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## Happiness Inequality and Income Inequality: Theories, Measurement, and Trends



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Thus, income inequality is defined as the difference in income distribution. Income inequality is measured in absolute and relative terms, where the former is the exact difference in incomes while the latter is the proportional difference in income share. Income inequality may exist between individuals of a specific country, between countries, and between the general global population irrespective of countries. Hence, there is within country, between countries, and global income inequality that is reported.

### Synonyms

Happiness: [Life satisfaction](#); [Subjective well-being](#)

Inequality: [Dispersion](#)

### Definition

Happiness is self-reported by individuals and people report different levels of happiness. Some people report high levels while others report low levels of happiness. The magnitude of the difference between the reported levels of happiness reflects happiness inequality.

Individuals and countries have access to income, but income is not shared equally between countries and individuals. Individuals or countries may have a greater portion of income compared to other individuals or countries, such disparity in income earnings is known as income inequality.

### Introduction

Inequality in all its forms remains one of the greatest challenges facing humanity despite the fact that the world is blessed with natural and human resources. To address issues of inequality, which are often associated with high poverty rates and perceived as a social evil, most governments redistribute income by using direct and indirect means. For many countries in sub-Saharan Africa, however, inequality remains “unacceptably high” and persists as a constant phenomenon and a challenge despite Africa’s continued strong economic growth. Nevertheless, efforts have been made by some African countries to set up social safety nets that protect vulnerable people during periods of disasters. Many other frameworks have been developed such as the Sustainable Development Goals (SDGs), which the United Nations General Assembly (UNGA) adopted in 2015

with approximately 17 goals. The SGDs were meant to ensure that no one is left behind and to address environmental, social, and economic challenges. For example, SDG 10 aims at reducing inequality within and among countries based on income (United Nations 2020).

De Neve and Sachs (2020) have posited that the overarching goal of governments is to improve their citizens' well-being. They found a strong correlation between subjective well-being (SWB) and overall SDG index, and a moderate relationship between SDG 10 and SWB. The article aims to contribute to the realization of SDGs and to compare two forms of disparities, one of which is subjective well-being inequality.

A growing area of research in economic development is embedded in the belief that human development needs to be measured, not solely on the criteria of income and physical well-being, but broadened beyond income-related measurements. Of note is that the literature has more research on happiness and income inequality (which is increasing) but there is less on happiness inequality itself. Happiness inequality can be traced back to the comparative studies across countries by Chin-Hon-Foei (1989) and Veenhoven (1990). Newman (2016, p. 1) describes happiness inequality as “the psychological parallel to income inequality: how much individuals in a society differ in their self-reported happiness levels — or subjective well-being.” Although, some literature differentiates between happiness, life satisfaction, and subjective well-being, the happiness literature generally uses these terms interchangeably. In this chapter, the terms “happiness” and “subjective well-being/life satisfaction” are henceforth used interchangeably in an attempt to compare inequality as measured by happiness disparity and income inequality.

Income inequality is the measure of the magnitude of income differences between people or countries. Income inequality “is undoubtedly one of the oldest topics in economic analysis” (Ok 1996, p. 513) and has been a prominent measure of inequality but there are other studies (Helliwell et al. 2016; Ovaska and Takashima 2010; Veenhoven 1990 and 2005) that have reservations about it as a measure of inequality. Income

inequality, therefore, has been progressively developing as a theoretical evolution (from Kuznets 1955 to Piketty 2014) by trying to decipher this economic phenomenon. The literature prominently measures happiness inequality using standard deviation, while the Gini index is the common measure of income inequality. The Gini index, however, is a relative measure that fails to capture absolute differences in income. Some of its limitations include: the income concept; failure to capture social benefits; or interventions that bridge inequality between rich and poor. Income can be defined at the household level by being weighted by household size or with other scales; or at an individual level when some considerations include wage earnings or livelihoods. Each income definition gives a different measure of income and different levels of income inequality. A social assistance program, like a basic income grant, is also a mechanism for income redistribution but the informal sector is not factored into the index. Thus, a Gini index based on individual incomes is different to a Gini index based on household incomes for the same country.

Most studies measure global inequality in income inequality. The United Nations (2020) states that relative income inequality has declined (that is, income inequality between-countries) due to accelerated Chinese economic growth between 1980 and 2010. However, the absolute (within-country) income inequality has increased in many countries. Our focus in this chapter, therefore, is on such income inequality within-country since all the reviewed happiness inequality literature has evaluated income inequality as within-country.

According to Veenhoven (2005, p. 457), “inequality is returning to modern nations and . . . this is manifest in the widening disparities in income in the late 20th century.” Despite the general belief in the literature that within-country income inequality is increasing globally, some happiness inequality researchers (Clark et al. 2012; Dutta and Foster 2013; Niimi 2016; Stevenson and Wolfers 2008; Veenhoven 2005) reveal contrary findings by using happiness inequality as a measure of inequality. The proposals to supplement **income** inequality with **happiness**

inequality (Niimi 2016) and to replace **income** inequality with **happiness** inequality as a measure of inequality (Veenhoven 2005) have since fueled the debate about the appropriate measure of inequality. Veenhoven's (2005) proposal for a different measure of inequality; namely, happiness inequality, follows from his findings that inequality decreases when measured with happiness inequality.

The increasing trends in inequality in the literature (Clark et al. 2012; Dutta and Foster 2013; Niimi 2016; Stevenson and Wolfers 2008; Veenhoven 2005), when measured in happiness disparity, have motivated others to see happiness inequality as a better measure of inequality than income inequality. Helliwell et al. (2017, p. 34) in an update on their World happiness report (2016) state that, "well-being inequality may be as or more relevant than the more commonly used measures of inequality in income and wealth." Becchetti et al. (2014) state that happiness inequality literature is rare, and the few studies that exist by Dutta and Foster (2013), Stevenson and Wolfers (2008), and Van Praag (2011), among others, were conducted in developed countries where an increase in income does not affect happiness. Examples of the latter studies were done in the United States of America by Stevenson and Wolfers (2008), whereas Clark et al. (2012) and Becchetti et al. (2014) studied Germany, while Niimi (2016) studied Japan. Opportunities exist, therefore, for researchers to conduct happiness inequality studies in a developing country where income affects happiness. This approach would assess if happiness inequality is decreasing (as observed in studies carried out in developed nations) and determine whether the measures must supplement each other.

The growing importance of happiness inequality makes this chapter's objective of comparing happiness and income inequality an imperative. The debate on inequality is a thorny subject globally, and studies in developed countries have only informed the suggestion to measure happiness inequality as opposed to income inequality. Frameworks being developed such as the Sendai Framework of Action 2015–2030 (United Nations International Strategy for Disaster Reduction

(UNISDR) 2015) among others, have the overarching world objective to decrease absolute inequality; hence, there is a commitment to decrease inequality within-countries and the income gap between-countries.

The remaining part of this chapter is arranged as follows: **section 1** presents the background and definition of happiness inequality and income inequality; **section 2** discusses theories of income and happiness inequality; **section 3** explores the measurement of income and happiness inequality; **section 4** gives a trend analysis of income and happiness inequality; and **sect. 5** covers the conclusion.

## Background and Conceptualization of Income and Happiness Inequality

Income inequality is traceable from the writings of Jean-Jacques Rousseau's (1712–1778) *Discourse on Inequality*, and the works of David Ricardo (nineteenth century) and Karl Marx (mid-nineteenth century) to mention a few. These previous theorists observed that a disproportionate share of income was based on the means of production relevant at each period. Rousseau (trans: 1964) believed that citizens ought to think about what is natural not on things which are corrupt but on things which are well ordered by nature. In other words, nature established equality among men and but men instituted inequality (Rousseau trans: 1964). Ricardo observed the uneven income share favored landowners while Marx observed unequal income share favored capitalist owners (Acemoglu and Robinson 2015). According to Acemoglu and Robinson (2015), many vital ideas from social science theorists draw from Karl Marx's work that includes general laws of capitalist accumulation, which was profoundly informed by the living situation under which Marx wrote and lived nineteenth century. Marx (trans: 1964) wrote that the economic situation exhibited a transforming society experiencing the rise of industrial production and social disruptions – containing an economic divide between the rich and the poor. At the center of this income inequality are the forces of production and means

of production, which lead to disproportionate share of economic growth between the holders of capital and labor under capitalism (Acemoglu and Ribonson 2015).

The first traceable use of studies of inequality in happiness began with comparative studies between various countries. The examination of happiness inequality in a number of countries involved a threefold purpose: calculating happiness inequality within each country; comparing the happiness inequalities between-countries; and attempting to explain why countries differ in happiness inequality. People within a country may report different levels of happiness: some may report high levels; while others could report low levels of happiness. The difference between the reported levels of happiness within a country is inequality in happiness. Hence, Veenhoven (1990, p. 2) defines happiness inequality as follows:

[The] ‘within nation inequality in happiness’ is the degree to which citizens in that country differ in happiness. If, however one half of the citizens in a country are very happy and the other half are profoundly unhappy, the country can be said to be characterized by high inequality in happiness.

Chin-Hon-Foei (1989) computed the within-country inequality in life satisfaction by studying the difference in life satisfaction dispersion within each country; namely, the effects of economic fluctuations on life satisfaction inequality in France, Belgium, the Netherlands, Germany, Italy, Luxemburg, Denmark, Ireland, and the United Kingdom. Chin-Hon-Foei (1989) based economic fluctuations on the year-on-year percentage change in real gross domestic product per capita and life satisfaction disparity based on standard deviation. He further calculated correlations for both variables for each country where he deemed positive correlations as expressing the impact of economic fluctuation on life satisfaction inequality. He found that the economic fluctuation impact varies from country to country since each country may vary in characteristics.

Meanwhile, Veenhoven (1990) examined 28 countries, aiming to compare happiness inequalities of these countries to ascertain why countries exhibit differences in this regard. He found that countries differ in within-inequality in happiness.

Happiness inequality was low in countries where there was high social equality, democracy, and economic development. Veenhoven (1990) found that these characteristics are more noticeable in the rich than in the not-so-rich countries. He further found no correlation between happiness inequality and income inequality in rich countries.

Unlike previous cross-country studies, Chin-Hon-Foei (1989) and Veenhoven (1990) Gandelman, and Porzecanski (2013) and Ovaska and Takashima (2010) measured happiness inequality of a diverse range of countries, which differ in economic and socioeconomic features. Ovaska and Takashima’s (2010) interest was to establish the main factors and policies that most affect happiness inequality within nations, while Gandelman and Porzecanski (2013) wanted to compare levels of income and happiness inequality between countries. Ovaska and Takashima’s (2010) main interest was the relationship between income inequality, quality of institutions, and happiness inequality and they found a positive relationship between income inequality and happiness inequality. Gandelman and Porzecanski (2013) found higher levels of income inequality compared to happiness inequality globally, but there was a difference between developed and developing countries. The decreasing marginal utility of income was alluded to as the cause of low happiness inequality compared to income inequality. Low-income countries exhibited higher income and happiness inequality compared to higher-income countries.

## Theories of Income and Happiness Inequality

Income inequality has many theories that date as far back as Kuznets’ (1955) mid-twentieth century study. Kuznets (1955) studied income inequality trends in the course of changing economic development in developed countries. He postulated that income inequality increases in the early stages of economic development before decreasing in the later stages. There appears to be little empirical evidence supporting Kuznets’ (1955) hypothesis

since, “very few developing countries have followed the predictions of the Kuznets’ hypothesis” (Ravallion 2018, p. 629) and “as Piketty has shown, the explanatory power of the Kuznets Curve does not extend past 1970” (Hickel 2017, p. 2217). Thus, Thomas Piketty brought a theoretical framework where income inequality is driven “by capital income, inherited wealth, and rentier billionaires” (Acemoglu and Ribonson 2015, p. 9).

According to Acemoglu and Ribonson (2015), Piketty further postulates a capital-driven rise in income inequality when interest rates ( $r$ ) (Real interest rate, which measures the net real return on capital) are greater than growth rates ( $g$ ) (Gross Domestic Product (GDP) growth rate); capital income will increase at  $r$  while national income increases at  $g$  and since capital ownership rests with few rich people it means capital income will disproportionately accrue to the few rich. Acemoglu and Ribonson (2015) find Piketty’s theory lacking since empirical evidence does not corroborate Piketty’s claims and the theory downplays the role of policies and institutions. Instead, they offer an income inequality theoretical framework where the role of these factors is elevated, and they advise that, “[a]ny plausible theory of the nature and evolution of inequality has to include political and economic institutions at the centre stage” (Acemoglu and Ribonson 2015, p. 25).

Meanwhile, the study of happiness inequality is more recent as it can be traced to Chin-Hon-Foei (1989) and Veenhoven (1990) rather than income inequality that dates back to the nineteenth century. Nonetheless, the happiness inequality literature is lacking; only few studies explore this economic phenomenon (Becchetti et al. 2014; Chin-Hon-Foei 1989; Clark et al. 2012; Dutter and Foster 2013; Gandelman and Porzecanski 2013; Niimi 2016; Ovaska and Takashima 2010; Stevenson and Wolfers 2008; Veenhoven 1990 and 2005) compared to the vast amount of income inequality literature. Becchetti et al. (2014) cited the inability to redistribute happiness compared to income as a possible reason for the lack of happiness inequality literature. Therefore, the assumption one can make about the lack of happiness inequality literature is that

happiness/subjective-wellbeing is relatively recent and there is no theoretical reference to happiness inequality besides Van Praag (2011).

Van Praag (2011), in his attempt to outline a theoretical framework, argued that subjective well-being inequality literature could not adequately define happiness inequality without taking into consideration the reference group concept. Van Praag (2011) argued that an individual’s characteristics affect happiness inequality; namely, income, marital status, and health among others. These individual characteristics are those that usually affect average happiness. Yet, one characteristic of individuals that also plays a vital role in determining happiness inequality is belonging to a reference group; therefore, the literature exploring happiness inequality needs to add such reference group characteristic(s). This dimension shows how individuals tend to compare themselves to other people who are similar in some form, and that comparisons may affect their level of happiness, therefore, affecting happiness inequality. However, “[t]he reference effect depends on how frequently individuals compare with others and on the degree of social transparency in society” (Van Praag 2011, p. 111). Van Praag (2011), therefore, re-emphasized the need for prospective happiness inequality research to include a reference group when analyzing the effects of covariates on happiness inequality.

## Measurement of Income and Happiness Inequality

There are many measures of income inequality and researchers have tested these measures to see if they meet certain criteria. One criterion is the principle of transfers that says a transfer of income from a richer to a poorer person ought to reduce income inequality (Dalton 1920). Many researchers have tested inequality indices including Atkinson (1970) who tested the validity of common measures of income inequality and found reasons for rejecting all of them. Variance was “mean independent” making the measure affected by equal increases in all income levels.

The coefficient of variation attached equal weights on transfers from different levels of income, Gini coefficient attached more weight on middle-income level transfers and standard deviation of logarithms attached more weights to lower-income level transfers. The transfers from rich to poor, which lead to positive decrease in inequality, did not affect relative mean deviation and interquartile range, thereby introducing the “Atkinson index” as another measure of income inequality.

Champernowne (1974) compared the performance of inequality indices in measuring inequality under three types of inequality: inequality because of great relative wealth and poverty, among less extreme income. He selected six indices: coefficient of variation, standard deviation, and two special cases of Atkinson indices, Gini coefficient and Theil’s entropy-based satisfaction of some of seven criteria. He advised that one should choose an index that is sensitive to a type of inequality.

Allison (1978) evaluated the ability of the inequality measure to satisfy basic theoretical criteria; usage in interval scales; and their relationship to the Lorenz curve. Three inequality measures; Coefficient of Variation, Gini and Theil’s index, remained usable under the criteria since they satisfy the scale invariance and principle of transfer tests. Hence, Allison (1978, p. 877) concludes, “[a]lthough the Gini index is the most popular measure of inequality, it does not appear to possess any special advantages over the other two measures.”

Goda and Garcia (2017) used the variance to measure inequality since the index remains constant once all incomes adjust by equal absolute amount and it satisfies all the properties of inequality indices. Alvaredo et al. (2018) used income shares to measure income inequality. They argue that the Gini coefficient is too technical for normal people to comprehend; its strength of combing data for everyone in a country in one single index may serve as its weakness and it downplays top and bottom transfers since it put more weights on mid-level income.

Out of the aforementioned measures of inequality, there is a tendency for researchers to

choose what is convenient or familiar to them as there is no set criteria on which index to use (Allison 1978). According to Ok (1996, p. 514), however, “[i]t is well known that all of the inequality measures in use are subject to reasonable criticism.” The most used measure of income inequality is the Gini coefficient (Florian 2016). Studies by Amarante and Colacce (2018); Florian (2016); Hickel (2017); Hong et al. (2019); Milanovic (2013); Peters and Volwahn (2017); and the UN (2020) measured inequality using the Gini coefficient. Hong et al. (2019) reported results using two Atkinson indices, variance of the logarithm, ratios of income share, mean logarithmic deviation, and the Theil index.

Income inequality is a common measure of societal inequality, but happiness inequality researchers think it can be a flawed measure of inequality. Veenhoven (1990) deems income inequality as an inappropriate measure of social inequality due to the fact that the: “spread of happiness indicates overall inequality right away, happiness is the same everywhere, [therefore] this indicator bypasses the problem of relevance of social inequalities considered” (p. 13). Veenhoven (2005) wanted to find out if inequality has returned to modern nations since he felt that to answer such a question there is a need for an appropriate measure of inequality, which is a comprehensive measure. According to Veenhoven (2005), therefore, income inequality is an outdated measure based on the nineteenth century’s situation, and it was also not an all-inclusive measure needed to investigate the return of inequality. Helliwell et al. (2016, p. 28) argued that happiness inequality is the best measure of inequality since, “inequality of subjective well-being provides a more inclusive and meaningful measure of the distribution of well-being among individuals within a society.”

Income inequality assumes all people value income equally, while in reality people value income differently. Ovaska and Takashima (2010, p. 206) suggest happiness inequality as an alternative measure of inequality because “happiness incorporates everything [that] an individual cares about (material valuations, personal relationships, health, freedoms, etc.), it is potentially

more suited measure of inequities in society than any income-based measure.” Based on these cited weaknesses of income inequality, happiness inequality theorists offered an alternative measure of inequality in the form of dispersion of happiness/life satisfaction/subjective well-being.

In the midst of such proposals offered by happiness inequality devotees, it is important to evaluate how current researchers appropriately measure happiness inequality. Happiness inequality, like other inequality measures, has many possible facets of measurement, and Kalmin and Veenhoven (2005) have since evaluated the appropriateness of these measures. The divide in the research community on the appropriate measure of happiness inequality between standard deviation and Gini coefficient prompted them to review all nine descriptive statistics that could measure happiness inequality.

The descriptive statistics were:

1. Range.
2. Average deviation from the mean.
3. Variance and its square root the standard deviation.
4. Coefficient of variation.
5. Interquartile range.
6. Mean pair distance.
7. The Gini coefficient.
8. Theil’s measure of entropy.
9. Percentage outside modus.

The review involved five steps:

1. How researchers assess happiness of nations (researchers use “central tendency” statistics to measure level of happiness, meanwhile happiness inequality involves dispersion of happiness, which needs spread measuring statistics instead).
2. A list of the spread measuring statistics (where they discuss their underlying assumptions).
3. The construction of hypothetical number distributions that cover the notion of inequality.
4. Definitions of criteria for performance.
5. An assessment of the statistic’s performance based on the defined criteria for performance on the constructed hypothetical distribution.

Kalmjin and Veenhoven (2005) analyzed the statistics by executing the best performing statistic test on constructed hypothetical distributions of inequality in happiness in nations and found that five of the nine statistics (range, Gini coefficient, Theil’s measure of entropy, percentage outside modus, and coefficient of variation) did not qualify as a measure of inequality in happiness in nations. There was no clear best performer between standard deviation and other three statistics while the Gini coefficient failed the test. Kalmjin and Veenhoven (2005) concluded, therefore, that there is no reason to stop using standard deviation as a measure of happiness inequality due to its observed performance and the fact that researchers use it most commonly.

Dutta and Foster (2013) contested Kalmijn and Veenhoven’s (2005) assumption of cardinality in happiness that enabled them to use standard measures of inequality such as standard deviation and the Gini index. Becchetti et al. (2014); Clark et al. (2012); Niimi (2016); Stevenson and Wolfers (2008); and Van Praag (2011) followed suit and assumed cardinality. Dutta and Foster (2013) viewed the aforementioned approach as problematic since they contested that happiness data is ordinal and standard inequality methods are not suitable measures. According to Dutter and Foster (2013), standard measures of inequality are mean based, leading to the inability of these measures to preserve the order if interval scales change that make it difficult to ascertain whether inequality is decreasing or increasing. Owing to the ordinality of happiness data and inadequacy of standard inequality measures, they used the Allison-Foster method to measure happiness inequality, which they admitted was barely used as a method by happiness inequality research to measure inequality of happiness. The Allison-Foster method is a median-based measure of inequality making this measure order preserving.

Even though Dutta and Foster (2013) disputed the use of standard deviation, their findings remained the same as those studies that used standard deviation. While this further validates the use of standard deviation, Dutta and Foster (2013) thought this measure inappropriate for happiness inequality due to the ordinal nature of happiness.

In fact, Niimi (2016) gratified the use of standard deviation by referring to Frey and Stutzer (2000), Ferrer-i-Carbonell and Frijters (2004), and Clark et al. (2014). According to Niimi (2016), Frey and Stutzer (2000), and Ferrer-i-Carbonell and Frijters (2004) found that assuming ordinality or cardinality of happiness scores makes slight alterations to estimates of the determinants of happiness. Whereas Clark et al. (2014) found similar results when they assumed cardinality and measured happiness inequality using standard deviation, and when they quantified happiness inequality using the index of ordinal variation, which is a measure of ordinal variables.

Veenhoven (1990) used standard deviation since it is the most appropriate measure of spread and Chin-Hon-Foei (1989) measured happiness inequality by computing standard deviations. Clark et al. (2012), Ovaska and Takashima (2010), and Veenhoven (2005) used Kalmjin and Veenhoven's (2005) reasoning to measure happiness inequality using standard deviation. However, Clark et al. (2012) also used the index of ordinal variation for robustness. Becchetti et al. (2014) measured happiness inequality using variance and Gini index (the use of Gini coefficient was for robust check). Niimi (2016) also used Gini index for robust check. Becchetti et al. (2014) had concerns about the Gini index as a measure of happiness inequality citing that the Gini index underestimates happiness inequality, as happiness is a bounded variable. Nevertheless, they continued using the measure as a robust check and found similar findings obtained using the variance.

Stevenson and Wolfers (2008) used the variance as a measure of happiness inequality due to the restriction to two parameter distributions as they felt other measures of happiness inequality would be a monotonic function. Van Praag (2011) measured happiness inequality using the variance (or standard deviation) due to the introduction of reference group mechanism. Gandelman and Porzecanski (2013) measured income inequality and happiness inequality using the Gini index because this allowed them to compare inequality in income and happiness. Gandelman and Porzecanski (2013, p. 259) also alluded to the

fact that as happiness inequality is new, there is no "large enough body of work to compare and draw conclusions about which standard deviation values imply large or small inequality levels." Therefore, it can be seen that the review of different happiness inequality literature found that each study provided reasons for its choice of measurement, yet the most common measure was standard deviation.

### **Trend Analysis of Income and Happiness Inequality**

Income inequality is measured in relative and absolute terms and reported as global, between-country and within-country income disparities (Goda and Garcia 2017). Global income inequality comprises between-country and within-country income inequality. Relative global income inequality reflects individual income share from total world earnings while absolute global income inequality measures the difference between individual incomes irrespective of nationality. The former is extremely high since between 1980 and 2016, the richest 1% earned 27%, while the poorest 50% of global population earned 12% of global income growth (Alvaredo et al. 2018). Their world inequality report (2018) also reflected a rise in the top 10% income share at varying degrees between 1980 and 2016 (Europe, North America, China, India, and Russia). However, relative between-country income inequalities have decreased in the last decades due to Chinese and Indian accelerated economic growth (Alvaredo et al. 2018; Hong et al. 2019; Milanovic 2013; United Nations 2020) leading into a decreasing relative global income inequality trend (Hong et al. 2019; Milanovic 2013). The decrease in global inequality measured in relative terms is due to a between-country decrease outweighing within-country income inequality increase (Amarante and Colacce 2018; Hong et al. 2019; Milanovic 2013).

Although in relative terms the gap between rich and poor countries is decreasing, the absolute income gap between rich and poor countries is still high (Alvaredo et al. 2018; Milanovic 2013;

United Nations 2020) and increasing (Hickel 2017). Absolute within-country income inequality has increased in most countries in the last few decades (Alvaredo et al. 2018; United Nations 2020). The countries that exhibit high absolute income inequalities include most developed and some middle-income countries, while income inequality in most Latin America, the Caribbean, and many African and Asian countries showed decreasing income inequality. However, the decreasing trend of income inequality is reversing in some Latin American countries while South Africa has the highest level of income inequality in the world (Alvaredo et al. 2018; United Nations 2020). The literature also reports increasing absolute global income inequality. According to the latest research, therefore, the primary driver of currently observed increasing absolute global inequality is the increasing within-country income inequality overshadowing the decreasing between-country income inequality (Goda and Garcia 2017; Hickel 2017).

There is also disagreement between relative and absolute global income inequality (decreasing relative and increasing absolute Gini) (Ravallion 2018). However, the general view is that the global income inequality trend is increasing since most people view income inequality in absolute terms (Ravallion 2018) and the objective of meeting the United Nations 2030 Goals (including SDG 10) and targets is based on absolute terms (United Nations 2020). This huge and increasing income gap between the rich and poor is set to remain if the balance of power that informs economic and political policy rests with the rich that have capital assets (Hickel 2017).

Despite the disagreement of these studies, they both agree on increasing income inequality trends within most developed countries. Happiness inequality researchers based their trend studies on developed countries, which most of the literature (Alvaredo et al. 2018; Amarante and Colacce 2018; Florian 2016; Peters and Volwahn 2017; Ravallion 2018; United Nations 2020) has reported on an increasing income inequality trend. However, the happiness inequality cross-country studies preceded the trend studies.

Chin-Hon-Foei (1989), Gandelman and Porzecanski (2013), Ovaska and Takashima (2010), and Veenhoven (1990) in their cross-country studies of happiness inequality did not study the trends of happiness dispersion of countries but calculated each country's happiness inequality. While Veenhoven (1990) and Gandelman and Porzecanski (2013) compared happiness inequality among countries with the intention of postulating why countries exhibit differences in their individual happiness inequalities, Chin-Hon-Foei (1989) and Ovaska and Takashima (2010) attempted to explain the relationship between happiness inequality and other factors. The previous cross-country studies laid the ground for researchers to study happiness inequality trends observed within countries as opposed to comparing happiness distributions among countries and attempting to explain why countries differ in happiness inequality. Veenhoven (2005) investigated the return of inequality in modern nations and proposed to measure inequality by dispersion of life-satisfaction. He found a decrease in the standard deviation, a decline which illustrates a reduction in life satisfaction inequality. He found a decrease in life satisfaction inequality in most observations in the European Union and a decline in both Japan and United States of America.

Veenhoven's (2005) findings of decreasing happiness inequality as opposed to the general notion of increasing income inequality then propelled other studies to compare the trends of income and happiness inequality. These studies included multi-country studies – Clark et al. (2012) explored happiness inequality trends of developed countries (United States of America, Australia, Great Britain, Germany, France, Italy, Spain, Netherlands, and Norway) that had a consistent increase in economic growth while exhibiting a flat average happiness curve. Individual country studies – Stevenson and Wolfers (2008) and Dutta and Foster (2013) (United States of America) and Niimi (2016) (Japan). All these above-mentioned studies (of multi and single dimension) found a decreasing trend of happiness inequality in the midst of increasing income inequality.

However, Becchetti, et al. (2014) found increasing happiness inequality and income inequality in Germany. Therefore, with the exception of Becchetti et al. (2014), these few previous studies based on developed countries, exhibited a difference in trends between happiness inequality and income inequality. Consequently, there is room for more research to compare happiness inequality with income inequality trends in developing rather than developed countries. Although this chapter's mandate is not to present the determinants of happiness inequality, it is important to note that different studies found different relationships between happiness inequality and income inequality. Becchetti et al. (2014); Clark et al. (2012); Stevenson and Wolfers (2008); and Veenhoven (1990) found no correlation between income inequality and happiness inequality, while Ovaska and Takashima (2010) found a positive relationship between income inequality and happiness inequality but Veenhoven (2005) observed a weak correlation between happiness inequality and income inequality.

With the observed increasing income inequalities, it is therefore hard to disregard income dispersion as a measure of inequality because only a few happiness inequality studies have been conducted in developed countries. As already illustrated above, income inequality is a far older view of inequality with a formidable theoretical base. Happiness inequality is recent and it reflects the difference between those who report low and high happiness.

Happiness inequality is a comprehensive measure affected by factors beyond income, but to explain the relevance of income inequality amid observed decreasing trends of happiness inequality, this chapter focuses on income changes. Although, income is rising for everyone, it is increasing exponentially primarily for the rich (Clark et al. 2012) and such people generally report higher happiness than poor people do. In addition, while the income increase may not be affecting the rich's happiness, it may be increasing the happiness levels of the poor. For example, Binder and Coad (2010) conducted a quantile regression and found significant effects of income

on happiness for the lower happiness quantiles and no effects for the highest happiness quantile.

Thus, it means although income is increasing for all, it may increase the happiness of the lower levels while not necessarily changing the happiness of the upper level; so, leading to a decrease in happiness inequality in the midst of increasing income inequality. Therefore, one cannot simply say inequality is not increasing because happiness inequality is decreasing. In fact, at the rate at which income inequality is increasing one ought to be cautious that the observed decreasing happiness inequality trend in developed countries may reverse as income inequality becomes too large to ignore. "In the United States, when income inequality [became] too large, in the 1990s, it revert[ed] the downward trend in happiness dispersion" (Clark et al. 2012, p. 4).

Using Van Praag's (2011) reference group theoretical framework to explain the reversal of the decreasing happiness inequality trend when income inequality is too large, people compare themselves to others who share similar characteristics. This comparison affects levels of happiness further affecting happiness inequality. Based on that reasoning, the rich and poor share one common characteristic; even though the poor may differ to the rich in income, they are both living in the same developed country. Therefore, the poor will compare themselves to the rich; with growing income inequality, the poor will get disgruntled leading to unhappiness thereby increasing the difference between low levels and high levels of happiness. Thus, leading to a reversal of happiness inequality trend once income inequality becomes too large. Consequently, researchers and policymakers must use these measures of inequality in conjunction with each other.

## Conclusion

The chapter compares two measures of inequality: income inequality and happiness inequality. The writers examine the background of each concept to evaluate how these measures came into existence. Happiness inequality was borne out of Chin-Hon-Foei (1989) and Veenhoven (1990)

cross-country studies, while income inequality came out of Ricardo and Marx's observed disproportionate share of income that was based on the dominant means of production in those nineteenth century decades. Happiness inequality is the difference in reported happiness within a country while within-country income inequality is the difference in reported income within a country. The writers then proceed to conduct a brief theoretical review of these measures that happiness inequality lacked as it is a more recent measure compared to income inequality. There are different measures of income and happiness inequality, but the predominant measure of these two inequality measures are Gini index and standard deviation, respectively.

The trend analysis is also important, as there is a growing view among happiness inequality theorists that income inequality is not an appropriate measure of inequality compared to happiness inequality. However, the main objective of the UN's SDG 10 is to decrease inequality within and among countries, thereby leading to the importance of global income inequality measured in absolute rather than relative terms. Thus, the paper observes an increased absolute global income inequality drive by increasing within-country overshadowing a decreasing between-country income inequality. Amid the disagreement between relative and absolute literature both sets of research agree that income inequality is increasing in developed countries where happiness inequality studies are based on. The dominant trend from these studies was of a decreasing happiness inequality and an increasing income inequality with the exception of one study that found an increase in both income inequality and happiness inequality. This has raised the question whether global inequality is increasing when measured by a different measure besides income inequality.

Past studies find that inequality decreases if measured in happiness inequality and as such, they fortify the argument of an alternative or a supplementary measure of inequality. The cited studies that depict such contrary inequality trends, however, are few and based on developed countries. Therefore, this does not give a holistic trend

of global of happiness inequality. Veenhoven's (1990) and Gandelman and Porzecanski's (2013) findings of different happiness inequality levels between rich/high-income and not-so-rich/low-income countries have amplified the need to do more studies on developing countries. It would be adequate if sufficient studies are conducted especially in developing countries and more data on happiness collected for the alternative measure.

This chapter aims to raise awareness of other forms of disparities besides income that people suffer from. Similar to Becchetti et al. (2014) and Niimi (2016), it is not this paper's intention to replace income inequality with happiness inequality. Rather, it is to suggest that if the end goal of earning income is happiness and satisfaction, one should supplement income inequality with happiness inequality. Thus, the writers concur with Becchetti et al. (2014, p. 421) when they say, "[w]e argue that happiness inequality can represent an additional dimension that policy makers might take into account." One cannot simply disregard income inequality as a measure because of the few developed economies studies that have been done when there is evidence of income disparities globally. The first step is to ensure that all countries (developed and developing) measure happiness because there can be no happiness inequality without measuring individual happiness. Once happiness data exists, those charged with measuring happiness inequality may do so and compare the trend of this measure of disparity with income inequality. This will allow for a holistic view of disparities faced by people in any given society.

## Cross-References

- ▶ [Addressing Inequality through an Integral Design Approach for Sustainable Development in Rural Communities](#)
- ▶ [Cultural Inequality and Sustainable Development](#)
- ▶ [Diminishing Inequality through Coaching in Education](#)
- ▶ [Disaster Management: Reducing inequalities within and Among Nations](#)

- ▶ Economic Policy to Reduce Inequality
- ▶ Economic thoughts on Inequality
- ▶ Enhancing Collaboration between Societal Stakeholders for Reduced Inequalities
- ▶ Equality of Membership
- ▶ Gender Inequality and Sustainable Development
- ▶ Gender Inequality in Freedom of Expression
- ▶ Global Economic Change and Inequality
- ▶ Global Policy-Making Process of Inequality Reduction: Equalities and Non-Equalities of Inequality
- ▶ Global Social policy and Inequality
- ▶ Globalization and Countries' Inequality
- ▶ Household Expenditure, Inequality and Sustainability
- ▶ Impact of Energy Inequalities within and Among Nations
- ▶ Inequality of Opportunities
- ▶ Inequity in Mental Healthcare
- ▶ International Organizations that Work on Inequality
- ▶ Measurement of Absolute Inequality
- ▶ Measurement of Inequality
- ▶ National Libraries and their Role as Agents for Equality
- ▶ Perspective Taking: Reducing Inequality within and Among Countries
- ▶ Philosophical thoughts on Inequality from Ancient Greece to Pre-Enlightenment Period
- ▶ Philosophical thoughts on Inequality in Post-Industrial Revolution to the Pre-Sustainability Period (Roughly before 1970s)
- ▶ Philosophical thoughts on Inequality in Sustainable Development Period (Roughly since 1970s)
- ▶ Pro-poor Growth Policies for Poverty Alleviation
- ▶ Psychology of Inequalities Among Individuals
- ▶ Reducing inequalities through Education and Skill Development Courses
- ▶ Reducing Inequalities Through Trade with Less Developed Countries
- ▶ Theoretical Frameworks on Tertiary Education Inequality in the SDG Era
- ▶ Urban Metabolism as Driver for Inequalities: Case of Ho Chi Minh City

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