SOCIOECONOMIC DETERMINANTS OF HAPPINESS ACROSS NATIONS DURING THE COVID-19 ERA: AN ECONOMETRIC ANALYSIS

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ABSTRACT

The COVID-19 pandemic has brought about unprecedented global challenges, affecting various aspects of people's lives, including their happiness and well-being. This empirical study explored the socio-economic determinants of happiness across 107 countries, encompassing 78 developing and 29 developed nations, particularly focusing on the tumultuous year 2020. To empirically investigate these determinants, the study employed the ordinary least squares (OLS) technique, complemented by rigorous diagnostic tests. The findings reveal that economic growth, social progress, unemployment, and inflation collectively play pivotal roles in shaping happiness on a global scale. Notably, this research endeavor uncovered intriguing variations between developing and developed countries. In developing nations, social progress was found to be on the rise, while inflation and unemployment were identified as factors that decreased happiness. In contrast, the happiness of developed countries was positively influenced by economic growth, social progress, inflation, and life expectancy at birth, while an increase in unemployment had an adverse effect. These results hold significant policy implications since policymakers are encouraged to consider the implementation of social programs aimed at enhancing both income levels and economic freedom for their populations. Additionally, measures to control inflation and reduce unemployment rates are crucial steps towards increasing happiness levels in both developing and developed nations. This study underscores the vital importance of non-economic determinants in shaping the overall happiness of populations, shedding light on the multifaceted nature of well-being in the face of unprecedented global challenges.

Keywords: Socioeconomic, Happiness, Covid-19, Econometric Analysis

INTRODUCTION

The COVID-19 pandemic, an unprecedented global crisis (Zahra et al., 2020; Gul et al., 2020), has not only posed profound challenges to public health systems but has also cast a glaring spotlight on the intricate interplay between socio-economic determinants and individual happiness. Amidst the pervasive uncertainties and disruptions brought forth by the pandemic, understanding how varying socio-economic factors have influenced happiness levels across nations is of paramount importance. This understanding holds critical significance, not only for policymakers seeking to address the well-being of their populations but also for researchers aiming to unravel the complexities of human happiness during times of crisis.

Happiness, often regarded as a fundamental aspiration of human life, has captivated the attention of scholars, psychologists, and researchers across

various disciplines. It is a complex and multifaceted emotional state, often described as the ultimate goal of human existence. Empirical research on happiness began in the 1970s and gained momentum after 2000 (Veenhoven, 2018). Understanding the socio-economic determinants of happiness is a pivotal endeavor with significant implications for crafting effective policies aimed at enhancing the quality of life and overall well-being of individuals and communities. In today's materialistic society, this pursuit may seem counterintuitive. Generally, people strive to earn more money because they wish to improve their quality of life and experience greater happiness. The act of spending, in particular, is often associated with an increase in happiness. Thus, many individuals in our generation are continually seeking wealth in pursuit of happiness (Jantsch & Veenhoven, 2018).

While personal happiness may initially appear to fall within the purview of sociology or psychology, its implications for the economy are both substantial and multifaceted. One crucial question that emerges is whether individuals achieve their intended ultimate destination of happiness through the pursuit of economic well-being. Moreover, does a nation as a whole experience greater happiness when national wealth increases and economic conditions become more favorable? A more profound understanding of the economics of happiness can shed light on various aspects of human behavior related to the economy. Many economists have ventured into the realm of subjective measures of happiness in their research endeavors to explore the socio-economic determinants of happiness (Tella, 2008). These determinants encompass a wide range of social and economic factors, including GDP growth, education, life expectancy at birth, employment opportunities, population dynamics, economic freedom, social progress, unemployment rates, inflation, community security, and social support systems. These factors not only significantly influence a nation's overall happiness but also impact our capacity to make healthier life choices, thereby contributing to overall well-being (Clark et al., 2017).

Essential components of a long and healthy life include access to social and economic opportunities such as quality education, sustainable employment options, and robust social networks. Sustainable employment options, for example, enable individuals to make critical choices regarding their livelihood, including food nutrition, living status, housing, education, childcare, healthcare, etc. However, sometimes communities and nations have to face disparities in these social and economic opportunities. Often, this discrimination is based on factors including age, race, gender, health and living status, and family background (Oswald, 1997).

Bhutan aimed to emphasise the holistic well-being of its citizens, so it replaced its Gross National Product (GNP) with Gross National Happiness (GNH) in the 1970s as a pioneering nation. Nine key areas were added to GNP, including psychological well-being, health, time use, education, cultural diversity and resilience, good governance, community vitality, ecological diversity and resilience, and the standard of living (Ura et al., 2012). Following Bhutan, a significant number of countries started to pay attention to these factors that contribute to the overall well-being of these nations. The wellbeing of these nations is measured by using various indices, such as the Social Protection Index (SPI) and the Happiness Index (HI). Along with the indicators of wellbeing, societies have also been concerned about the adverse effects of rising inflation, unemployment, poverty, inequality, etc. Since then, the researchers have also examined the detrimental impact of these economic factors on happiness. Indeed, studies have indicated that rising inflation, unemployment, poverty, and inequality can lead to a reduction in overall happiness (Bandaranayake, 2021).

Many developed economies have achieved remarkable success in increasing their economic output. However, a critical question arises: does this increase in production or income necessarily lead to an improvement in people's lives? Can money truly buy happiness? These questions prompt us to delve into the socio-economic determinants of happiness through an economic analysis. While economic growth can be beneficial for an economy, it comes with various side effects that can impact overall happiness within a society (Easterlin, 2001). Numerous studies have explored the socio-economic determinants of happiness across nations; there exists a notable research gap concerning a comprehensive and econometric analysis of happiness in the specific context of the COVID-19 era. Previous research has often focused on pre-pandemic conditions, and the global crisis has introduced a unique set of

challenges that demand an updated and nuanced examination. This study aims to bridge this gap by providing a timely and rigorous analysis of how the pandemic has affected happiness levels and the socio-economic factors driving these changes across diverse nations.

The central objective of this study is to identify the determinants of happiness across the world, encompassing both developed and developing countries, particularly during the challenging period of the COVID-19 pandemic.

This paper aims to make a significant contribution to the ongoing discussion pertaining to happiness by conducting a meticulous econometric analysis of 107 nations, which takes into account the intricate complexities of socio-economic factors across the globe, including both developed and developing nations, during the period of the COVID-19 pandemic. It is a comprehensive investigation to obtain a profound understanding of how various socio-economic factors have impacted individual well-being during this global health crisis. This understanding, in turn, can serve as a guiding framework for formulating policies and interventions aimed at enhancing the well-being of populations worldwide.

LITERATURE REVIEW

Researchers often investigate the determinants of happiness under the assumption that subjective well-being is cardinally measurable and interpersonally comparable. Numerous studies have demonstrated that happiness is not solely a function of economic prosperity but is intricately linked to a myriad of socio-economic factors. These studies explored various determinants of happiness, including money (Ahneman et al., 2006), income (Blanchflower and Oswald, 2004), unemployment (Cevik et al., 2020), freedom of choice (Diener and Seligman, 2002), economic freedom (Verma, 2009), life expectancy (Kageyama, 2012), social capital, and social progress (Paxton, 1999), which are objective factors that have a positive effect on the happiness of nations.

Easterlin's seminal work (1974) suggested that the relationship between income and happiness is more nuanced than a simple linear correlation. The notion that higher income has a positive effect on well-being has been further validated by Blanchflower and Oswald (2004). This research endeavour illustrates that money and income raise the wellbeing of people in the UK and USA; however, this is U-shaped. Likewise, the people were found to be happier with the higher family income (Kahneman et al., 2006). These significant findings prompt us to further explore the intricate network of factors that mould happiness, particularly within the framework of the COVID-19 pandemic.

The research overwhelmingly demonstrates that unemployment is one of the major socio-economic problems that may significantly impact individuals as well as society overall. A large body of research has shown that unemployed people are less happy than employed people, even after controlling for other factors such as income, education, and health (Diener et al., 1993; Helliwell et al., 2019; Clark and Oswald, 1994). One of the well-documented consequences of unemployment is its negative impact on people's well-being. This deceased happiness may be due to a number of factors, including financial hardship (Oswald and Powdthavee, 2008), social isolation, and a loss of self-esteem (Clark and Oswald, 1994). Clark (2003) and Cevik et al. (2020) found from panel evidence that unemployment has detrimental effects on happiness. This evidence suggests that unemployment is a major risk factor for happiness. Likewise, inflation may have a significant impact on people's purchasing power and, consequently, their wellbeing. It has been researched that inflation is negatively related to happiness. Diener et al. (2013) found that people in countries with higher inflation rates were less happy than people in countries with lower inflation rates. This relationship was statistically significant. Helliwell et al. (2019) found that inflation was one of the strongest predictors of unhappiness in their World Happiness Report.

Social support is the perceived availability of and access to people who care about and accept others (Cohen & Wills, 1985). The importance of social support and a sense of community have been widely acknowledged as significant contributors to the state of being happy (Helliwell & Putnam, 2004). Nonetheless, the implementation of lockdowns and social distancing measures in response to the pandemic has disrupted these social connections, thereby engendering inquiries regarding their impact on happiness levels (Brodeur et al., 2020). Additionally, accessibility to healthcare has emerged

as a key factor in happiness during the pandemic (Barranco et al., 2021). A large number of research endeavors show that social support has a positive and significant impact on the well-being and happiness of individuals and communities all over the world (Lakey & Cohen, 2000; Uchino et al., 1996) because it provides social and emotional support during difficult times that makes people more content and happier in their lives.

Freedom of choice is the ability to make decisions about one's life without any constrictions. It is a fundamental human right and is important for human well-being. The research shows that freedom of choice is positively related to happiness. Ryan and Deci (2000) found that people who have more opportunities to make choices and have their choices respected are happier than those who do not. This advocates that freedom of choice is important for happiness as well as for psychological wellbeing. This conclusion has been supported by several subsequent studies. Diener and Seligman (2002) delved into the intrinsic association between happiness and freedom of choice. They found that people who experienced a sense of autonomy and perceived themselves as independent in their lives exhibited a higher level of happiness compared to those who did not.

Economic freedom is a fundamental human right that is essential for the well-being of an individual. It is to engage people in economic activities without any intervention. It is a fundamental human right that is essential for well-being. The research has shown that economic freedom has a positive effect on happiness. This is due to a multitude of factors, including a sense of control and increased opportunities (Helliwell et al., 2019; Frey & Stutzer, 2002; De Haan & Sturm, 2012). Likewise, a significant positive relationship between life expectancy and happiness was found in numerous studies. Diener et al. (2013) explored that people in countries with higher life expectancies were happier than those in countries with lower life expectancies; this relationship was also found to be statistically significant. Similarly, Helliwell et al. (2019) found that life expectancy was one of the strongest predictors of happiness in their World Happiness Report.

METHODOLOGY

The study employed cross-sectional data from 107 countries, including 78 developing and 29 developed countries, for the year 2020. This particular year was characterized by the unprecedented COVID-19 pandemic, a global crisis that had far-reaching consequences. Throughout this timeframe, millions of lives were tragically lost, and economies across the globe endured significant setbacks, with many countries experiencing negative growth. This model was designed to examine how various socio-economic factors influence happiness levels in the midst of the pandemic. To investigate the socio-economic determinants of happiness during the COVID-19 pandemic, the study employed the following model:

$$Y = \alpha + \sum_{i=1}^{k} \beta_i X_i + \mu_i \qquad (1)$$

Where Y is the dependent variable, i.e., the happiness index, and X_i is the vector of explanatory variables, including GDP growth, social progress index, economic freedom index, inflation, unemployment rate, and life expectancy at birth. The parameters α and β_i serve as the intercept and vector of slope coefficients, respectively, while μ_i is the usual error term.

The study utilized data on the happiness index, based on happiness rankings from 2018 to 2020, as reported in the World Happiness Report 2021. GDP growth, unemployment rate, and annual growth rate of the GDP deflator as measures of inflation were obtained from World Development Indicators. The Social Progress Index (data source) assesses a country's capacity to meet the fundamental human needs of its citizens, establishes building blocks for improved quality of life, and provides insights into the overall well-being of a society. The data for the economic freedom index was sourced from the Heritage Foundation (2020). Economic freedom grants individuals the fundamental right to control their work and property. Life Expectancy at Birth, sourced from the United Nations Department, represents the average number of years a newborn should expect to live if current mortality rates continue to apply.

Multiple linear regression analysis was used in this study. Moreover, various diagnostic tests were used to check the assumptions of classical linear regression models.

RESULTS AND DISCUSSION

Table 1 represents the summary statistics of the selected indicators for the overall world (represented by 107 countries) and developed and developing countries. Looking at the descriptive statistics, it was found that the average of economic freedom and all other variables is positive, but GDP growth was negative during the pandemic situation of COVID-19 in 2020. However, it is worth mentioning that GDP growth was more negative in developed countries on average in comparison to developed countries. It is indicating that the average drop in GDP growth was greater in developed countries during COVID-19, meaning that developed countries suffered more economically from COVID-19. While social progress, economic freedom, and life expectancy were much higher in developed countries in comparison to developing countries, Similarly, inflation and unemployment rates were also much lower in developed countries than in developing countries (Table 1).

Table 1 Summary analysis of selected indicators for world, developing and developed countries

Indicators		Mean	Max.	Min.	S. D
Happiness Index	1	**5.59**	**7.84**	**2.52**	**1.13**
	2	5.12	7.07	2.52	0.91
	3	6.85	7.84	5.72	0.60
GDP Growth	1	**-4.45**	**6.99**	**-31.98**	**5.33**
	2	-4.34	6.99	-31.98	5.98
	3	-4.77	0.98	-10.84	3.01
Social Progress Index	1	**70.95**	**92.73**	**31.29**	**14.88**
	2	64.51	84.32	31.29	12.06
	3	88.28	92.73	81.02	03.35
Economic Freedom Index	1	**63.62**	**89.4**	**43.1**	**9.49**
	2	59.89	76.8	43.1	7.41
	3	73.67	89.4	59.9	6.83
Inflation	1	**09.46**	**610**	**-11.58**	**59.49**
	2	13.11	610	-11.58	69.41
	3	01.04	05.7	-03.75	02.03
Unemployment Rate	1	**7.85**	**28.74**	**0.31**	**5.09**
	2	8.20	28.74	0.31	5.74
	3	6.90	16.85	4.09	3.09
Life Expectancy at Birth	1	**73.76**	**83.92**	**54.51**	**7.74**
	2	70.84	80.47	54.51	6.99
	3	81.6	83.92	75.42	2.26

* Numbers "**1**, 2 and 3" in column No. 2 are representing **overall world**, developing and developed countries respectively.

The study used multiple linear regression models to examine the socio-economic determinants of happiness in the overall world, developing countries, and developed countries. Model 1 is used for the overall world, while Model 2 and Model 3 are used for developing and developed countries, respectively. The study found a positive and significant relationship between GDP growth and happiness in the overall world and developed countries, while a positive and non-significant relationship was found in developing nations. It indicates that economic growth is an important determinant of happiness, particularly in developed countries. As the economy grows, so do the businesses and jobs that increase personal incomes, ultimately increasing the happiness of the people.

The social progress index has a positive and highly significant effect on happiness in all models, showing that social progress is a very important indicator in determining the happiness level in all nations. Economic freedom index has positive non-significant effect on happiness while inflation and unemployment rate have negative significant relationship with happiness showing that decrease in inflation and unemployment raises the happiness level in all countries in the world. An increase in life expectancy at birth has a positive and significant relationship with happiness in developed countries, while it has a positive and non-significant relationship in developing countries and the overall world.

The value of R^2 indicates that all of the models are well fitted. Similarly, the F-stat of all models shows that all models are overall significant. The results of all diagnostic tests show that all models are free from problems and satisfy the assumptions of the classical linear regression model, i.e., Jarque-Bera stat (p-value), which shows that the error terms of all models are normally distributed. Similarly, Bruesh-Pagan-Godfrey (p-value) shows that the model is not suffering from heteroscedasticity. Furthermore, the average VIF value shows that the model is free from multicollinearity. So, these results in Table 2 are presentable and can be used for policy suggestions.

Table 2: Estimates of happiness models of world, developing and developed countries

Variable	Model 1	Model 2	Model 3
GDP Growth	0.0206***	0.0134	0.0453***
Social Progress Index	0.0553*	0.0489*	0.1049*
Economic Freedom Index	0.0082	0.0011	0.0029
Inflation	-0.002**	-0.002**	0.0751*
Unemployment Rate	-0.044*	-0.039*	-0.04**
Life Expectancy at Birth	0.0139	0.0168	0.066**
Intercept	0.5705	1.1154	-7.602*
Sample Size	107	78	29
Overall, Goodness of Fit and Significance of Models			
R-squared	0.7577	0.5498	0.8566
Adjusted R-squared	0.7432	0.5117	0.8175
F-statistic	52.129*	14.45*	21.907*
Diagnostic Tests			
Jarque-Bera	4.2175 (0.1214)	2.6434 (0.2667)	0.4367 (0.8039)
Breusch-Pagan-Godfrey	2.0434 (0.0668)	1.1798 (0.327)	1.0777 (0.4056)
Variance Inflation Factor (average)	3.2945	2.3835	1.8752

* Model 1 is the model for overall world, while Model 2 and Model 3 represent the models for developing countries and developed countries respectively. Furthermore, *, **, *** shows the significance at 1%, 5% and 10% respectively. While, values in parenthesis are the estimated probabilities. In economically free societies, individuals enjoy the liberty to work, produce, consume, and invest as they see fit, with this freedom both protected by and unencumbered by the state. Economic freedom empowers individuals to autonomously decide how they will structure their economic lives. In such environments, individuals have the freedom to choose their contractual partners and decide which products and services to purchase without coercion. The study hypothesizes that increased economic freedom is positively associated with increased happiness within an economy.

CONCLUSIONS AND POLICY SUGGESTIONS

The findings of this research endeavor provide some evidence for making informed choices that would add to happiness in the world, particularly in developed and developing countries. The social progress index has upward pressure on happiness in developed as well as developing countries, while the unemployment rate has downward pressure on happiness in all regions. Economic growth is raising the level of happiness in the world overall, particularly in developed countries. Moreover, inflation is decreasing happiness in the world and developing countries during the pandemic period, while inflation and life expectancy raise happiness in developed countries. Since policy interventions for these socio-economic factors may improve happiness levels all over the world.

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