

Exploring the Link Between Islamic Philanthropy (ZIS) and Happiness: A Panel Data Analysis in Indonesia

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Abstract

This study investigates the determinants of the Indonesian Happiness Index, specifically examining the impact of income and Islamic philanthropy (Zakat, Infaq, and Sedekah or ZIS). Utilizing panel data from 19 provinces for the years 2017 and 2021, the research employs a Random Effect Model (REM) to analyze the relationships between happiness and key socio-economic variables, including Gross Regional Domestic Product (GRDP), charitable giving, poverty, and health. The empirical findings reveal that charitable giving through ZIS has a positive and significant effect on happiness, suggesting that religiously motivated altruism is a key driver of well-being in Indonesia. In contrast, income demonstrates a significant negative relationship with happiness, aligning with the Easterlin Paradox which posits that economic growth does not necessarily lead to greater life satisfaction. Furthermore, health complaints significantly reduce happiness, whereas poverty levels show no statistically significant impact. These results imply that policymakers should prioritize strengthening philanthropic governance, as promoting ZIS offers a strategic pathway to enhance societal well-being beyond material economic measures.

Keywords: Happiness Index; Income; Islamic Philanthropy; Random Effect Model; ZIS

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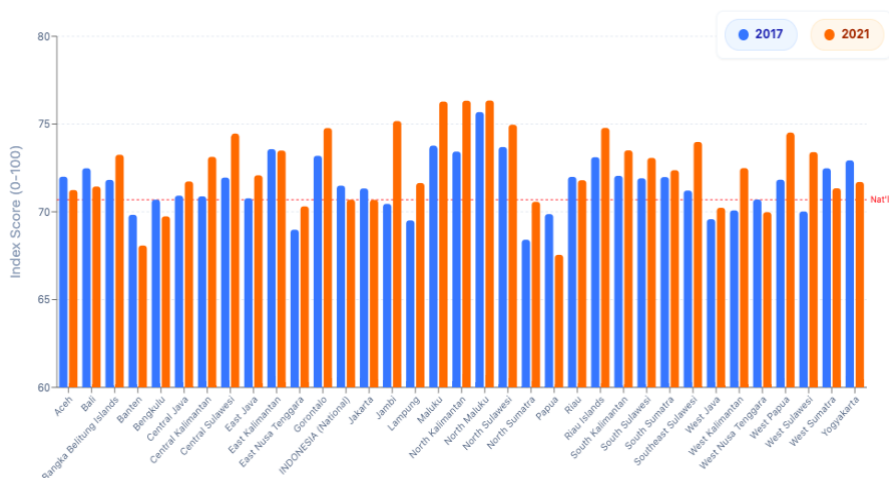


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Introduction

As nations develop, traditional measures of success, such as boosts in Gross Domestic Product (GDP), are becoming less relevant. Instead, economic progress is integrated with social progress, specifically in improving societal happiness. A component of public happiness is subjective well-being, which measures the extent of the value that national development added to society relative to the economic resources that were applied to the development (Martin, 2012; OECD, 2013). To track within Indonesia context, the public happiness of Indonesians is assessed using the Happiness Measurement Survey. By utilizing these assessments, the government broadens the focus of national development outcomes, which primarily focus on economic and material outcomes. In addition, the assessments aim to capture the perceptions of citizens of their own quality of life (BPS, 2021). The illustration in Figure 1.1 presents the results from the happiness index assessment of the two most recent assessments in 2021 and 2017. The happiness index is derived from 19 different metrics that fall into three broad categories of metrics, which include life satisfaction, affect, and eudaimonia.

Figure 1. Graph of the Indonesia Happiness Index in 2017 and 2021



Source: BPS

According to Figure 1, the Indonesian national-level Happiness Index increased from 70.69 in 2017 to 71.49 in 2021. However, when looking at the index by province, we see that approximately 35 percent of provinces had no changes or

declines in index score. This suggests the improvement in Happiness was not evenly spread throughout the provinces. This leads us to additional questions regarding the Indonesian Happiness Index.

Within consumer behavior, individual happiness is captured by the concept of utility, which in this context refers to the satisfaction derived from spending income on goods and services (Pindyck & Rubinfeld, 2018). Generally, when an individual's income increases, we expect their happiness or utility to increase. Numerous studies have cited income to be one of the main influencers of happiness (Barrington-Leigh, 2024; Boyce et al., 2010; Caporale et al., 2009). This relationship is not always clear.

For instance, the law of diminishing marginal utility states that satisfaction decreases as one continues to receive the same dollar value (Pindyck & Rubinfeld, 2018). This is also the basis for the Easterlin Paradox, which states that the increase in individual income does not equate to a rise in personal happiness (Easterlin, 1974).

The diminishing marginal utility of income theory and the Easterlin Paradox are mirrored in the Indonesian example. Figure 2 shows how a region's happiness is almost unrelated to the region's GDP per capita. Consequently, a region can be happy despite low income or the opposite – the region can be unhappy despite high income.

Figure 2. Happiness Index and Provincial GDP per Capita in Indonesia in 2021



Source: BPS

The gap between income and happiness illustrates that higher levels of happiness are attainable at lower levels of income. It draws attention to various components contributing societies happiness, the social, economic, and political structures surrounding. Based on Indonesia's unique social, economic, and political structures, the country's distinct developmental pathway, regional imbalances, and socio-religious value systems that are different from those of the developed countries, the disparity between happiness and income in Indonesia calls for a closer examination of the applicability of Easterlin paradox where income has diminishing utility. Thus, the implications of research conducted in Indonesia are of paramount importance in establishing whether income remains a significant aspect determining happiness, or whether a social framework, such as the charitable giving of socially oriented, and in some instances, religiously inspired, contributions, is a more important determinant of happiness.

An increasing number of studies suggest that charitable giving plays an important role in an individual's happiness. For example, giving and happiness are positively correlated in studies conducted in China (Zheng et al, 2021). These authors also state that charitable giving derives from the philanthropic traditions of Confucianism, Mohism, Taoism, and Buddhism, which are practiced by a significant portion of the Chinese population (Andreoni, 1990; Bekkers & Wiepking, 2011; Zheng et al, 2021). These traditions encourage practitioners to think of giving more as a socially and morally virtuous act, rather than just an economic act. Philanthropic religions also encourage giving; in Islam, for example, Zakat, Infaq, and Sedekah (ZIS) are religiously mandated forms of charitable giving (Utama & Murti, 2021). ZIS, as a means of wealth redistribution, also expresses the moral, social, and virtuous concern and solidarity for the whole community (Utama & Murti, 2021).

This position aligns with the philosophy of Ancient Greece, particularly that of Socrates, Plato, and Aristotle, where happiness (eudaimonia) is achieved through moral virtue (Dhiman & K, 2021; Kenny et al, 2025; Kraut, 2025; Meinwald & C, 2025). Happiness is not associated with financial and non-financial resources, but is seen through the lens of the virtuous use of these resources (Dhiman & K, 2021). These ideas also shaped the views of the Islamic philosophers Al-Farabi and Ibn Sina, who, within the framework of moral and intellectual perfection and the God-man relationship (Kuşlu, 2019; Michel, 2019; Nazari, 2024), constructed a definition of happiness. Hence, happiness is not a purely material condition but also moral and spiritual, and is socially manifested.

Within Islamic philosophy, happiness is also closely tied to a commitment to religious tenets. *Surah Al-Mu'minun* in the Qur'an argues that success and happiness are for those who follow the commandments of Allah, which include paying *zakat* (Aqbar et al., 2020). Therefore, *Zakat*, *Infaq*, and *Sedekah* (ZIS) can be considered religiously-motivated philanthropy, which includes the financing of social causes and the exercise of social and moral responsibilities (Utama & Murti, 2021). Applying virtue ethics and Islamic economics, ZIS can be viewed as a conduit that connects the use of one's income with individual happiness through the strengthening of social ties and the enhancement of one's sense of purpose in life (Utama & Murti, 2021).

The World Happiness Report recognizes generosity when it comes to the influence of social factors on happiness (Helliwell et al., 2023). Based on the report, there is a consistent positive correlation between the occurrence of charitable donations, happiness, and the report's generosity measures (Helliwell et al., 2023). This is consistent with empirical evidence from China, which showed that charitable giving was positively correlated with subjective well-being (Zheng et al., 2021). However, a number of studies, for example, of a charitable giving and volunteering paradox, have suggested that the impacts of prosocial behavior and feel-good factors on happiness are context-specific and may not be permanent (Falk & Graeber, 2020; Shepelenko et al., 2024). This suggests a potential research gap with respect to the impacts of institutional context, culture, particular forms of giving, and individual happiness.

This research study extends the analysis of the determinants of happiness in developing nations, especially those that are comparatively more religiously philanthropic. Contrary to most prior studies that consider worship attendance, or some other metric of religious activity, as the measure of religiosity (Aslam et al., 2024), the author constrains the analysis to the religiously motivated economic charity, *Zakat*, *Infaq*, and *Sedekah* (ZIS). Such religiously motivated economic charity, as opposed to religiosity, captures ZIS. To achieve this, the study used panel data as the primary method to study the Indonesian Happiness Index while controlling for poverty, health complaints, and a time dummy for post COVID-19. Therefore, the author intends to examine more fine-tuned estimates of the degree to which income and income-directed religiously motivated charity affect the Indonesian Happiness Index and to develop postulates for welfare policies and philanthropic governance in Indonesia.

Literature Review

Definition of Happiness

Happiness is one of the most important goals of human life and is one of the most discussed topics in philosophy and the social sciences. Happiness is one of the most discussed topics in both classical and contemporary literature. The literature on the concept of happiness is generally divided into two broad categories: the eudaimonic (spiritual-rational) and the utilitarian (material-hedonic) approaches. The eudaimonic approach comes from Ancient Greek philosophy and includes thinkers like Socrates, Plato, and Aristotle. Eudaimonia (happiness) is often characterized as a permanent state of well-being that stems from a meaningful, rational, and virtuous life (Dhiman & K, 2021). Socrates and Plato argued that true happiness stems from the development of the soul through moral virtue and not from the possession of material goods (Dhiman & K, 2021). This view was taken further by Aristotle, who argued that happiness is an activity of the soul in accordance with virtue, and who also pointed out that, in practice, happiness requires a number of additional external factors like good health, social connections, and enough money (Dhiman & K, 2021).

The Islamic philosophers Al-Farabi, Ibn Sina, and Al-Ghazali incorporated Islamic theological perspectives into the eudaimonia framework of (Kuşlu, 2019; Michel, 2019; Nazari, 2024; Soleh, 2022). Al-Farabi highlighted the importance of rationality, ethics, and social order in the attainment of happiness (Michel, 2019). For Ibn Sina, happiness meant the perfection of the intellect and the soul, which could be achieved through knowledge of God (Kuşlu, 2019; Nazari, 2024). For Al-Ghazali, rationality is a means to an end, and true happiness requires the heart to be purified, desires to be controlled, and one's spirit to be drawn close to Allah (Soleh, 2022).

In contrast to the eudaimonic approach (Eidukienė, 2017; Mesa Díez, 2024) identify the other perspective as the total utilitarian approach, whose understanding of happiness is framed as the absence of pain and the attainment of pleasure (Eidukienė, 2017). Jeremy Bentham's greatest happiness principle states the greatest happiness, and he is believed to have started this approach by grounding the assessment of actions in the level of utility or benefit (Eidukienė, 2017). Encompassed in this perspective, happiness is largely posited in one's material well-being, and that is, his/her income, employment, and wealth. West (2016) also modified the concept of utilitarianism, advancing the principle to the level of

plurality by differentiating the quality of pleasures and positing that intellectual and moral pleasures are of higher quality than the physical (Mesa Díez, 2024).

Ultimately, the discussion illustrates that happiness is one of the most discussed themes with a multidimensional nature. From this point of view, two main perspectives have emerged: the spiritual-rational approach, suggesting the development of positive internal states through religion, morality, and virtue, and the utilitarian material perspective, which underscores the primacy of income as the basis of positive external states. Consequently, income and religion merge as two theoretically important and potentially interrelated factors in accounting for the level of individual happiness.

Income as a Determinant of Happiness

One of the models of happiness through the perspective of utility was proposed by Jeremy Bentham whose utility and happiness were intertwined. Most important was the greatest happiness principle which states that an action is right if it increases good for the greatest number of people (Eidukienė, 2017; Gustafsson, 2018). Economically, this means total social welfare is the total of individual welfare (Gustafsson, 2018). In economics, this is applied almost directly to problems of inequity and social welfare. An increase in individual utility is believed to increase social welfare (Baujard, 2010).

Eidukienė (2017) reported that for Bentham, employment and wealth are also major components of happiness. With employment, people earn an income. Income is used to satisfy wants, thereby creating utility (Pindyck & Rubinfeld, 2018). In that sense, a person would theoretically be able to achieve happiness in a direct relationship with their income and the ability to acquire goods and services that would provide satisfaction to them (Pindyck & Rubinfeld, 2018).

Consumer Behavior Theory (Pindyck & Rubinfeld, 2018) also confirms the relationship between happiness and income. Rational consumers' distribution of income among certain goods and services increases their satisfaction (Pindyck & Rubinfeld, 2018). However, they have a budget, and this makes income a critical determinant for utility (Pindyck & Rubinfeld, 2018). With higher income, consumers can enjoy a wider and better variety of goods and services (Mankiw, 2011).

Income can enhance a person's happiness in a number of ways, such as through the consumption and satisfaction of one's basic needs (Mankiw, 2011; Pindyck & Rubinfeld, 2018). Income is a means whereby a person can achieve greater

happiness in life. This supports the contention that a person's economic well-being is a central factor in determining their happiness (Alexander & Halliday, 1977; Plamenatz et al., 2025). Contrary to the above, studies in the field of happiness have encountered the so-called Easterlin Paradox, that is, a person's income does not always correlate with how happy they are (Easterlin, 1974). explain that the relationship between one's income and happiness is subject to the law of diminishing marginal returns. This means that additional income will result in a significant loss of happiness. Thus, theories and empirical results that are contrary to the predictions of utilitarianism suggest that material aspects such as charitable donations stemming from one's religious beliefs and implemented through *Zakat*, *Infq*, and *Sedekah* (ZIS) can enhance one's happiness.

Charitable Giving as a Practice of Religiosity and Its Relationship with Happiness

From a utilitarian perspective of John Stuart Mill, in the principle of utility, the end justifying an action is to bring about happiness and to minimize unhappiness (West, 2016). An action is considered to be good by the morals of a society if it positively contributes to the aggregate happiness of the participants, and not just one (Brunet, 2021; West, 2016). For Mill, happiness is a social construct, and also a multidimensional one, bringing to the fore the dichotomy of social harmony with individual liberty, as well as the egalitarian distribution of resources (Brunet, 2021).

The construction of a moral dimension of utilitarianism, facilitated by Adam Smith, can be expanded further by the notion of empathy, the capacity to appreciate the point of view and feelings of other individuals (Carron, 2018; Stueber & R, 2006). The concept of empathy ensures morality is not constructed out of one's self-interest, but rather a concern for the social good (Carron, 2018; Gustafsson, 2018). Many other philosophical traditions, particularly Islamic philosophy, seem to converge on the view that happiness discorded from a morally and ethically sound state of the soul is not true happiness (Boasberg et al., 2019; Dhiman & K, 2021; Kuşlu, 2019; Meinwald & C, 2025; Michel, 2019; Nazari, 2024; Soleh, 2022). Within the Islamic perspective, happiness (*sa'adah*) is considered to be the product of a morally purified soul (*tazkiyat al-nafs*), which can be realized through the practice of social and ethical norms, particularly through concern for the well-being and collective happiness of people, which is manifested through charitable giving (Aqbar et al., 2020; Aydin & Manusov, 2014; Goodman, 2014; Morrison & Severino, 2007; Utama et al., 2021).

Financial donations to people or charitable organizations are typically considered to be acts of charity, and are seen as behavioral phenomena of the voluntary giving kind (Andreoni, 1990; Bekkers & Wiepking, 2011). Along with pure altruism, the phenomenon of giving is said to be motivated in part by self-interest. In the context of the altruism model employed by Bekkers, the state of an individual's welfare is defined as some function of his or her own consumption and/or cash flow, and is related to the consumption and/or cash flow of other individuals (Zheng et al., 2021). Within this context, an individual can enhance the state of welfare of other individuals by making economic gifts to them. On the other hand, Andreoni (1990) explains the case of impure altruism, in which the giver experiences personal satisfaction (the warm-glow effect) as a result of an economic gift (a donation) even though the gift may be emotionally contingent. Because of this warm-glow effect, people are motivated to give to charities (Andreoni, 1990).

Holding *Zakat*, *Infaq*, and *Sedekah* (ZIS) as exemplars of devotion, Islam recognizes ZIS as the faith's manifestation of its followers' socio-spiritual devotion (Utama & Murti, 2021). Religiosity is operationalized as followers' faith fidelity that traces to subsequent attitudes and, ultimately, behaviors (Johnson et al., 2001; Worthington et al., 2003). Robbins et al. (1966) slice the religiosity construct into five components: belief, ritual, and the experiential, cognitive, and applicative dimensions. In the prism of Islam, religiosity transcends the confines of ritual worship, exemplified, for instance, in the integration of worship values into the social and economic spheres (Sayyidah et al., 2022). *Al-falah*, a construct of well-being and success in this life and the afterlife, is a critical Islamic dimension of happiness (Aqbar et al., 2020). *Zakat*, among other major social practices Islamic faith followers engage in, is a requirement as evidenced in verses 1 through 4 of *Surah Al-Mu'minun* (Aqbar et al., 2020). *Zakat*, *Infaq*, and *Sedekah* ZIS, as we've established, serve dual purposes, that is, as a means for the attainment of the divine and social interconnectedness for the collective good and happiness (Aqbar et al., 2020).

The exemplary application of teachings of a given religion (orthopraxis), especially as manifested in *zakat*, *infaq*, and *sedekah*, reflects constructive practice of altruism (Aydin & Manusov, 2014; Goodman, 2014; Robbins et al., 1966; Utama & Murti, 2021). Generosity as a virtue enriches the lives of the many, and most importantly, provides inner joy, and as a result, cultivates true happiness (Goodman, 2014; Rakić, 2021). In Islamic philosophy and that of Said Nursi, the virtue of giving is of utmost importance in attaining true and lasting happiness, most importantly, in the control of the negative attribute of selfishness and in the enhancement of positive

spiritual values (Aydin & Manusov, 2014). The World Happiness Report and a number of studies conducted in China indicate a positive correlation between making donations and feeling happy (Helliwell et al., 2023; Zheng et al., 2021). In addition, research conducted by Dunn et al. (2008) confirmed that those who donate a larger percentage of their discretionary spending tend to be happier than those who are selfish in their spending. Hence, this research assumes that *zakat*, *infaq*, and *sedekah*, as forms of donations, and for altruistic reasons, make people and society happy.

The Relationship between Other Variables and Happiness

Poverty is characterized by insufficient income to satisfy basic needs, including food, clothing, and shelter (Todaro & Smith, 2020). In the present day, other social necessities that are required are health, education, and protection (Todaro & Smith, 2020). The absence of sufficient income to satisfy the needs of an individual on a day-to-day basis creates suffering and deprivation, which can adversely affect the well-being of an individual (Todaro & Smith, 2020). Without fulfilling even the most basic of needs and restricted access to social services, even the most basic of education, and a healthcare system, productivity diminishes and the standard of living declines (Todaro & Smith, 2020). Such individuals are even more susceptible to the psychological strains of stress and depression, and the problems they encounter are far more serious than the problems encountered by those who do have income (Todaro & Smith, 2020). On the other hand, those who have an adequate income tend to feel secure and are happier, as they can satisfy all of their various needs in a socially acceptable way.

An individual's mental and physical state is an important determinant of their level of happiness. As stated by Todaro & Smith (2020), without sufficient income, an individual's level of happiness could be low. In such a situation, other variables like health, education, and social liberty become important. In support of this claim, Layard and Sen posit that, for an individual to be considered truly emotionally and mentally healthy, their overall health must be good, as this helps in the effective production and distribution of the available resources. As stated by Todaro & Smith (2020). Being mentally and emotionally healthy improves the quality of an individual's life, including their health and living standards. In contrast, Xu et al. (2019) point out that an individual's health status significantly and positively correlates with their level of happiness. Additional research indicates that engaging in regular and planned physical activities positively impacts an individual's health

and mental state by lessening depression and stress. To summarize, health is an important factor in determining happiness and quality of life (Xu et al., 2019).

Methods

This study employs a quantitative research approach using panel data regression analysis. The data used are secondary data obtained from official publications of Statistics Indonesia (BPS), BAZNAS, and regional Amil *Zakat* Institutions (LAZ) in Indonesia for the years 2017 and 2021. A limitation of this study lies in the number of observation periods, which is restricted to only two years. This limitation arises due to the availability of the Indonesian Happiness Index data, which is published only once every three years, namely in 2014, 2017, and 2021.

The present study focuses on the years 2017 and 2021, in which the Indonesian Happiness Index in 2014 was still being calculated using a single-dimensional approach. The Indonesian Happiness Index in 2017 and in 2021 was improved into a three-dimensional structure, life satisfaction, affect, and meaning of life (eudaimonia). The researcher had contacted Statistics Indonesia (BPS) about the possibility of acquiring more current data. The data were termed current by the authority; the most recent data have yet to be published about the Indonesian Happiness Index due to budget cuts by the Government, resulting in no further data collection for the period.

Population and Sample

Population refers to all objects or subjects in a given area with certain qualities and characteristics, defined by the researcher, and from which the researcher concludes (Sugiyono, 2004). Therefore, the population in this study constitutes all provinces in Indonesia. A sample is a subset of the population obtained through a particular sampling technique, with certain definable characteristics, that can represent the entire population (Agung, 2012).

This study's empirical analysis is limited to 19 provinces for which complete data are available for the Happiness Index, Gross Regional Domestic Product (GRDP), and *Zakat*, *Infāq*, dan *Sedekah* (ZIS). The sample was taken based on data availability (convenience sampling) and not based on probabilistic sampling methods; thus, this study can be criticized for sampling bias. The results are indicative of the sample of provinces studied and cannot be generalized for the entire country of Indonesia. It is hoped that future studies will have a wider scope of data to enhance the generalizability of their findings.

Variable Measurement

This study uses the Indonesian Happiness Index (IHI) as a dependent variable and GRDP as a proxy of income while ZIS as a proxy of Islamic philanthropy. Poverty and health are included as control variables.

a. Happiness Index (HI)

The Happiness Index results from a subjective assessment of having a pleasant life; a good (well-being), and a meaningful life (BPS, 2021). The Happiness Index in Indonesia is assessed based on 19 indicators spread across three dimensions, namely the degree of life satisfaction, affect, and meaning of life. This research utilizes the provincial Happiness Index as the dependent variable (Y) and is scored on a 0 to 100 scale. The data was retrieved from the Indonesian Statistics (BPS) official publications for the years 2017 and 2021.

b. Income (lnINC)

Income in this study has been represented by the Gross Regional Domestic Product (GRDP) at constant prices (Romadhon & R, 2024). GRDP at constant prices captures value added at the total level, which means that it captures total value added at the goods and services level, which is calculated using prices from a given base year (Romadhon & R, 2024). This measure attempts to assess the economic growth in the region over a given period of time and does not consider the effects of inflation (Romadhon & R, 2024). The GRDP data is in billions of rupiahs, and in the regression analysis, this variable is placed in a natural logarithm (ln) form. This transformation provides a more relevant basis for measuring income and its changes in relation to the Happiness Index.

c. Charitable Giving (lnCG)

For this study, charitable giving is a voluntary behavior of individuals giving money to other persons or to social organizations (Andreoni, 1990; Bekkers & Wiepking, 2011). In the context of this study, charitable giving is operationalized by individual spending on *zakat*, *infaq*, and *sedekah* (ZIS), which also indicates the level of religiosity and altruism (Andreoni, 1990; Bekkers & Wiepking, 2011). The ZIS used in this study are sourced from official reports published by the National Zakat Agency (BAZNAS). This particular indicator is chosen owing to the consistent availability of secondary data, as well as its value in measuring, albeit in a limited fashion, religious practice in its social dimension. The ZIS data are presented in

millions of rupiahs. To allow for the ZIS variable to be interpreted in terms of the estimates in percentages, the ZIS variable is replaced with its logged value ($\ln$). This also assists in the reduction of heteroskedasticity in the regression model.

Control Variables

The term control variables is used to describe variables that, in addition to aggregate income and charitable contributions, affect the Indonesian Happiness Index negatively. To mitigate the potential diffusion of focus owing to the multitude of variables that influence happiness, this study utilizes two control variables, which are poverty (KMS) and health (KSH) that capture a region's socio-economic context. Poverty is operationalized as the proportion of people who are classified as poor, while health is the proportion of people who reported having health problems. These two variables are sourced from the publications of the Indonesian Central Bureau of Statistics (BPS) for the years 2017 and 2021.

Moreover, given the substantial changes of the year, this study includes a time dummy for the year 2021. This is especially pertinent as 2021 is a post Covid-19 year, a time frame characterized by disruptions that profoundly affected the socio-economic landscape and many other facets of life.

Analytical Method

The analytical technique used in this study is called panel data regression. Panel data regression is a type of regression analysis involving panel data, a blend of time-series data and cross-sectional data (Gujarati & Porter, 2009). There are a number of reasons supporting the advantage of using panel data over time-series and cross-sectional data alone.

The case for advantage number one is the dynamic data provided by panel data. For example, panel data supports the observation of the same data point over multiple time periods and, in this case, supports the same individual, firm, region, etc. This supports the analysis of the data's characteristics and allows one to explain the changing characteristics of the data over time (Gujarati & Porter, 2009). The second advantage, as described by Gujarati & Porter (2009), is the presence of individual observational units possessing specific characteristics. Since data can be regressed across multiple units, and the data includes observational units representing a cross-section of the observational universe, the regression is likely to be heteroskedastic. This heteroskedasticity can be addressed in the estimation of panel data through the presence of subject-specific unobserved heterogeneity,

which is a characteristic of a non-standard regression model, and is lost in the estimation of standard regression models (Gujarati & Porter, 2009).

As noted by Gujarati & Porter (2009), third, panel data sets are especially effective for looking at the COVID-19 pandemic and its structural transformations in the economic, social, and technological spheres and for tackling dynamic and more complex behavioral models (Gujarati & Porter, 2009). Fourth, panel data sets help identify and assess certain effects better than cross-sectional or time series data sets. These are time-variant and individual-specific latent variables, which can be estimated through the fixed effects or random effects models (Gujarati & Porter, 2009). The basic econometric model does not specify how to assess the impact of income and religiosity on the level of happiness in Indonesia. It can be formulated as follows:

$$HI_{it} = \alpha + \beta_1 D2021_{it} + \beta_2 \ln INC_{it} + \beta_3 \ln CG_{it} + \beta_4 POV_{it} + \beta_5 HL_{it} + \varepsilon_i + \mu_{it}$$

Description:

HI _{it}	: Happiness Index (dependent variable)
D2021 _{it}	: Time Dummy Variable for the year 2021
LogINC _{it}	: Income, proxied by GRDP (log-transformed)
LogCG _{it}	: Charitable Giving, proxied by the amount of ZIS distributed (log transformed)
POV _{it}	: Poverty rate
HL _{it}	: Health care, proxied by percentage of people with health complaints
α	: Constant term (intercept)
i	: Cross-section unit (19 provinces in Indonesia)
t	: Time period (2017 and 2021)
μ	: Error component
β ₁ β ₂ β ₃ β ₄	: Coefficients of the independent variables
ε	: Error in <i>cross-sectional random component</i>

Prior to evaluating the panel data equation, the appropriate model needs to be established through model estimation. Model selection is fundamental to provide reliability and unbiasedness in the estimated outcomes (Gujarati & Porter, 2009).

The three types of models that are primarily used in panel data estimation are: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). In this research, two models are determined using the Hausman and the Lagrange Multiplier (LM) tests. Between FEM and REM, the Hausman test is utilized to see if the differences in the unit intercepts are correlated to the independent variables (Gujarati & Porter, 2009).

In addition, a subsequent test, the LM test, is conducted to substantiate the outcomes of the Hausman test (Gujarati & Porter, 2009). The LM test is utilized to analyze the absence of random effects, which posits that the model does not contain individual-specific variance (Gujarati & Porter, 2009).

Besides choosing models, classical assumption tests are performed to check if the estimated model is valid. The tests for classical assumptions in this paper are normality, autocorrelation, heteroskedasticity, and multicollinearity (Gujarati & Porter, 2009). Heteroskedasticity and autocorrelation are addressed by estimating the panel data regression model using the Panel Corrected Standard Errors (PCSE) method (Li et al., 2017). Therefore, the combination of model selection tests, classical assumption tests, and the PCSE method will provide valid and reliable estimates of the panel data regression.

Results and Discussion

The initial stage of data processing involves conducting descriptive statistics, which give an overview of the individual characteristics of each research variable. The analysis focuses on the average, maximum, and minimum values, and the standard deviation, which is used to evaluate the dispersion of data across observations. The next step is the Jarque-Bera (JB) application normality test to determine the degree of normality for the data, which is important for consideration, because normality is a requirement for the panel regression to be valid.

The observations of this are limited; the JB test is especially valid to support the results of the estimation (Gujarati & Porter, 2009). Taking into consideration that the observations of this study are a bit constrained, the JB test is especially valid to validate the estimation (Gujarati & Porter, 2009). Therefore, this analysis is important for understanding the data pattern distribution before panel data regression analysis. The descriptive statistical analysis for all of the research variables is found in Table 1.

Table 1. Descriptive Statistics

Statistics	HI	Dummy 2021	lnINC	lnCG	POV	HL
<i>Mean</i>	71,51	0,5	12,46	24,52	10,57	27,08
<i>Median</i>	71,49	0,5	12,36	24,77	11,24	27,4
<i>Maximum</i>	75,17	1	14,43	28,64	17,4	42,15
<i>Minimum</i>	68,08	0	10,3	19,7	3,78	14,72
<i>Std. Dev.</i>	1,62	0,5	1,16	2,08	3,69	4,88
<i>Jaque-Bera</i>	0,49	6,33	0,78	0,8	1,93	5,01
<i>(Prob. JB)</i>	0,78	0,04	0,68	0,66	0,38	0,08
<i>Observations</i>	38	38	38	38	38	38

The mean for the Happiness Index (HI) variable, as shown in Table 1, is 71.51, with the maximum and minimum values being 75.17 and 68.08, respectively, and the standard deviation is 1.62. A standard deviation value of 1.62 shows that the happiness values are very close, and the provinces have very similar levels of happiness. The probability value for the variable in the Jarque-Bera test is 0.78, which implies that the data suggest that the variable is close to a normal distribution.

The mean and standard deviation (0.5, 0.5) for the Dummy 2021 variable (assigns 0 to 2017 and 1 to 2021) show that the observations are evenly distributed for both years. A Jarque-Bera value of 6.33 and the corresponding probability of 0.04 suggest that the data is not normally distributed. However, given the nature of dummy variables, this is still within the acceptable range.

The variable lnINC (natural logarithm of GRDP per capita) has a mean of 12.46, with 14.43 and 10.30 as the maximum and minimum, respectively. The standard deviation of 1.16 suggests that the income levels across the provinces are fairly uniform. A Jarque-Bera value of 0.80 with a probability of 0.68 suggests that the variable is normally distributed. The lnCG (natural logarithm of charitable giving) variable has a mean of 24.52, with a standard deviation of 2.08, a maximum value of 28.64, and a minimum value of 19.70. This demonstrates that the ZIS collection is unevenly distributed across the provinces. A Jarque-Bera statistic of 0.80 and a probability of 0.66 suggest that the variable is normally distributed.

An evaluation of the POV variable (poverty rate) shows that the average value of the variable is 10.57, with 17.40 and 3.78 being the maximum and minimum values, respectively. In addition, the standard deviation is 3.69 and, thus, reflects the

uneven distribution of the variable across the several provinces. Furthermore, the Jarque-Bera statistic of 1.93 with a probability value of 0.38 shows that the variable is normally distributed. As for the HL variable (health complaints), the mean value is 27.08, and the maximum and minimum values are 42.15 and 14.72, respectively. The standard deviation is 4.88, which indicates that the health status of the various provinces of the country is scattered at a greater distance from the mean. Jarque-Bera statistic of 5.01 with a probability value of 0.08 is almost at the 10 percent significance level. This 10% level is accepted in social research considering that the number of observations is not too large.

Considering that the majority of the variables passed the normality test, the findings are ideal for the model being used in the analysis. Since most of the sample variables passed the normality test, a panel regression model be employed for the analysis. For the analysis, the selection of a model is achieved through the Lagrange Multiplier (LM) test and the Hausman test to determine the appropriate estimation model from the Pooled OLS, the Fixed Effect Model (FEM), and the Random Effect Model (REM) (Gujarati & Porter, 2009).

Model Selection

The selection of appropriate models for panel data regression analysis entails testing candidate models. The models that need to be compared using the Hausman test are the Fixed Effect Model (FEM) and the Random Effect Model (REM) (Gujarati & Porter, 2009). The output of the Hausman test for the regression model employed for this research is shown in Table 2.

Table 2. Summary of the Hausman Test Results

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section radom	5.591742	5	0.3480

According to Table 2, the Hausman test shows that the probability of the Chi-square statistic is 0.3480, which exceeds the 5 percent significance level (0.05). Thus, the null hypothesis (H_0) of the Hausman test, which states that the Random Effect

Model (REM) is the appropriate model for panel data regression analysis, is accepted.

REMs selection being supported by the Hausman test is reinforced by conducting a Lagrange Multiplier (LM) test, which checks for random effects in the model (Gujarati & Porter, 2009). More specifically, the LM test addresses whether or not the model contains unit-specific or individual-specific error components, which would signal the existence of random effects (Gujarati & Porter, 2009). Table 3 shows the results of the LM test:

Table 3. Summary of the Lagrange Multiplier Test Results

Lagrange Multiplier Test for Random Effects			
Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
		Test Hypothesis	
	Cross-section	Time	Both
Breusch-Pagan	4.724748	1.055556	5.780304
	(0.0297)	(0.3042)	(0.0162)

Table 3 shows the LM test results. The Chi-square statistic p-value is less than the error level, $0.0297 < 0.05$. This means the null hypothesis (H_0) is to be rejected, which means the model includes random effects, or unit-specific error components. Thus, the best and most suitable model for this study is the Random Effect Model (REM).

Results of the Empirical Model Estimation

In this subsection, the author analyzes the outcomes of the Random Effect Model (REM) and the results from the software EViews version 12, including the results from the statistical model. As stated in previous chapters, and based on model selection criteria such as the Hausman test and the Lagrange Multiplier (LM) test, the author justifies the selection of the Random Effect Model. The LM test indicates that there are random effects in the model, and, as a result, this model captures the individual heterogeneity in the error term.

Thus, panel data regression using the Random Effect Model captures the random variation at the individual level as heterogeneity in the error term. Table 4 presents the results of the estimation. The author states that the model under

consideration should not suffer from the problems of normality, multicollinearity, or heteroscedasticity. As such, the author of the model indicates the presence of autocorrelation in the model that needs to be addressed.

This study uses the Panel Corrected Standard Errors (PCSE) method to tackle bias due to autocorrelation. PCSE aims to reduce bias in the presence of autocorrelation in the error term (Li et al, 2017). Thus, the model autocorrelation issue has been addressed, allowing the model to produce estimations that are valid and reliable.

Table 4. Results of the Random Effect Model estimation

Variable	Coefficient	t-Statistic	Prob.
C	74.17583	14.03124	0.0000
Dummy_2021	-0.408554	-0.787738	0.4366
lnINC	-0.863546	-2.540950	0.0161
lnCG	0.482167	2.477726	0.0187
POV	0.037268	0.312842	0.7564
HL	-0.144565	-2.510827	0.0173
R-squared (R^2)	0.346129		
F-statistic	3.387859		
Prob(F-statistic)	0.014395		

As shown in Table 4, there are several findings from regression estimations using Random Effect Models (REM). In this case, the REM specification includes a time dummy variable for 2021, which is assumed to control for the effect of the COVID-19 pandemic. The variable does not appear to have a statistically significant effect on the Indonesian Happiness Index. The absence of significance for the 2021 dummy variable in the Random Effect Model is probably due to the small sample size in the time dimension and the mechanism by which REM estimation includes cross-section and time series. Therefore, the common post-COVID-19 pandemic shocks are likely not to have been captured. The time dummy variable does, however, remain included to limit the risk of bias in the estimation of the main explanatory variables.

Conversely, in the Fixed Effect Model (FEM), the time dummy variable shows a negative and statistically significant relationship with the Indonesian Happiness Index. Meaning, in 2021, due to the COVID-19 pandemic, the level of happiness

suffered a considerable decline. The pandemic genuinely impacted every sector, including health, the economy, and social life. Restricted activities, unstable income, and personal and family health concerns aggravated public anxiety and led to further decline in happiness.

Income and the Indonesian Happiness Index

GRDP per Capita (lnINC) in the Random Effect Model (REM) regression results shows a coefficient of -0.86, which is significant at the 5% level. This is the first instance suggesting that the increase in income leads to an increase in the negative association with the level of happiness in an individual. This is further supported by literature in the area, which suggests that with an increase in income, there is an increase in social pressure, which leads to relative deprivation and subsequently, a decrease in individual happiness (Kang & Lim, 2019; Luttmer, 2005).

For the Indonesian Happiness Index, income proxied by GRDP is downright negative and significant. This is in line with the literature by Easterlin (1974) in which argued that an increase in income does not increase happiness, and, in some cases, happiness is progressively reduced with an increase in income.

Also consistent with the literature is the finding by Graham et al. (2010), which shows the negative relation between economic growth and happiness, which is the Paradox of Unhappy Growth. It explains, among other things, that economic growth is accompanied by new pressures in life such as employment, urbanization, and other social inequalities, which negatively affect the level of happiness.

This applies closely to the case of Indonesia, which is experiencing major changes due to digitalization and the rapid growth of the economy. However, these transformations have not been coupled with a fair distribution of overall welfare, adequate jobs, and stable prices. These results indicate that simply increasing the income may not enhance overall societal welfare and strengthen the argument that income, in and of itself, does not determine people's happiness.

Charitable Giving and the Indonesian Happiness Index

The REM regression in the case of Indonesia shows that the lnCG variable, which is proxied by ZIS, has a coefficient of 0.48, which is statistically significant at the 5 percent level. This means that statistically, the increase in charitable giving is correlated with happiness. This is also in line with other studies in China that show a statistically significant relationship between the charitable giving of donors and the happiness of donors (Zheng et al., 2021). The study also indicated that in China, the

philanthropy system has been a product of the system of philosophies that culture and indirectly shape and stimulate charitable acts (Zheng et al., 2021). In the case of Indonesia, most people are Muslims, and Islam encourages people to give charity as a way of expressing social concern and achieving spiritual success (*falah*), and Islam promotes the idea that charity gives feelings of satisfaction and happiness. So, people who engage in volunteer work and charity are probably happier than people who don't.

This conclusion is also in line with the views of many philosophers, including Socrates, Plato, Aristotle, Al-Farabi, Ibn Sina, and Al-Ghazali, that true happiness or eudaimonia is achieved through virtuous and morally good actions (Dhiman & K, 2021; Michel, 2019; Nazari, 2024; Soleh, 2022). Having moral virtue and a good heart also enables a person to think and act for the good of other people (Dhiman & K, 2021; Michel, 2019). Al-Ghazali states that morally virtuous people are those who do good for spiritual purposes, and such people are the ones who will be truly happy (Soleh, 2022).

The role of benevolence and generosity in fostering happiness, as explored by Aydin & Manusov (2014); Goodman (2014) is applicable here with respect to Aristotle and Said Nursi. Altruism is described as the concern of the self for the other, with no expectation of reward, and is a function of moral virtue, as articulated by Morrison & Severino (2007). Such people show a positive correlation to the degree of luminosity in intellectual efforts expended in the search for the meaning of life. These are the qualities of a virtuous person, a soul that is morally and ethically upright. Also, concern for others is the practical embodiment of religious tenets that further develop the good traits and humility.

Poverty and the Indonesian Happiness Index

First, the connection between poverty and the Indonesian Happiness Index shows that poverty, in this context, does not negatively affect happiness. This finding resonates with the Greek philosophers and their thoughts about happiness, and how external factors such as money do not own or define happiness; rather, happiness lies in the virtue of the person (Dhiman & K, 2021). Al-Ghazali, as cited by Soleh (2022), who stated that religiosity helps individuals cope with economic burdens and sustain happiness, says that there is no value in abundance; value lies in the possession of oneself and one's God, which speaks to self-knowledge and self-awareness.

A possible reason, in the context of the Indonesian Happiness Index, is the ability to cope and focus on the economic situation. The ability, in this case, is religion. Religion provides the psychological, social, and economic shields and support needed to survive poverty. [Reeskens & Vandecasteele \(2017\)](#), discuss how religion provides a means to survive the economic burdens and retain happiness.

Health Complaints and the Indonesian Happiness Index

The last finding of this study demonstrates the negative and significant relationship between health complaints and happiness. The health complaint variable has a coefficient of -0.14 at the 5 percent significance level. This is consistent with Amartya Sen's health perspective as being central to an individual's well-being and happiness ([Todaró & Smith, 2020](#)). This is also true for [Xu et al. \(2019\)](#), arguing that physical and mental health, being one of the components of an individual's productivity, increases satisfaction and overall quality of life. In contrast, health problems are likely to lower an individual's happiness.

Conclusion

Results from the panel data regression analysis through the Random Effect Model (REM) show that charitable giving, represented by *zakat*, *infaq*, and *sedekah* (ZIS) is positively and significantly associated with the Indonesian Happiness Index. This finding suggests that the practice of philanthropy can result in greater happiness because charitable giving serves to enhance the welfare of the recipients, while also engendering a feeling of fulfillment and a good emotional state in the donor.

Based on the results, income, in this case measured by per capita GRDP, has an effect on happiness, and this effect is negative and significant. This means that income, in this case measured by per capita GRDP, is less than happiness and is also in line with the Easterlin Paradox, which suggests that more income, or more economic growth, is associated with more social and/or psychological problems, and ultimately makes people less happy. On the other hand, the variable poverty has reinforced that material factors are not all in all with respect to happiness, as the variable does not seem to affect happiness.

Furthermore, the negative effect of health complaints on happiness is also significant, which means that health is a vitally important factor in the overall happiness of a population and, therefore, social wellbeing. In the REM estimation, the 2021 dummy variable does not have a significant effect, but in the case of the

Fixed Effect Model (FEM) Approach, there is a decline in happiness during the COVID-19 pandemic that shows there is an impact of the COVID-19 pandemic on happiness, and it does seem that there was an impact.

The happiness of individuals should not be associated solely with economic conditions. There are other factors, such as morality, social, and spirituality. Within the context of Indonesia's religious society, the social and virtue-related charitable givings are of great importance to the enhancement of happiness.

Limitations

The author encountered some limitations regarding the data, especially the absence of provincial-level data on *zakat*, *infaq*, and *sedekah* (ZIS) for 2017. The author has reached out to the concerned body, the National *Zakat* Board (BAZNAS), and has been informed that there is no provincial-level ZIS data for that year. Moreover, the author of this study has been unable to access the most recent data on the Indonesian Happiness Index. The author has been informed that there are no such data available due to the policy of budget cuts instituted by the government regarding the planning affairs of Indonesia's Bureau of Statistics (BPS).

Due to such data limitations, this study has only been able to accumulate 38 panel observations. While this is a comparatively low figure, it is sufficient for the purpose of conducting the inferential statistical analysis. For this reason, the author of this study has exercised a great deal of care regarding data processing, selection of estimation methods, and interpretation of regression analysis results.

Future studies must remove the limitations deployed in this study by analyzing a greater number of observations through either a longer time period or by incorporating all of the provinces of Indonesia for a more in-depth analysis and greater generalizability of the findings.

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