



Effects of Terrorism on Human and Economic Development Indicators

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Agenda

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 - Human Development Index
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- Conclusions

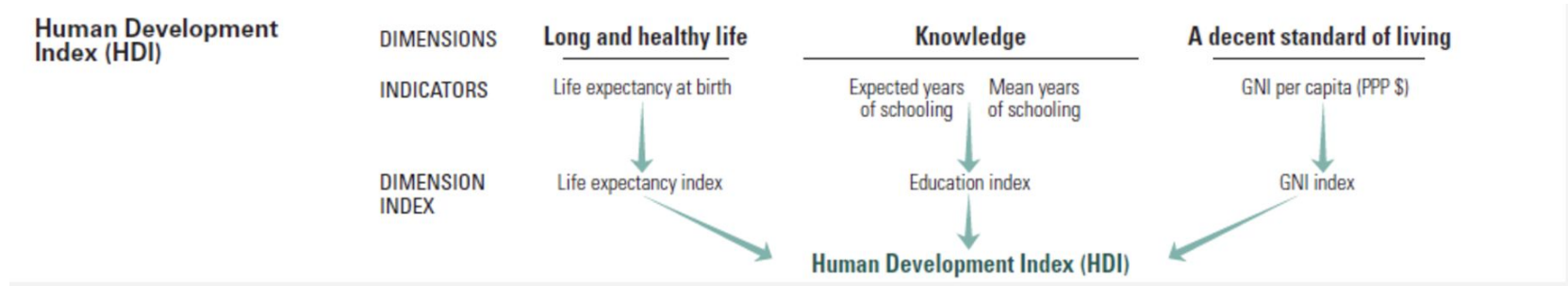
Problem Statement

Investigate the effects of terrorism and terrorist attacks on human and economic development in the countries most impacted by terrorism as identified by the Global Terrorism Index (GTI).

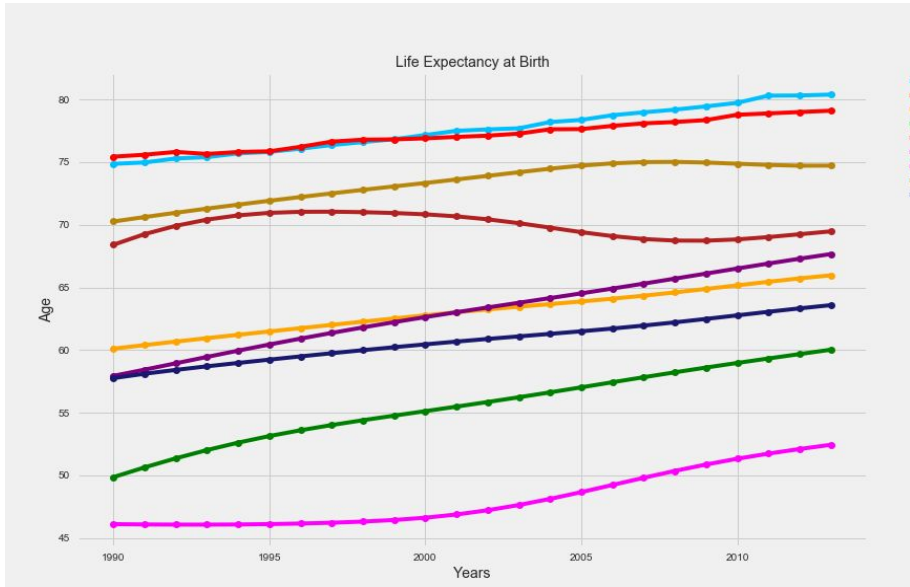
Global Terrorism Index

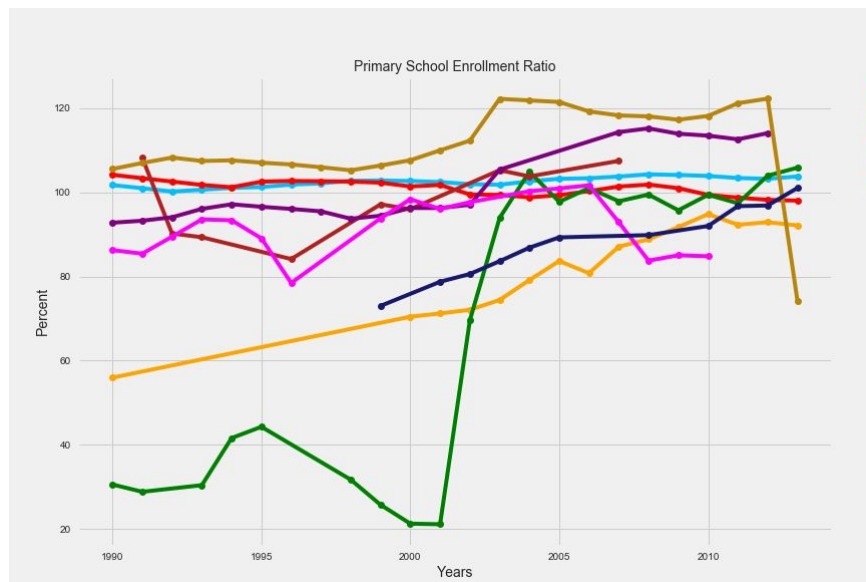
- Annual report produced by the Institute for Economics and Peace
- Based on data from the Global Terrorism Database which is collected and collated by the National Consortium for the Study of Terrorism and Responses to Terrorism (START)
- Identifies trends and patterns in terrorism beginning in 2000.
- Scores each country on a scale of 0 to 10
 - 0: no impact
 - 10: highest measurable impact
- The countries with the highest impact (score > 8.0) as reported in 2016 report (for 2015):
 - Iraq - 9.96
 - Afghanistan - 9.444
 - Nigeria - 9.314
 - Pakistan - 8.613
 - Syria - 8.587
 - Yemen - 8.076

Human Development Index

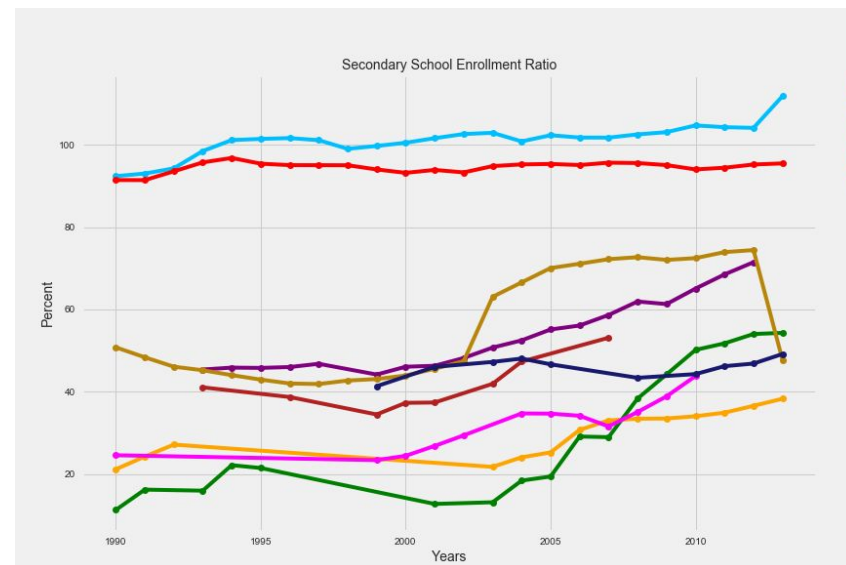


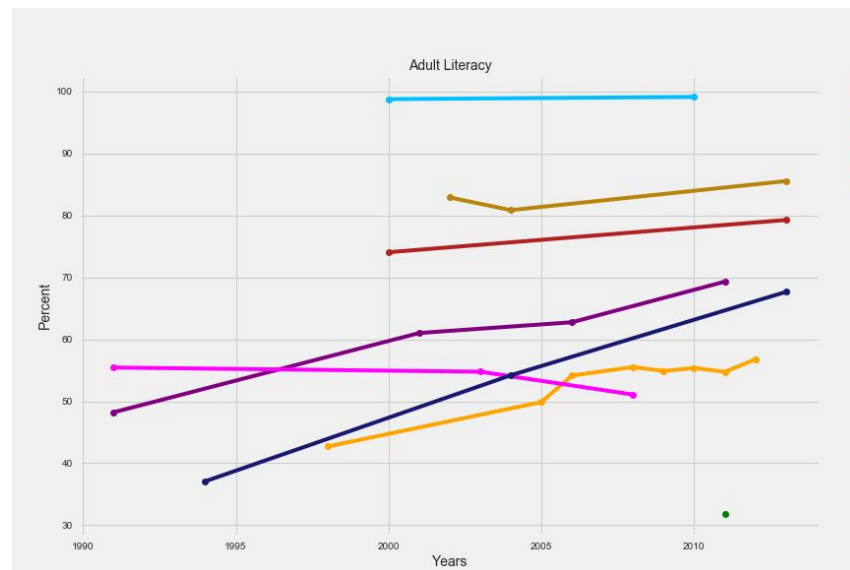
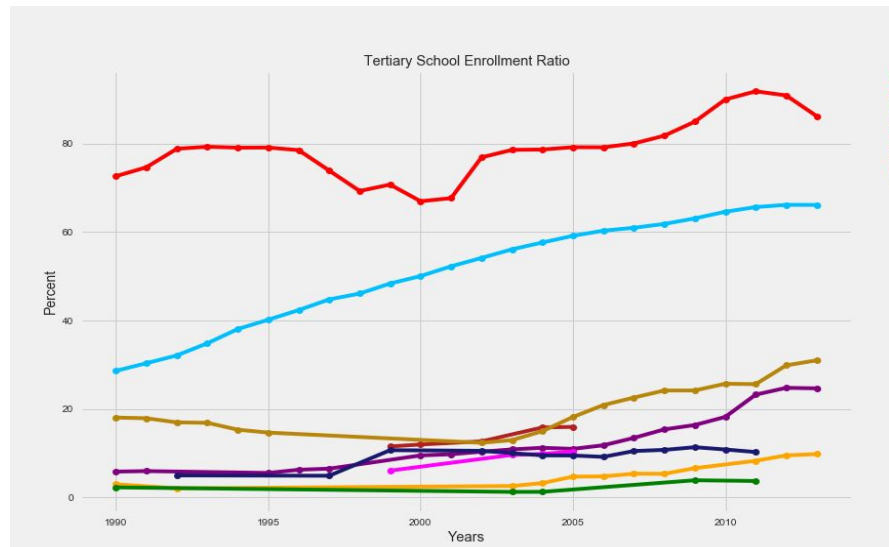
The graph displays the percentage of the population in various income brackets over time. The red line, representing the highest income bracket, shows a steady increase from approximately 23,000% in 1990 to over 50,000% in 2015. The blue line, representing the second-highest bracket, also shows a consistent upward trend, starting around 15,000% and reaching nearly 37,000% by 2015. The brown line, representing the third-highest bracket, starts at about 7,000%, drops to 2,000% in 1991, and then fluctuates between 2,000% and 16,000% until 2015. The green line, representing the fourth-highest bracket, remains relatively stable around 2,000% until 2000, then rises to about 5,000% by 2015. The purple line, representing the fifth-highest bracket, starts at about 1,000% and rises to about 4,000% by 2015. The black line, representing the sixth-highest bracket, starts at about 1,000% and rises to about 3,000% by 2015. The light blue line, representing the seventh-highest bracket, starts at about 1,000% and rises to about 2,000% by 2015. The dark blue line, representing the eighth-highest bracket, starts at about 1,000% and rises to about 1,000% by 2015. The light green line, representing the ninth-highest bracket, starts at about 1,000% and rises to about 1,000% by 2015. The dark green line, representing the tenth-highest bracket, starts at about 1,000% and rises to about 1,000% by 2015.



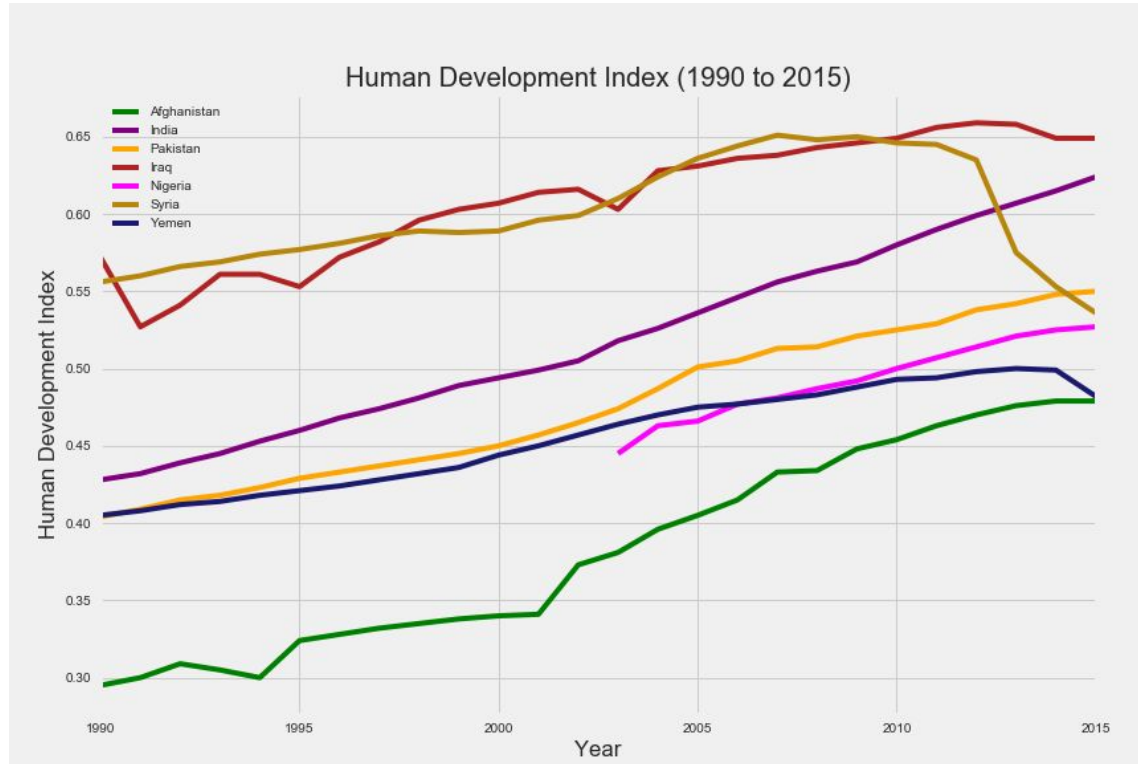


Primary and Secondary School Enrollment Ratio





Human Development Index



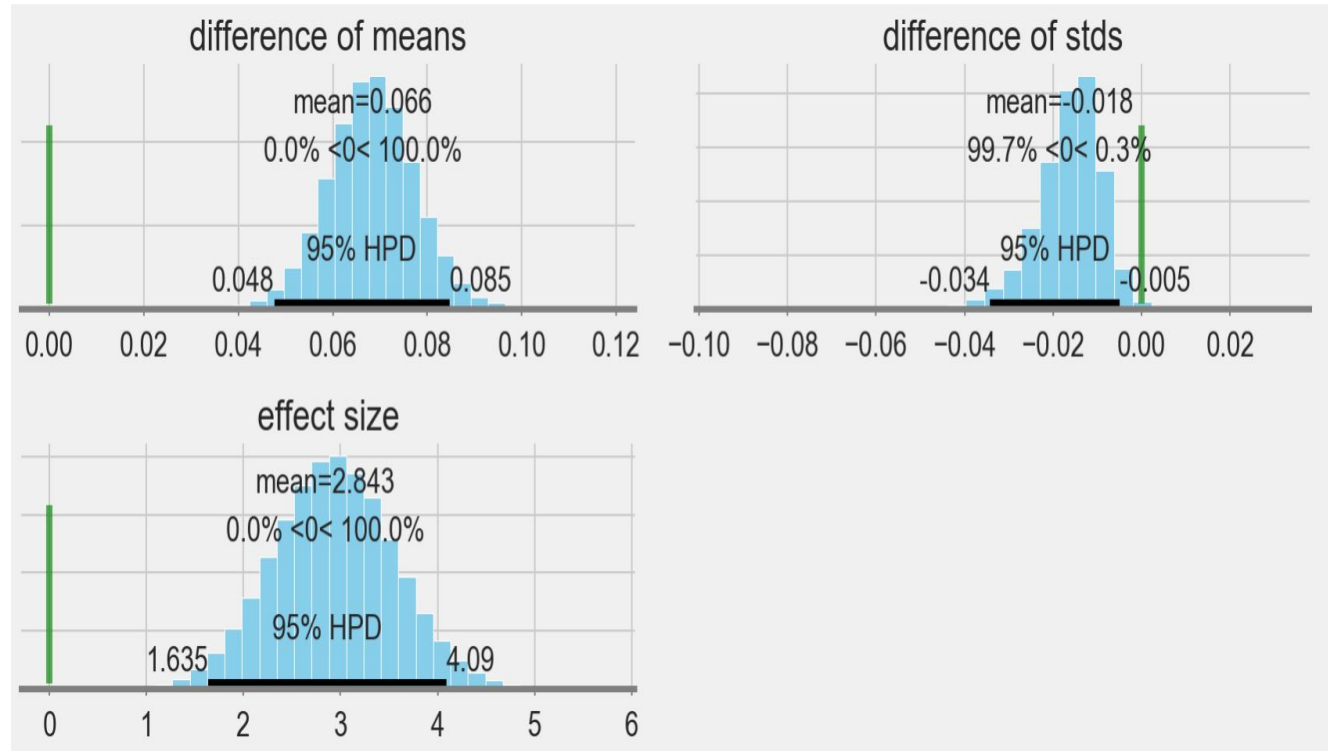
Hypothesis

Have the US and global peacekeeping and rebuilding efforts helped to improve the wellbeing of Iraq's and Afghanistan's populations as observed in the shift in the Human Development Index in the years after the start of their respective conflicts?

Metrics for Bayesian Inference on the HDI for Iraq pre- and post-2003

The effect size is interpreted as the following:

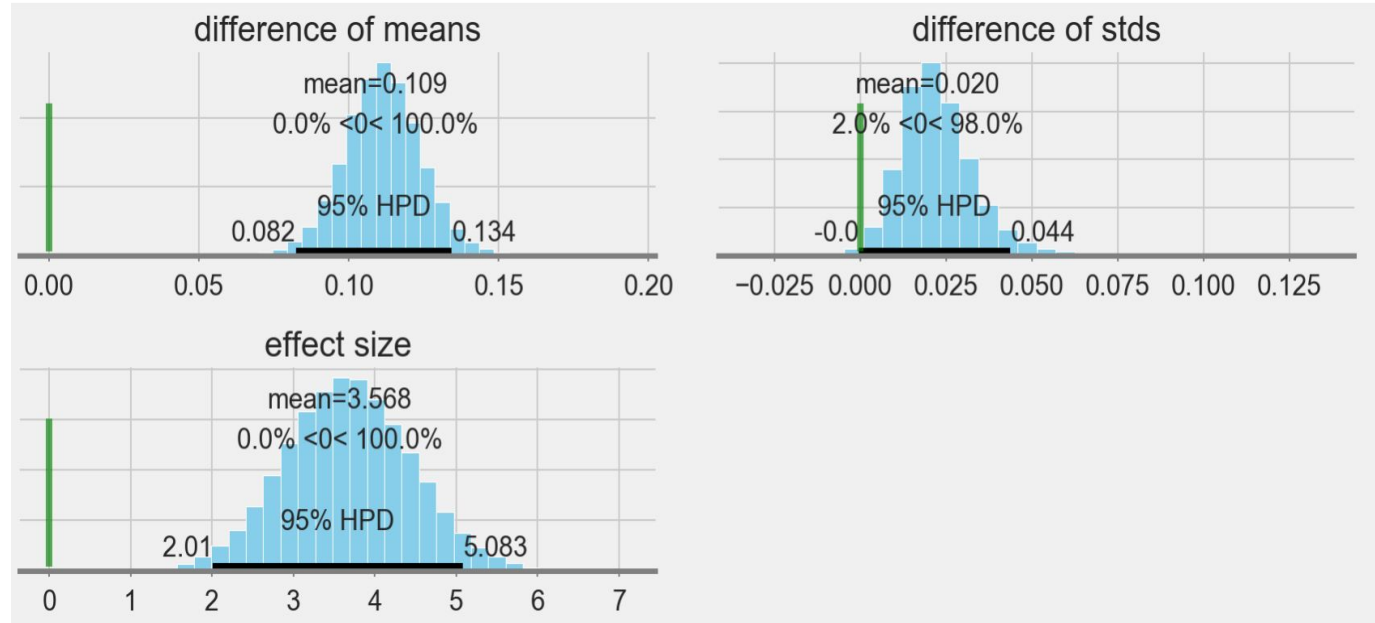
The mean of Iraq's HDI after the start of the conflict in 2003 is 2.843 standard deviations higher than the mean of the HDI prior to the start of the conflict.



Metrics for Bayesian Inference on the HDI for Afghanistan pre- and post-2001

The effect size is interpreted as the following:

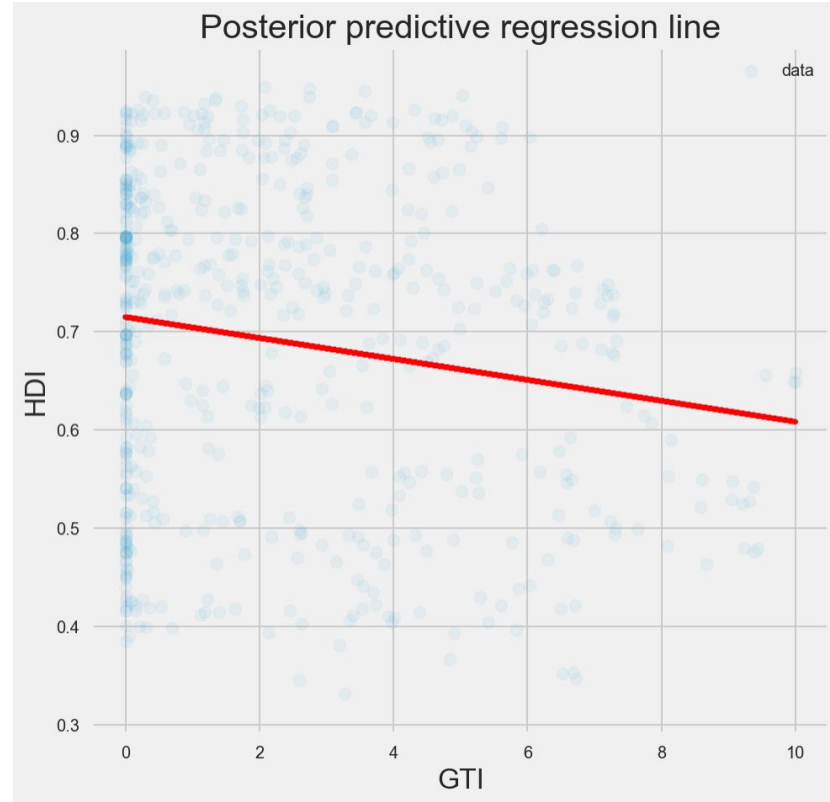
The mean of Afghanistan's HDI after the start of the conflict in 2001 is 3.568 standard deviations higher than the mean of the HDI prior to the start of the conflict.



Bayesian Regression Model

The credible interval for the intercept, the coefficient and standard deviation tell us that there is a 95% probability that:

- Intercept: [0.697, 0.732]
- Coefficient: [0.016, -0.005]
- Std Dev: [0.152, 0.171]



Conclusions

- The models indicate that there are statistically significant differences between the HDI before and after the start of the most recent conflicts in Iraq and Afghanistan.
- This might suggest that global and US efforts to rebuild infrastructure has had a positive impact, if even modest, on the well-being of the population in each of these countries devastated by war.
- The Bayesian Regression model indicates a negative correlation between GTI and HDI, as would be expected. The higher the GTI ranking, the greater the impact as a result of terrorism and therefore a negative impact on the well-being of the country's population as measured by life expectancy, education, literacy and the average income of a country's citizens.