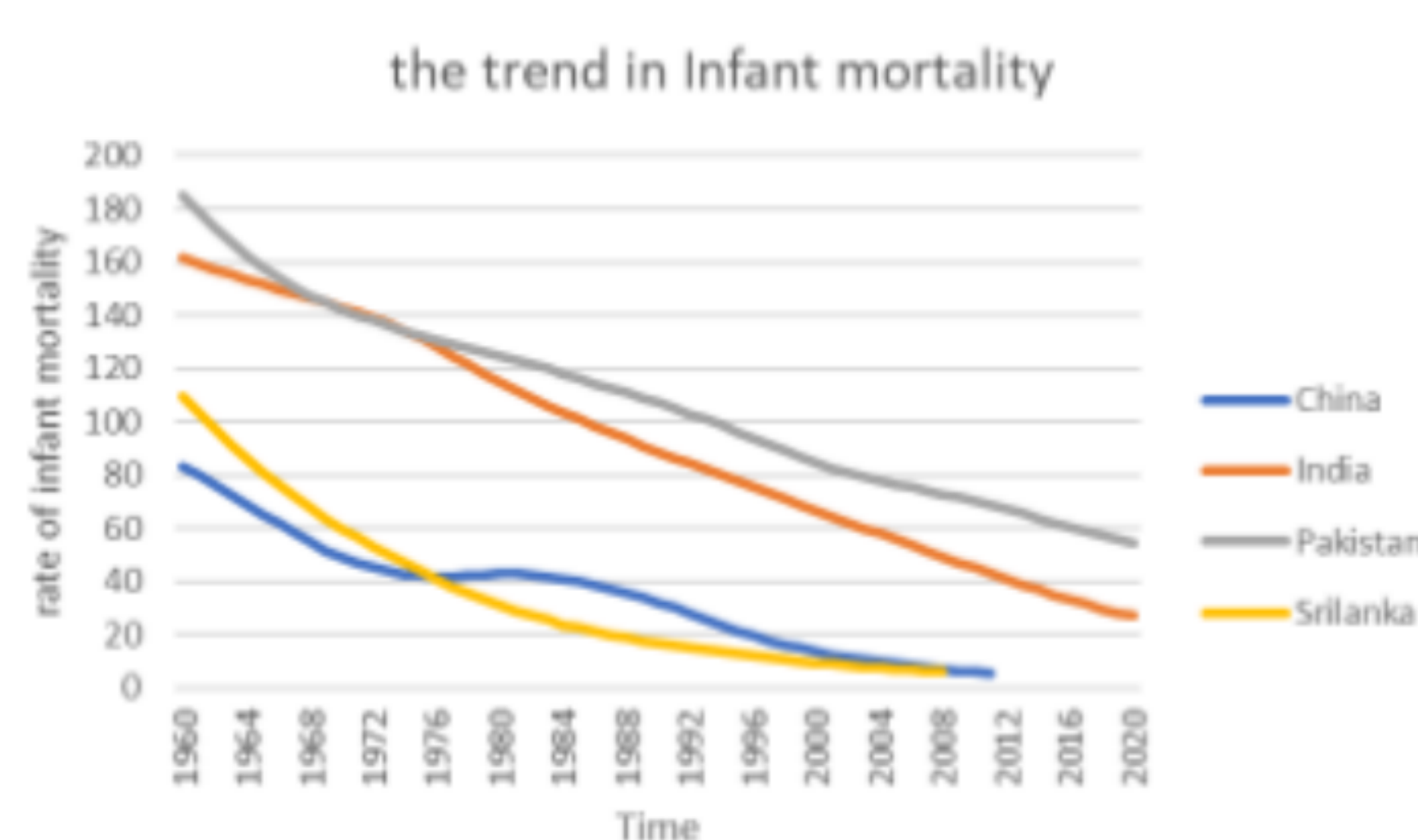
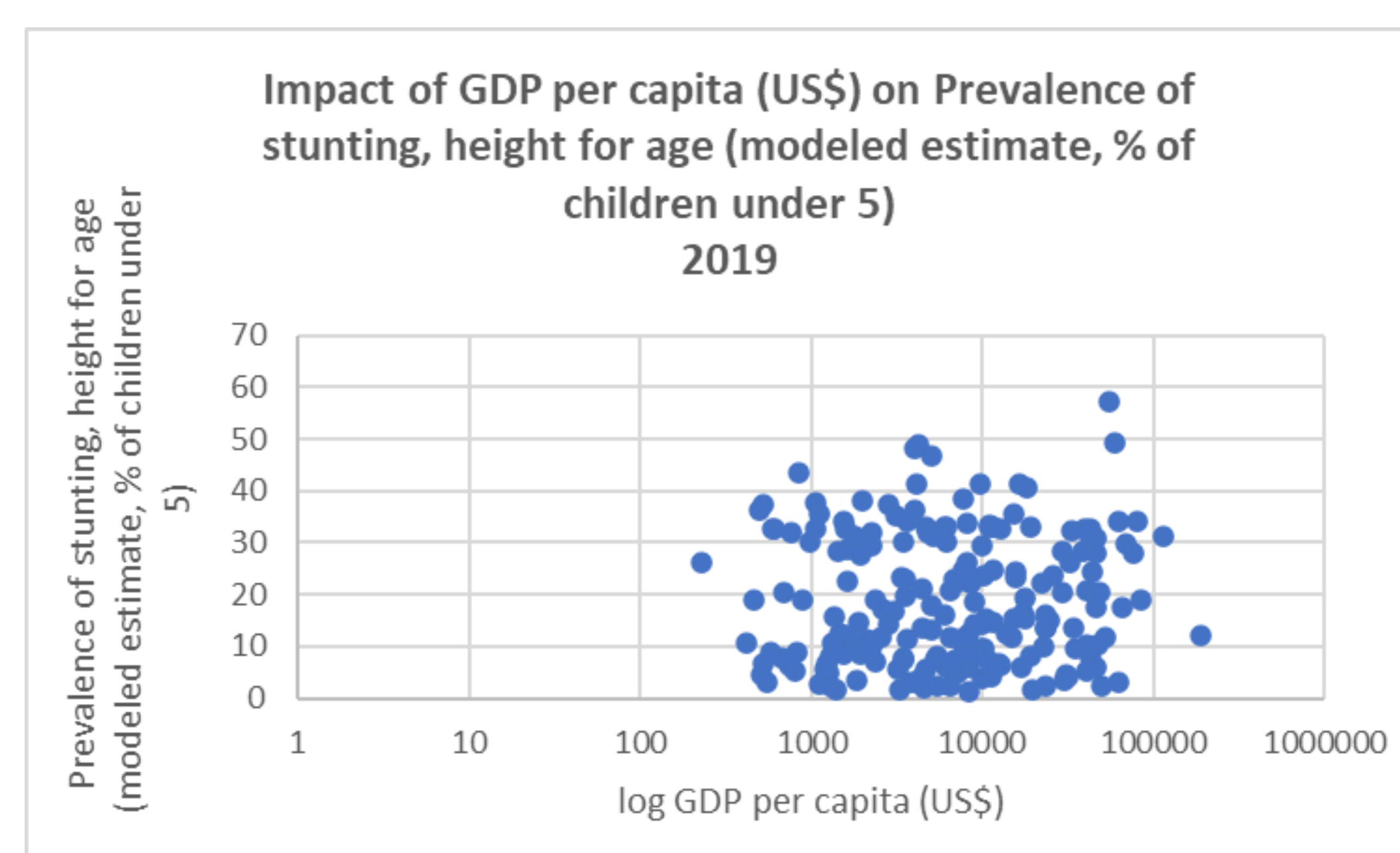
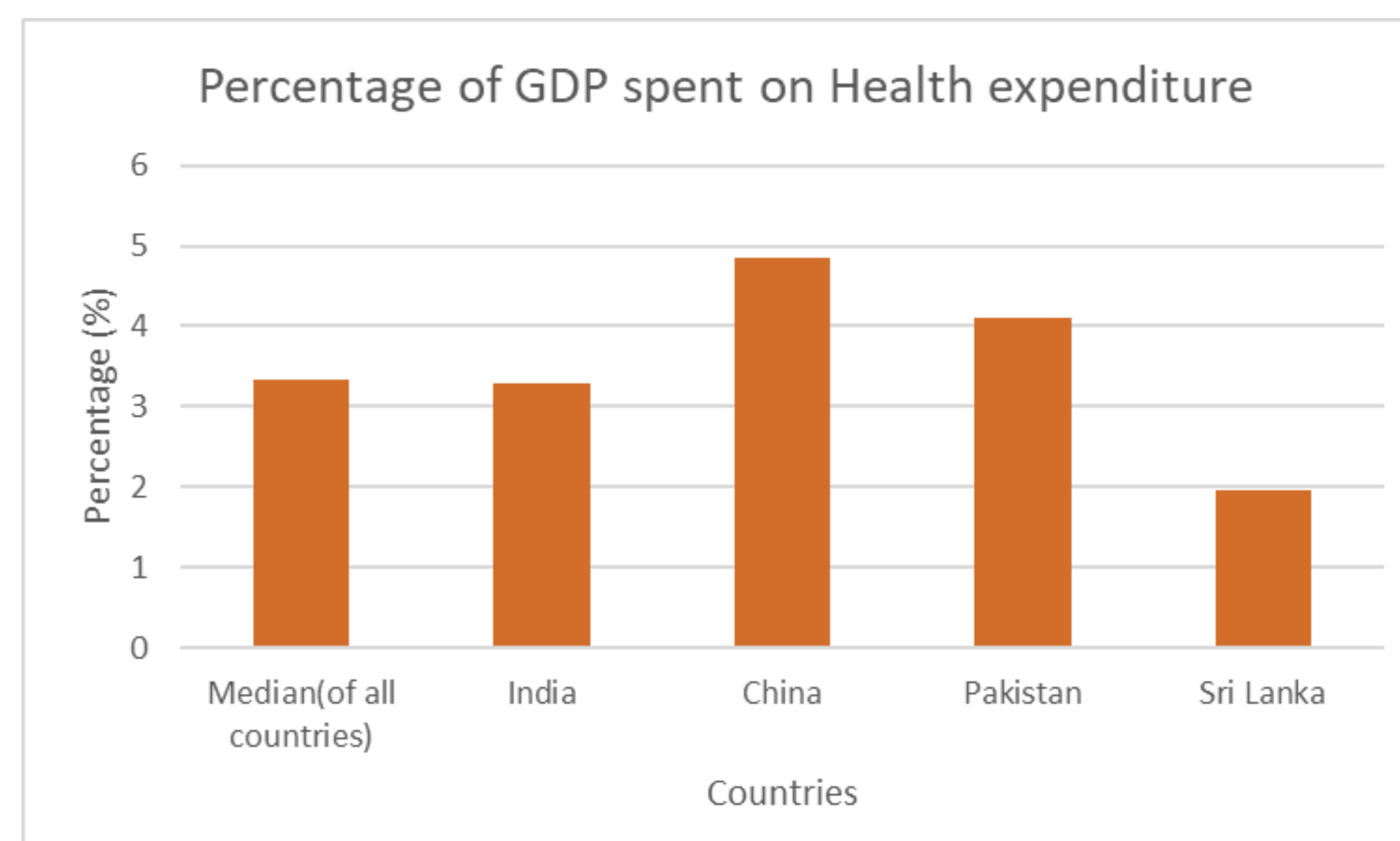
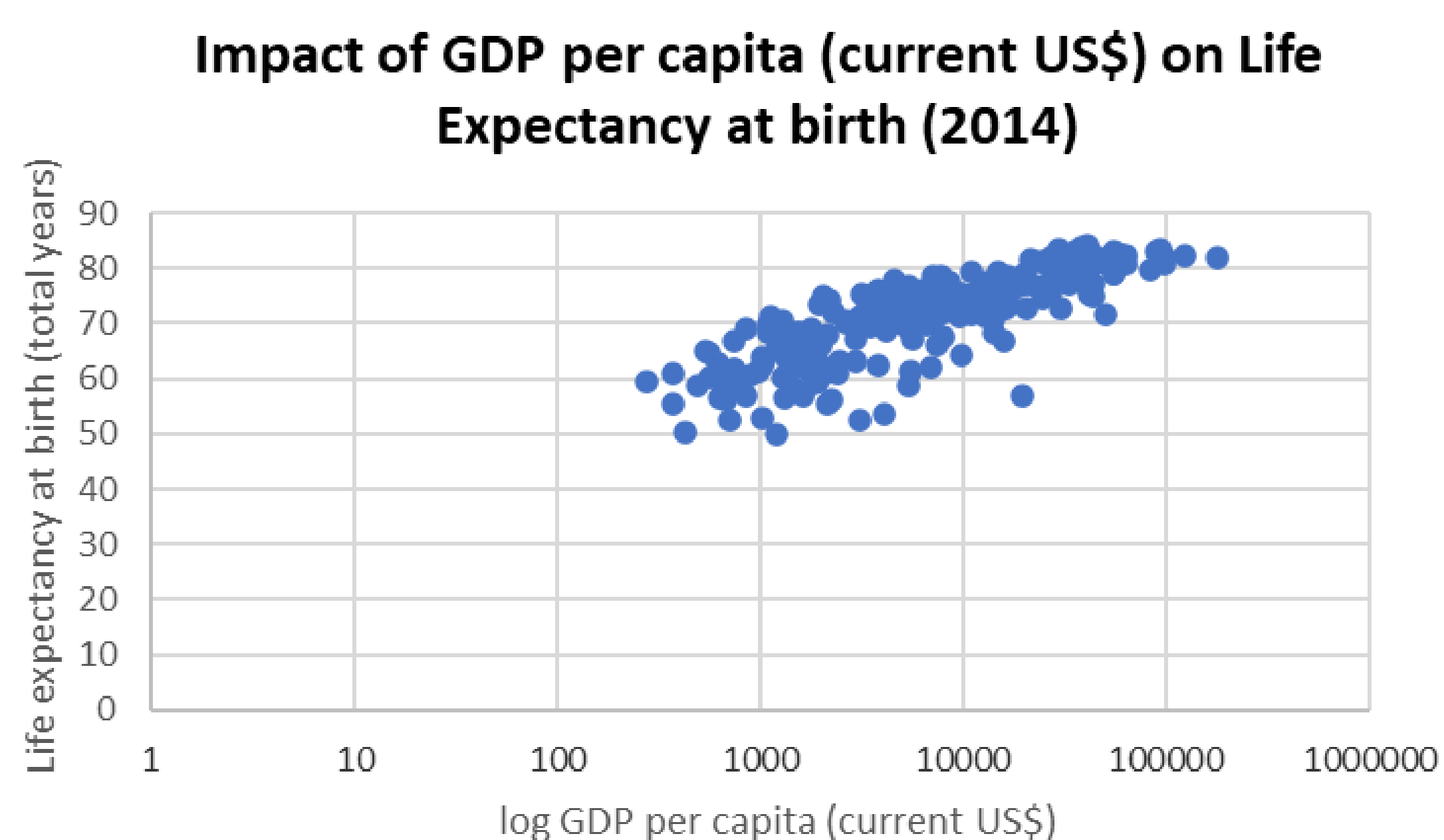
Objective

- Comprehend the relationship between GDP per capita and population health of a country.
- Decipher whether the results obtained through this study support our initial hypothesis of an overall positive correlation existing between the two.

Introduction

A great deal of research has been performed to test whether increase in wealth would lead to greater happiness. Among the many researches are hypotheses that show varying levels of positive correlation between quality of life and GDP per capita. To test whether these hypotheses hold true we use four different indicators pertaining to Health namely: Life Expectancy, Infant Mortality, Stunting Rate, and Health Expenditure. GDP per capita remains our measure of economic growth. For our analysis we have mainly focused on four countries; India, China, Pakistan, and Sri Lanka. Our initial hypothesis is that as national income increases the population health of that country also improves.

Results



Key Findings

- Developing countries spend more on Health as compared to developed ones, where Sri Lanka is an exception.
- The correlation value of 0.60 to determine the relationship between GDP per capita (current US\$) and Life expectancy at birth portrays that GDP of a country does have a significant impact on Life expectancy. However, there may be other factors that effect the life expectancy at birth for a country.
- It is observed that the correlation value of 0.08 to determine a relationship between GDP per capita (current US\$) and prevalence of stunting depicts that GDP of a country does not have a significant impact on the the stunting growth.
- The regression analysis confirms a positive impact of GDP per capita (current US\$) on Life expectancy at birth and a negative impact of infant mortality rate on life expectancy. However, Health expenditure and prevalence of stunting do not seem to have an effect on the life expectancy.

Conclusion

To conclude as the regression analysis portrays that an increase in GDP per capita (current US\$) will eventually lead to better quality life. However, our initial hypothesis is refuted at the same time as seen from the results.

Methodology

- Two scatter plots demonstrate the effect of GDP on Life expectancy and prevalence of Stunting for the years 2014 and 2019 respectively for 198 countries.
- Line chart is used to demonstrate general trend in infant mortality for countries Pakistan, India, China, and Sri Lanka over the span of 60 years.
- The bar graph represents the percentage of GDP spent on Health expenditure for the countries India, Pakistan, China, and Sri Lanka.
- A regression analysis is also conducted to explore the relationship between life expectancy as a representation of population health and GDP per capita (US\$) along with other indicators that may affect the population health.

Regression Analysis:

$$Y = -0.08 x_1 + 7.89E-05 x_2 + 2.49E-05 x_3 - 1.90E-04 x_4 + 73.5$$

References:

data.worldbank.org