

# Overall Growth index

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**Summary:** The paper tests an overall index which includes majority all the aspects of growth referred to as “pillars in an economy” these include (1) Healthcare (2) Education (3) Social factors and (4) Economic factors. The paper considered 13 indicators in the specified pillars and then used them to create metric for countries to judge by providing a score on the basis of data provided in the indicator which works as grading system. The paper then analyses and calculates score for India and USA and discuss their sub- sector score and overall score.

## Introduction

The study of social inequalities from a cross- national perspective has been hampered by the lack of common indices and economic growth reports. This paper examines the problems with existing drafts try to construct a more accessible and reliable global social index in general. The paper proposes a new strategy for making comparisons of the social factors globally while specially looking into countries like India and United States of America (USA) and formulated a draft for the index which focuses more on the Social, educational, and healthcare. However, the paper has considered 4 pillars in an economy which should be used to create a value judgement. These pillars are: (1) Healthcare (2) Education status (3) Social Factors and (4) Economic factors. The data majorly comes from World bank and government surveys however for in-depth cross-cultural studies the strategy for constructing an index should be country specific. The methodological developments presented in

the paper open opportunities to study socio-economic patterning of health among citizens for the developed countries.

Social science researchers generally use multiple indicators to measure an underlying assumed quantitative construct, such as socio-economic status or family affluence. The responses to those indicators are subsequently combined to properly define a composite construct by combining observable variables in a global index. This increases measurement reliability by averaging out the random errors of measurement in the single indicators, improves precision and discrimination as the composite index global range is larger.

Social factors are things that affect someones lifestyle these include wealth, religion, consumption patterns, educational level, family size and population density. To cover the modern social factors the paper has included factors like change in mobile cellular subscription, labour force participation rate in female and change in greenhouse gas emissions. Change in mobile cellular subscription shows the change in number of citizens who are connected through mobile cellular subscriptions. The paper then included labour force participation rate in females to check the number of females working in the economy along with this it even helps to factor discrimination in the workplace. At last, the paper includes change in total greenhouse gas emissions the reason the paper includes the indicator because of the increasing global awareness of a sustainable future moreover to get an estimate whether the countries really working on towards a sustainable future.

Education in every sense is one of the fundamental factors of development. No country can achieve sustainable economic development without substantial investment in human capital. Education enriches people's understanding of themselves and world. It improves the quality of their lives and leads to broad social benefits to individuals and society. Education raises people's productivity and creativity and promotes entrepreneurship and technological advances. In addition, it plays a very crucial role in securing economic and social progress and improving income distribution.

Thus, educations seem to play an important role in the development of any economy in terms of economic development, productivity, income, and international relations. Hence the paper has considered three major factors which includes change in the number of students enrolled divided by the population this would help us to find the number of new registrations in context to an increase in population. Then we will consider the dropout rate as this metric tells us the number of students who leave their school in a particular country during a fixed time frame. At last, we will consider the number of school enrolment however it will only consist of primary and secondary

stage of education along with this the paper will link it to the gender parity index, this will help us to find the aspect of gender discrimination in the educational system.

Being healthy, meaning a complete state of physical, mental, and social well-being including the absence of illnesses, is one of the goals most valued by human beings. Good health plays a substantial role in economic growth. A long-term study for England carried out by Robert Fogel, a Nobel Prize winner in Economics. Healthy citizens and economics link closely as a healthy population reduces production losses due to worker illness, it increases the productivity of adult because of better nutrition, and it lowers absenteeism rates and improves learning among school children. Health also allows for the use of natural resources that used to be totally or partially inaccessible due to illnesses. Finally, it permits the different use of financial resources that might normally be destined for the treatment of ill health.

After evaluating the importance of healthcare, it became an inevitable aspect to include. Therefore, the paper has considered three major factors in healthcare which are first Doctors per 1000 population, this factor will include the number of doctors for every 1000 citizens in the country. Second, we will analyse the change in life expectancy the indicator considers the change in average life expectancy of a human. Third, we will analyse the change in mortality caused by road traffic injury per 100,000 population the reason to include this was to check for emergency life services in the country and finally the paper analyses the change in current health expenditure as this factor not just considers how expensive the country is for medical treatment but also considers the burden on the citizens and gives a monetary value to compare with the health care services quality.

An economic indicator is a piece of economic data, usually of macroeconomic scale, that is used by analysts to interpret current or future investment possibilities. These indicators also help to judge the overall health of an economy.

Hence the use of economic indicators seemed to play an important part in the economy as those are used for interpreting current or future investment possibilities, therefore, the paper tries to take into account income inequality and human resource productivity. For these the paper analyses (1) income share held by the top 10% (2) income share held by the second 20% and (3) Logistics performance index. The paper would try to compare (1) and (2) to get an idea of the income disparity in the country and use logistic performance index to get an estimate on the productivity of the factors of production.

With the aim of changing and/or innovating the ways we look and compare countries this paper tries to look at countries from a new perspective which is mainly created by health care, the level of education, and social factors but also included economic factors. Therefore, the paper suggests the use of overall growth index to compare countries and their growth as an alternative to Human Development Index (HDI), Gross domestic product per capita (GDP per capita) or Gross national product (GNI).

## Litreature Review

An economic indicator is a metric used to assess, measure, and evaluate the overall state of health of the macroeconomy. Economic indicators are often collected by a government agency or private business intelligence organization in the form of a census or survey, which is then analysed further to generate an economic indicator.

Economic indicators are statistical data showing general trends in the economy. Those with predictive value are leading indicators; those occurring at the same time as the related economic activity are coincident indicators; and those that only become apparent after the activity are lagging indicators.

Leading economic indicators are those that change before the economy has changed. Examples of leading indicators include production workweek, building permits, unemployment insurance claims, money supply, inventory changes, GDP, Consumer Price Index (CPI) and stock prices. The Fed watches many of these indicators as it decides what to do about interest rates. There are also coincident indicators, which change about the same time as the overall economy, and lagging indicators, which change after the overall economy, but these are of minimal use as predictive tools.

The primary indicators which we use today are The Gross Domestic Product (GDP) is widely accepted as the primary indicator of macroeconomic performance. The GDP, as an absolute value, shows the overall size of an economy, while changes in the GDP, often measured as real growth in GDP, show the overall health of the economy. So far, the only country to not use GDP as an economic measure is the Kingdom of Bhutan, which uses the Gross National Happiness index as an alternative.

Social Indicators in the 1960s. The term "social indicators" was given its initial meaning in an attempt by the American Academy of Arts and Sciences for the National Aeronautics and Space Administration in the early 1960s to detect and anticipate the nature and magnitude of the second-order consequences of the space program for American society. Frustrated by the lack of sufficient

data to detect such effects and the absence of a systematic conceptual framework and methodology for analysis, some in the project attempted to develop a system of social indicators—statistics, statistical series, and other forms of evidence—with which to detect and anticipate social change and to evaluate specific programs and determine their impact. The results of this part of the project were published in a volume called *Social Indicators*. Social indicators are statistical time series that are "used to monitor the social system, helping to identify changes and to guide intervention to alter the course of social change". Examples are unemployment rates, crime rates, estimates of life expectancy, health status indices etc.

Prior to the nineteenth century, systematic investment in human capital was not considered especially important in any country. Expenditures on schooling, on-the-job training, and other similar forms of investment were quite small. This began to change radically during this century with the application of science to the development of new goods and more efficient methods of production, first in Great Britain, and then gradually in other countries. During the twentieth century, education, skills, and the acquisition of knowledge have become crucial determinants of a person's and a nation's productivity. The role of education in economic development and the effect of education on labour productivity, poverty, trade, technology, health, income distribution and family structure. Education provides a foundation for development, the groundwork on which much of our economic and social wellbeing is built. It is the key to increasing economic efficiency and social consistency. By increasing the value and efficiency of their labour, it helps to raise the poor from poverty. It increases the overall productivity and intellectual flexibility of the labour force. It helps to ensure that a country is competitive in world markets now characterized by changing technologies and production methods. By increasing a child's integration with dissimilar social or ethnic groups early in life, education contributes significantly to nation building and interpersonal tolerance.

In sum, health affects economic growth directly through labour productivity and the economic burden of illnesses, for example. Health also indirectly impacts economic growth since aspects such as child health affect the future income of people through the impact health has on education. This indirect impact is easier to understand if it is observed on a family level. When a family is healthy, both the mother and the father can hold a job, earn money which allows them to feed, protect and send their children to school. Healthy and well-nourished children will perform better in school and a better performance in school will positively impact their future income. If parents ensure that their children have a high probability of reaching adulthood, in general they will have fewer children and they will be able to invest more in health and education for each of them. Additionally, the loss of health affects the poor to a greater extent since the main, and at times, only asset they have is their body. When they become ill, they have fewer alternative solutions and suffer

greater consequences. The results of historical studies suggest a very strong relationship between health and economic growth. Robert W. Fogel finds that between one third and one half of England's economic growth in the past 200 years is due to improvements in the population's food consumption.

The indicators within the Economy section allow us to analyse various aspects of both national and global economic activity. As countries produce goods and services, and consume these domestically or trade internationally, economic indicators measure levels and changes in the size and structure of different economies and identify growth and contractions. Economic indicators include measures of macroeconomic performance (gross domestic product [GDP], consumption, investment, and international trade) and stability (central government budgets, prices, the money supply, and the balance of payments). It also includes broader measures of income and savings adjusted for pollution, depreciation, and depletion of resources. Many economic indicators from WDI are used in tracking progress toward SDG Goal 8, promoting decent work and economic growth, and Goal 2, which encourages sustainable consumption and production.

While the studies referred to have generated conceptually valid approaches, the availability of data strongly determines their applicability and hence their usefulness for practical use. This calls for broadly accepted definitions for concrete quantitative indicators, allowing to assess the total (co-)benefits and their components, to monitor trends over time as well as to make comparisons across countries, with the ultimate objective of contributing to the ways we compare countries.

## Data

### 1. Health and economic growth

In order to understand the relation between health and economic growth it's important to understand what health refers too. So, health is not only the absence of illness or being in the perfect mindset but also refers to deliver to ones' potential during their entire life. With recent studies by livermint and many other publications health can be a causative factor for the aggregate economic growth of a country. Thus, the paper tries to consider all the aspects of healthcare from emergency services to the number of doctors in general.

#### a. Doctors per 1,000

It refers to the number of medical staff which refers to physicians, nurses, and midwives per 1,000 people as per World health organization an estimate of at least 2.5 medical staff is adequate coverage with primary care intervention.

#### b. Life expectancy

Life expectancy refers to the statistical age that a person is expected to live until. It considers several individual levels as well as population level factors to arrive at a figure it is used in pricing and underwriting life insurance products.

#### c. Mortality caused by road traffic injury (per 100,000 population)

As per World Health Organization (WHO) road traffic crashes cost most countries 3% of their Gross Domestic Product (GDP). Thus, after an impact like this on the GDP and economic growth including the indicator seem important in analysing an indicator for social factors. In general, the indicator analyses the number of deaths per 100,000 population due to road traffic accidents.

#### d. Current Health Expenditure

Current Health Expenditure (CHE) describes the share of spending on health in each country relative to the size of its economy. It includes expenditures corresponding to the final consumption of health care goods and services and excludes investment, exports, and intermediate consumption.

## **2. Education and economic growth**

No country has achieved constant economic development without considerable investment in human capital. Previous studies have shown handsome returns to various forms of human capital accumulation: basic education, research, training, learning-by-doing and aptitude building. Thus, the paper tries to consider all the aspects of education from change in number of students enrolled in respect to the population to the dropout rate in general.

#### a. Change in the number of Students enrolled in schools in respect to population

This factor includes the change in number of students enrolled in schools in respect to population of the country in consideration. This will help us to judge the rise in the education level in terms of younger population and the total population.

#### b. Dropout rate

In North Carolina, a dropout is defined as "any student who leaves school for any reason before graduation or completion of a program of studies without transferring to another elementary or secondary school." The reason paper even analyses this indicator is to provide a contrast to the above indicator which is Change in the number of students enrolled.

- c. School enrolment, primary and secondary (gross) in reference to gender parity index (GPI)

The only reason to include this indicator is to consider the factor of discrimination as the paper will try to connect the school enrolment results with female participation rate to give a better understanding of the gender gap in education.

### **3. Social factors and economic growth**

Social and economic factors, such as income, education, employment, community safety, and social supports can significantly affect how well and how long we live. These factors affect our ability to make healthy choices, afford medical care and housing, manage stress, and more.

- a. Mobile Cellular subscriptions

A mobile cellular subscription refers to the subscription to a public mobile cellular service which provides access to the Public Switched Telephone Network (PSTN) using cellular technology. It includes post-paid and prepaid subscriptions and includes analogue and digital cellular systems.

- b. Labour force participation in female

The labour force participation rates are calculated as the labour force divided by the total working-age population. The working age population refers to people aged 15 to 64. This indicator is broken down by age group and it is measured as a percentage of each age group.

- c. Change in total greenhouse gases (% change since 1990)

Greenhouse gases are gases in Earth's atmosphere that trap heat. They let sunlight pass through the atmosphere, but they prevent the heat that the sunlight brings from leaving the atmosphere. Thus, raising the temperature. The paper includes the indicator because of the increasing global awareness of a sustainable future moreover to get an estimate whether the countries really working on towards a sustainable future.

### **4. Economic factors**

Economic growth is influenced by direct factors like for example human resources, natural resources, the increase in capital employed or technological advancements. Economic growth is also influenced by indirect factors such as institutions (financial institutions, private administrations etc.), the size of the aggregate demand, saving rates and investment rates, the efficiency of the financial system, budgetary and fiscal policies, migration of labour and capital and the efficiency of the government.

Thus, there are four major determinants of economic growth: human resources, natural resources, capital formation and technology.

a. Income share held by the top 10%

It refers to the percentage of share of income held by the top 10% of the population. Considering the fact that in 2018, 30.8% of the wealth in United States was held by the top 10% making it a concerning factor. Thus, statistics like this makes this indicator important.

b. Income share held by the second 20%

The main purpose to include this indicator along with the above indicator, which is income share held by the top 10%, is to compare the values to take income inequality in consideration as in case of United States the second 20% only hold 10.8% of the wealth compared to 30.8% for the income share held by the top 10%.

c. Logistics performance index: Overall

The Logistics Performance Index is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance. This indicator just not calculates a value, spots a problem but also provides suggestions to improve their performance. Thus, the indicator worked as an overall index to judge countries on their human and capital performance.

### Methodology

The paper will take into account all the indicators discussed above, in the data section, and try at its best capabilities to provide with a generalized score out of 36: a score of 10 for healthcare, education, and social factors and a score of 6 for economic factors. The paper will consider the latest results for all of these calculations; however, the time frame might not be fixed for each and every indicator due to the lack of availability of data.

In healthcare, the paper will provide a rating of 10 for each and every indicator which sums up to 40 and then change that sum to a score of 10 to include in the final index. Similarly, for social factors and education all the indicators will have a score out of 10 which sums out to 30 per factor which then will be transferred to a score out of 10 to include in the final index. In the case of economic factors, the paper will assign a score out of 10 for each factor however this will then change to a total of 6 and then will be included in the index.

The formula mentioned in appendix 1 can be used to determine a country's score with respect to other countries, in terms of all the given parameters and conditions such as dropout rate, life expectancy by birth, current health expenditure, etc. To use this formula, we first input the country A's individual score, and divide it by the Average value of the other countries' score combined. This will give us a ratio of the country A's position in comparison to the world average score. To further simplify this value, and make it more comprehensive and uniform, we can estimate the score in terms of a value out of 10. However, for all the negative factors which include mortality caused by road injuries, drop out rate and change in greenhouse gas emissions (% change from 1990) we will first subtract the world average from the actual value then divide it by the world average (the formula is provided in appendix 1). A negative value shows there is a positive effect in the country and a positive value shows there is a negative effect in the country.

## India

While calculating index value we noticed an anomaly that India has approximately 3 times the average mobile subscription rate with total subscription standing at 1151480361 compared to 392263424, which is the world average. As well as India has approximately half the expenditure cost than the world an average country spends around 6.52% of their GDP in current health expenditure whereas India only spends 3.54% of their GDP on health care. Moreover, due to the rapid economic growth there has been a negative figure for change in greenhouse gas emissions since 1990s. The rest of the figures were almost similar to the world average. Therefore, individually India has a great score in each parameter. The total score sums to be 27.30 out of 36. For referring to more in dept calculations refer to appendix 2.

## United States of America (USA)

USA has achieved an index value of 41.57 which is exceptionally good considering the index was calculating a value of 36 only and it has surpassed the level of 36 which shows a great position on the global index. In particular USA has shown great results towards green house emissions with an index score of 9.58 out of 10. In healthcare, USA does have more doctors than the benchmark of 1 even though the current expenditure is considerably expensive than the average the index value stands at 25.83 which approximately shows at the government spends 2.5 times more than the average spend by other countries. (The value is terms of its GDP value). You could check out the rest of the results in table given in appendix 2.

## Conclusion

The index works as intended and achieves its goal to build a working index which is more accessible and reliable in terms of comparing countries and the index effectively calculates a value for each and every pillar on which a country is based on. The 4 pillars which are discussed in the paper are (1) social factors (2) economic factors (3) education (4) health care.

The paper considered 13 indicators in the specified pillars and then used them to create metric for countries to judge by providing a score on the basis of data provided in the indicator which works as grading system. Even though we have covered various aspects this research and the index could be improvised on the basis of including more factors in each of the study area to consider more aspects.

### Appendix 1

Formula 1:

$$\frac{\textit{Country Score}}{\textit{Average value}} \times 10$$

Formula 2 (indicators which portray a negative feature):

$$\frac{\text{World average} - \text{Country Score}}{\text{Average value}} \times 10$$

## Appendix 2

### Data for India

		bench mark value	Average	Country Value	Score
Health care	Doctors per 1000	1	-	0.857	8.57
	life expectancy by birth	-	72.62	69.656	9.59
	Mortality caused by road injury	-	17.23	16	0.71
	Current health expenditure	-	6.54	3.54	5.41
	Total score (out of 40)				24.29
Total Score (out of 10)				6.07	
Education	Change in the number of Students enrolled in schools	-	103.56	96.83	9.35
	dropout rate	-	35.3	17	5.18
	School enrolment, primary and secondary in females	-	102.92	98	9.52
	Total score(out of 30)	-			24.06
total score (out of 10)				8.02	
social factors	Mobile cellular subscriptions	-	392263424	1151480361	29.35
	Labour force participation rate in female	-	41.05	20.32	4.95
	Change in Total greenhouse gas emissions	-	80.10	116.44	-10.13
	total score( out of 30)				24.17
total score( out of 10)				8.06	
economic factors	income share held by the top 10%	-	28.2	30	9.4
	Income share held by the second 20%	-	12	12	10
	Logistics performance index: Overall	5	-	3.18	6.36
	total score( out of 30)				25.76
total score(out of 6)				5.15	
total country score				27.30	

### Data for United States of America

		bench mark value	Average	Country Value	Score
Health care	Doctors per 1000	1	-	2.6	26
	life expectancy by birth	-	72.62	79	10.88
	Mortality caused by road injury	-	17.23	12.4	2.80
	Current health expenditure	-	6.54	16.89	25.83
	Total score (out of 40)				65.51
Total Score (out of 10)					16.38
Education	Change in the number of Students enrolled in schools	-	103.56	101.26	9.78
	dropout rate	-	35.3	25	2.92
	School enrolment, primary and secondary in females	-	102.915	101	9.81
	Total score(out of 30)	-			22.51
total score (out of 10)					7.50
social factors	Mobile cellular subscriptions	-	392263424	442,457,000	11.28
	Labour force participation rate in female	-	41.05	61.80	15.05
	Change in Total greenhouse gas emissions	-	80.10	3.33	9.58
total score( out of 10)					35.92
					11.97
economic factors	income share held by the top 10%	-	28.2	30.8	9.16
	Income share held by the second 20%	-	12	10.3	11.65
	Logistics performance index: Overall	5	-	3.89	7.78
total score(out of 6)					28.59
					5.72
total country score					41.57

## References

“.” Encyclopedia of Sociology. . Encyclopedia.com. 31 Jul. 2021 .” *Encyclopedia.com*, Encyclopedia.com, 3 Aug. 2021, [www.encyclopedia.com/social-sciences/encyclopedias-almanacs-transcripts-and-maps/social-indicators](http://www.encyclopedia.com/social-sciences/encyclopedias-almanacs-transcripts-and-maps/social-indicators).

“About.” *About | Logistics Performance Index*, lpi.worldbank.org/about.

Barone, Adam. “Economic Indicator.” *Investopedia*, Investopedia, 23 June 2021, [www.investopedia.com/terms/e/economic\\_indicator.asp](http://www.investopedia.com/terms/e/economic_indicator.asp).

Batista-Foguet, J. M., et al. “Socio-Economic Indexes in Surveys for Comparisons between Countries.” *Social Indicators Research*, vol. 67, no. 3, 2004, pp. 315–332. JSTOR,

*Central Intelligence Agency*, Central Intelligence Agency, [www.cia.gov/the-world-factbook/field/current-health-](http://www.cia.gov/the-world-factbook/field/current-health-)

[expenditure#:~:text=Current%20Health%20Expenditure%20\(CHE\)%20describes,%2C%20exports%2C%20and%20intermediate%20consumption.](#)

“Cultural, Political and Social Factors Influence the Meaning of Translations.” *Globalization Partners International*, 13 Jan. 2019,  
[www.globalizationpartners.com/2016/06/09/cultural-political-and-social-factors-influence-the-meaning-of-translations/#:~:text=Socially%20factors%20are%20things%20that,and%20structure%20and%20population%20density.](#)

“Current Health Expenditure (% of Gdp).” *Data*,  
[data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS?end=2018&most\\_recent\\_value\\_desc=true&start=2018.](#)

“Economic Forecasts.” *BrainMass*, [brainmass.com/economics/economic-growth/purpose-economic-indicators-15550.](#)

“Economic Indicators - Learn More about Gdp, Pmi and Cpi.” *Corporate Finance Institute*, 3 Feb. 2021,  
[corporatefinanceinstitute.com/resources/knowledge/economics/economic-indicators/.](#)

“Income Share Held by Second 20%.” *Data*,  
[data.worldbank.org/indicator/SI.DST.02ND.20?end=2018&most\\_recent\\_year\\_desc=true&start=2017.](#)

“Indicator Metadata Registry Details.” *World Health Organization*, World Health Organization, [www.who.int/data/gho/indicator-metadata-registry/imr-details/2974#:~:text=A%20mobile%20cellular%20subscription%20refers,analogue%20and%20digital%20cellular%20systems.](#)

Kagan, Julia. “Life Expectancy.” *Investopedia*, Investopedia, 22 July 2021,  
[www.investopedia.com/terms/l/lifeexpectancy.asp.](#)

“Labour Force Participation Rate.” *OECD ILibrary*, [www.oecd-ilibrary.org/employment/labour-force-participation-rate/indicator/english\\_8a801325-en#:~:text=The%20labour%20force%20participation%20rates,percentage%20of%20each%20age%20group](http://www.oecd-ilibrary.org/employment/labour-force-participation-rate/indicator/english_8a801325-en#:~:text=The%20labour%20force%20participation%20rates,percentage%20of%20each%20age%20group).

“Less than One Doctor for 1000 Population in India: Government to Lok Sabha.” *The Economic Times*, [m.economictimes.com/industry/healthcare/biotech/healthcare/less-than-one-doctor-for-1000-population-in-india-government-to-lok-sabha/articleshow/59697608.cms](http://m.economictimes.com/industry/healthcare/biotech/healthcare/less-than-one-doctor-for-1000-population-in-india-government-to-lok-sabha/articleshow/59697608.cms).

“Meet the Greenhouse Gases!” NASA, NASA, [climatekids.nasa.gov/greenhouse-cards/](http://climatekids.nasa.gov/greenhouse-cards/).

“Mortality Caused by Road Traffic Injury (per 100,000 Population).” *Data*, [data.worldbank.org/indicator/SH.STA.TRAF.P5?end=2018&most\\_recent\\_value\\_desc=true&start=2018](http://data.worldbank.org/indicator/SH.STA.TRAF.P5?end=2018&most_recent_value_desc=true&start=2018).

Published: Mar 27, 2020. “The U.S. Has Fewer Physicians and Hospital Beds per Capita THAN Italy and Other COUNTRIES Overwhelmed BY COVID-19.” *KFF*, 10 Apr. 2020, [www.kff.org/health-costs/press-release/the-u-s-has-fewer-physicians-and-hospital-beds-per-capita-than-italy-and-other-countries-overwhelmed-by-covid-19/](http://www.kff.org/health-costs/press-release/the-u-s-has-fewer-physicians-and-hospital-beds-per-capita-than-italy-and-other-countries-overwhelmed-by-covid-19/).

Reuter, Matthias, et al. “A Comprehensive Indicator Set for Measuring Multiple Benefits of Energy Efficiency.” *Energy Policy*, Elsevier, 24 Feb. 2020, [www.sciencedirect.com/science/article/pii/S0301421520300434](http://www.sciencedirect.com/science/article/pii/S0301421520300434).

“Road Safety Facts.” *Association for Safe International Road Travel*, 19 Apr. 2021, [www.asirt.org/safe-travel/road-safety-facts/](http://www.asirt.org/safe-travel/road-safety-facts/).

“Road Traffic Injuries.” *World Health Organization*, World Health Organization, [www.who.int/news-room/fact-sheets/detail/road-traffic-injuries#:~:text=Key%20facts,result%20of%20road%20traffic%20crashes.&text=Road%20traffic%20crashes%20cost%20most,of%20their%20gross%20domestic%20product.&text=Road%20traffic%20injuries%20are%20the,adults%20aged%205%2D29%20year](http://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries#:~:text=Key%20facts,result%20of%20road%20traffic%20crashes.&text=Road%20traffic%20crashes%20cost%20most,of%20their%20gross%20domestic%20product.&text=Road%20traffic%20injuries%20are%20the,adults%20aged%205%2D29%20year)  
s.

“Science, Health and Medical Journals, Full Text Articles and Books.” *ScienceDirect.com* |  
*Science, Health and Medical Journals, Full Text Articles and Books.*,  
[www.sciencedirect.com/science/article/pii/S1877042811025018/pdf?md5=0a6b54eeddb75d8e7f3cbc7d12b7c960&pid=1-s2.0-S1877042811025018-main.pdf](http://www.sciencedirect.com/science/article/pii/S1877042811025018/pdf?md5=0a6b54eeddb75d8e7f3cbc7d12b7c960&pid=1-s2.0-S1877042811025018-main.pdf).

“Social and Economic Factors.” *County Health Rankings & Roadmaps*,  
[www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/social-and-economic-factors#:~:text=Social%20and%20economic%20factors%2C%20such,%2C%20manage%20stress%2C%20and%20more](http://www.countyhealthrankings.org/explore-health-rankings/measures-data-sources/county-health-rankings-model/health-factors/social-and-economic-factors#:~:text=Social%20and%20economic%20factors%2C%20such,%2C%20manage%20stress%2C%20and%20more).

“United States - Income Share Held by Highest 10%.” *United States - Income Share Held By Highest 10% - 1974-2018 Data | 2021 Forecast*, [tradingeconomics.com/united-states/income-share-held-by-highest-10percent-wb-data.html](http://tradingeconomics.com/united-states/income-share-held-by-highest-10percent-wb-data.html).