

**The Political Economy of Life Satisfaction:  
Democracy, National Wealth, and Personal Income**

**Abstract**

Numerous studies examine the micro dynamics of subjective well-being (SWB) generally, or life satisfaction (LS) more specifically. Others also document the macro determinants of SWB and LS. We propose a model linking the two, in which an individual's life satisfaction is contingent on 1) personal circumstances, 2) national factors such as democratic governance and the national wealth, and 3) the explicit interaction of these two levels of analysis. We test three sets of hypotheses that arise from this model with compiled data from six waves of the World Value Survey (WVS) data. The empirical evidence we present supports most of the hypotheses, including our novel proposition that both national wealth and democracy reduce the effect of individual personal income on LS.

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## I. Introduction

During the Great Famine of China in the 1950s, at least 30 million people are estimated to have died (Lim 2012). Another non-democratic country, North Korea, experienced a famine in the 1990s that killed 3 million people (Mackenzie 2023). These are examples of human suffering on a massive scale. Although survey research was not conducted, one assumes that during starvation these millions of people had extremely low ‘life satisfaction.’

Amartya Sen, a renowned development economist, is particularly noted for his simple thesis that the word “non-democratic” describes the circumstances driving famine itself. Sen (1999, 16) argues that in stark contrast to the famines that have occurred in non-democracies, ‘functioning democracies’ like India and Botswana, despite being similarly poor and vulnerable to crop failures, have historically avoided famines. Dramatically put, history suggests that no leadership in a functioning democracy could survive the voting public’s reaction in elections to the (preventable) death of millions of fellow citizens while authoritarian leaders could.

In this paper we examine how democracy and national wealth deeply moderate a well-known individual-level phenomenon – the fact that personal income influences life satisfaction. Our original contribution is to argue that life satisfaction is determined not just by an individual’s living conditions but also by *the interaction of that individual and his/her broader social structural environment*. Individuals are obviously part of a larger social fabric, and any understanding of life satisfaction must account for the societal attributes within which individuals reside.

We specifically articulate a theory emphasizing the interaction between micro and macro determinants of life satisfaction. By “micro” we refer to the individual-level correlates of individual life satisfaction, such as a battery of demographic variables as well as attitudinal and ideological variables (Proto and Rustichini 2015; Boes and Winkelmann 2010). By “macro” we refer to the literature indicating that national wealth and regime type both influence life satisfaction (Owen and Willemsen 2008; Orviska, Caplanova, and Hudson 2014). Our goal is to investigate whether and how the macro moderates the effect of the micro, thereby synthesizing these two bodies of well-established literature.

[Figure 1 about here]

Our specific empirical thesis is that national wealth and democracy *reduce* or *ameliorate* a well-known finding in the comparative survey literature, which is that personal income is a positive determinant of life satisfaction. To illustrate our thesis, consider two countries, Italy (a developed democracy) and Yemen (a developing autocracy). We posit that the effect of personal income on life satisfaction should be different between these two societies. The poor in Yemen should be less satisfied with their lives than their poor counterpart in Italy, given the relatively constraining economic and political circumstances in Yemen. A cursory empirical examination using our data, the explanation for which is offered below, is strongly consistent with this basic intuition. As seen in

Figure 1, life satisfaction (y-axis) varies substantially more with the income level (x-axis) in Yemen than it does in Italy.

Our intuitions are as follows. Concerning national wealth, we argue that the effect of individual income on individual life satisfaction is *stronger* in poorer countries than in richer countries because individuals living in poorer countries are more concerned with necessities. These necessities (or basic needs) can be, *ceteris paribus*, better met with higher individual incomes than lower incomes. By contrast, in rich countries individuals are on average much more likely to have basic needs met, which should weaken the association between raw income and life satisfaction, with other items such as self-actualization and personal fulfillment increasingly displacing food and shelter as the main drivers of life satisfaction.

We argue that political democracy should also reduce or mitigate the well-known existing correlations between personal income and life satisfaction. In an authoritarian regime, outside of the people's control, individuals are more likely to rely on the market<sup>1</sup> to meet their needs in the absence of institutional mechanisms to hold political leaders accountable for well-being. In more democratic countries, on the other hand, citizens have a variety of accountability mechanisms to push the government to be responsive, and individuals may not feel the need to rely as much on the market.

The article proceeds in six sections. Section II introduces the concept of life satisfaction, while Section III briefly reviews the classic literature on wealth and democracy, focusing particularly on the implications of the economy literature for the recent literature on subjective human well-being. Section IV articulates a battery of hypotheses stemming from the existing literature, as well as our two novel hypotheses that both national wealth and democracy moderate the individual-level income/life satisfaction relationship. Section V describes our method and data. Section VI presents the empirical findings. Section VII, finally, discusses the implications of our findings and advocates for a 'political economy' of life satisfaction.

## II. Subjective Well-Being and Life Satisfaction

We begin by defining our dependent variable. Subjective well-being, traditionally measured through satisfaction-based queries, can be understood comprehensively as reflecting various facets of life, including material conditions, emotional status, relational dynamics, and diverse life domain satisfactions (Nussbaum 2012). While this study relates to subjective well-being more generally, drawing on existing research we use a particularly common empirical measure, 'Life Satisfaction.' Life satisfaction has been asked in the World Values Survey for a large number of countries in multiple waves and has been a heavily studied dependent variable in the literature (Frey and Stutzer 2000a, 2000b, 2005; Hagerty and Veenhoven 2003, Bjørnskov, Dreher, and Fischer 2010; Welzel and Inglehart 2010).

Conceptually, Nussbaum (2012)'s insightful analysis problematizes these heavily utilized quantitative survey questions, arguing, firstly, that typical measures assume that subjective well-

being is singular and not plural, and second that an individual might focus on the amount of “pleasure” in their life (one concept) as opposed to the amount of meaning or “satisfaction” in their lives (a rather different concept). We acknowledge these points but wish to emphasize Nussbaum’s later caveat: Compared to happiness, which is deeply multifaceted, she notes that human misery is much simpler and, therefore, more comparable across individuals. Indeed, “Bentham’s deepest concern is with pain and suffering, and it is somewhat more plausible to think of pain as a unitary sensation varying only in intensity and duration” (Nussbaum 2012, 337).<sup>2</sup> Our approach emphasizes basic needs in developing countries and scarcity in general. Without trying to oversimplify the determinants of Subjective Well-being (SWB), we suggest that even Nussbaum would agree that variables influencing basic incomes and basic needs are an important part of SWB in general and life satisfaction in particular.

Eventually a full theory of life satisfaction can address the higher range of Maslow’s (1943) hierarchy of needs, including complex theories of human love, belongingness, self-esteem, and self-actualization. Our goal is humbler, which is to provide a “political economy” of life satisfaction, addressing the issues that most obviously relate to the bottom of Maslow’s hierarchy. The bottom rungs of his hierarchy, clearly, are concerned with food and physical security, both of which are highly immediate and purchasable, as opposed to the mysteries of ‘self-actualization.’ Nussbaum, similarly, draws out 10 dimensions of human activities, with the first three being life, bodily health, and bodily integrity, each of which is closely associated with income, although she then turns to ‘thoughts’ and ‘emotions,’ and then deeper human capacities. It is for these reasons that we focus on life satisfaction. We argue that life satisfaction should be deeply influenced by the likelihood that basic needs such as food, shelter, and clothing, among others, can be met.

### III. Theoretical Approaches

Do material things make for a satisfying life? Or put in the vernacular, “does money make you happier?” Without claiming that this is the only typology possible, we detect at least six theoretical approaches to the question in the existing literature followed by our own (seventh) theoretical approach, Embedded Individual Theory. In this short section we sketch these seven schematically and turn to formal derivation of hypotheses in the subsequent section. We explain there our precise theoretical argument (and our precise contribution) vis-à-vis the existing body of prominent theoretical work.

#### 1. Economic Theory (ET):

The most straightforward explanation comes from the idea of diminishing marginal utility. The first amount of money one earns or receives brings substantial benefits (most obviously, meeting basic needs). As income increases and basic needs are better met, however, each additional unit of money should bring less and less additional happiness, even if the relationship should stay positive.

2. Adaptation Theory (AT):

Over time, people can adapt to their income levels, and the initial joy of a pay raise or windfall can diminish. This is often referred to as the “hedonic treadmill.” While there would still be a positive correlation between income and well-being, the rate of increase in happiness would decrease as income continues to rise.

3. Social Comparison Theory (SCT):

People often evaluate their own economic and social worth based on comparisons with others. Having an income that is perceived to be lower than peers or neighbors might lead to feelings of inadequacy or envy, which can negatively impact well-being.

4. Post-Material Society Theory (PMST):

PMST is Inglehart’s notion of “post-materialism,” a cultural regularity that occurs when nations become wealthy, at which point the class struggle takes on less significance and new “post-material” objectives become more important, such as “the environment” or “gender equality”.

5. Maslow’s Hierarchy of Needs Theory (MHNT):

This psychological theory suggests that humans have a series of needs ranging from basic physiological needs (e.g., food and shelter) to higher-order needs (e.g., self-esteem and self-actualization). Money can help fulfill many of these needs, and most especially basic needs. Once basic needs are met, people then pursue higher-order needs for life satisfaction.

6. Democracy-increases-Utility Theory (DUT):

Democratic regimes produce outcomes that are closer to the preferences of the citizens (Frey and Stutzer 2000a; 2000b). The policy outcomes reflect citizens interest which in turn enhances their ‘utility,’ subjective well-being, etc.<sup>3</sup>

7. Embedded Individual Theory (EIT):

Our own argument concerns the potential for interaction between existing strands of literature. We begin with Lichbach’s (2003) well known typology of theories in the broad field of comparative politics: rational choice, institutional, and cultural. He notes that “thin” variants of each approach neglect parts of political reality but nonetheless provide highly parsimonious and useful explanations in some domains of politics. He further notes that “thick” variants of each approach, by drawing upon the other two approaches, provide a *more comprehensive* account of reality, and yet also suffer reduced theoretical parsimony, and sometimes even some theoretical tension, given the implicit cross-theoretical approach.

Our approach maps nicely on this typology. Whereas some of the seven theories above emphasize a ‘thin’ theory of institutions and others emphasize ‘thin’ economic theories of rational individual behavior, we argue for complementing existing approaches with a ‘thick’ approach. We explicitly utilize institutional theory (e.g., regime type) and individual level theory (economic micro theories of income and life satisfaction) within the same framework.

The point of our ‘thick’ approach is to make explicit how institutional theories should *moderate* individual level theories. Democracy and national wealth matter not merely in and of themselves, but in addition, both variables *mitigate* the iron law that personal income influences life satisfaction. Our ‘thick’ theoretical approach is designed to shed clarity on this logic, without explicitly modifying or disagreeing with any of the six theoretical logics advanced earlier.

## Generating Hypotheses

We now organize the existing literature within our macro-micro framework and derive several salient hypotheses, concluding with two original macro-micro hypotheses.

### 1. Micro Analyses of SWB and LS

Most intuitively, there has been ample support for the Economic Theory (ET) articulated above. In fact, Diener (1984: 553) summarizes a vast literature stating “there is an overwhelming amount of evidence that shows a positive relationship between income and SWB [subjective well-being] within countries... Although the effect of income is often small...”. Recent studies also conclude that increasing income leads to higher levels of subjective well-being (Veenhoven 1991; Hagerty and Veenhoven 2003).<sup>4</sup> Following the literature, we expect that all else equal a higher level of individual income will lead to a higher level of individual life satisfaction, leading to our first hypothesis:

**H<sub>1</sub>**: Higher individual income increases life satisfaction as compared to lower individual income.

There is an important variant of this individual level theory, articulated by Easterlin (2001, 2003), which we call Adaption Theory (AT). The idea is that the material aspirations of individuals intensify as they age and ‘adapt’ to their generally improved life circumstances. Various, yet inevitable, negative life events in family, health, and personal finance then impact individuals more strongly in the later stages of life cycle. All else equal, individuals would be less satisfied with their lives when they grow older.

**H<sub>1a</sub>**: Higher age reduces individuals’ level of life satisfaction compare to lower age.

However, life events do not linearly intensify, and the material needs of individuals do not continue to intensify with their age: later in an adult’s life cycle, the material needs become less important. In other words, the level of life satisfaction should be lowest at a certain point in an individual’s life and should bounce back as they age more, a proposition consistent with recent empirical studies (e.g., Frijters and Beatton 2012).

**H<sub>1b</sub>**: The relationship between age and life satisfaction is in an inverted bell-shape.

### 2. Macro Analyses of SWB

Social science is at least as interested in macro social processes as individual level processes. Delhey (2010) examines not richer individuals but rather richer countries, in effect moving the level of analysis from that of the individual to that of the nation. Using our own vocabulary, Delhey usefully turns to the ‘macro’ dimension in a discussion that has been largely ‘micro’ in nature. He specifically utilizes the Post-Material Society (PMS) framework to argue that richer countries reveal greater prevalence of post-materialist concerns than do poorer countries. Indicators such as personal autonomy and job creativity capture post-materialist concerns, which enhance

life satisfaction among richer countries, whereas personal income captures materialist concerns, and is associated with higher levels of life satisfaction for individuals living in poorer countries. Thus, economic conditions as captured by national income levels play an especially important role in influencing life satisfaction among poorer countries. This leads to our second hypothesis.

**H<sub>2</sub>:** National income increases life satisfaction.

Interestingly, Social Comparison Theory (SCT) suggests that H<sub>2</sub> does **not** hold. Easterlin (1995), for instance, demonstrates that rising income is not associated with higher levels of subjective well-being, possibly because individuals view income in relative terms, such that when all incomes rise together people do not feel relatively richer or poorer than their neighbors, and therefore do not experience higher levels of subjective well-being. Other studies also find support for the relative income proposition (Oshio, Nozaki, and Kobayashi 2011). In this case, rising national wealth should leave life satisfaction unchanged, nullifying H<sub>2</sub>.

Turning to the third hypothesis, the bulk of the DUT (Democracy increases Utility Theory) literature on democracy and subjective well-being highlights the positive association between the two (Frey and Stutzer 2000a; 2000b; Frey and Stutzer 2005; Owen, Videras, and Willemsen 2008; Dorn et al. 2007; Loubser and Steenekamp 2017).

Democracy is, of course, a complex and broad concept. Additional studies unpack these nuances while further suggesting that democracy is a salient determinant of SWB. For instance, there is evidence that the relationship between democracy and subjective well-being is moderated by political trust (Prati 2022), and that democracy enhances happiness for certain groups and income levels (Ono and Lee 2016; Orviska et al. 2014). Møller (2001), for instance, demonstrates that in post-apartheid democratic South Africa, whites were happier and exhibited higher levels of life satisfaction as compared to blacks. Turning to temporal dynamics, Easterlin et al. (2010: 22464) shows that the South African transition led to more happiness for Black citizens, but that this effect diminished over time. Without delving too deeply into variants, we nonetheless suggest that the following hypothesis naturally arises from the literature.

**H<sub>3</sub>:** More democracy increases life satisfaction as compared to less democracy.

### 3. How *National Wealth* moderates the Income Effect

We have so far focused on formalizing a variety of existing literatures into a single theoretical structure, but now we turn to developing our own novel perspective. We explicitly emphasize that in a cross-national perspective the effect of individual income on subjective well-being should be conditional on macro-level economic conditions.

We derive our logic from Maslow's "Hierarchy of Needs" Theory (MHNT), the fifth theory discussed in the previous section (Maslow, 1943;1954). For the basic intuition, consider that certain subjective experiences, such as viewing a beautiful waterfall, might depend radically on whether other experiences are being felt. In a situation of aching hunger, the waterfall might not even register in consciousness. But when one is well fed in general, and sated in the immediacy, then the effect of this lack of starvation on subjective well-being is marginal, while the purely aesthetic pleasures of the waterfall might be deeply enjoyed (Bertoni 2015).

**Commented [NB1]:** I think we need to do what the reviewer is asking here – include 'as compared to'....we are comparing higher versus lower income countries so the hypothesis needs to reflect that.

Maslow's (1943) pyramidal hierarchy of basic human needs identifies physiological needs at the bottom of the pyramid followed by safety, love, esteem, and lastly self-actualization needs. We argue that individual incomes help meet physiological needs and such needs are going to be of primary importance in low-income countries. In high-income countries, on the other hand, other non-monetary needs (for instance love, esteem, and self-actualization) come into prominence such that individual income levels become relatively less important.

This means that the relevance of income will differ across life contexts, and we argue that two particularly important life contexts are the overall level of development in a country and the overall level of democracy in a country. Without putting undue emphasis on any of Maslow's categories, or even the exact typology itself, we suggest that the MHNT theoretical approach clearly indicates that personal income should matter very differently in different countries – in impoverished Asia or Africa, perhaps money goes along a way, but for a wealthy citizen in the OECD, money matters less, and other rungs of the hierarchy, such as a beautiful waterfall, might matter more for subjective well-being.

Interestingly, the fourth theory, Post-Material Society Theory (PMST), independently yields the same hypothesis. As societies become more post-material, an individual's happiness derives more from processes other than raw income levels, again weakening the correlation between happiness and income (Inglehart 1996). Citizens in poorer or developing countries, on the other hand, are primarily concerned with basic needs of life such as food, shelter, and clothing. In poorer countries, these fundamental needs can obviously be better achieved through higher personal income levels.

Along the same lines, Welzel (2013, 47) emphasizes the role of emancipative values in achieving human empowerment. The two ways in which it happens are through 'internalization of humanitarian norms' such as social injustice and appreciating 'human self-expression' by voicing such concerns.<sup>5</sup> Welzel demonstrates that emancipative values are stronger among countries with higher GDP per capita. The intuition is that people's subjective well-being has different determinants in rich and poor countries. Material needs and desires are more prominent in developing countries while emancipative desires are stronger in richer countries. Drawing on both theoretical traditions, in short, we generate the following novel hypothesis:

**H4:** The association of individual income with subjective well-being weakens at higher levels of national wealth.

#### 4. How *Democracy moderates the Income Effect*

Returning to democracy, our argument is not merely the conventional one that democracy increases happiness. More originally, we argue that a higher level of democracy *moderates*, and more specifically *reduces*, that iron law across countries, which is that more money tends to be correlated with more SWB.

Our argument is rooted in Sen's influential reflections on democracy as well as the vast subsequent literature on regime type's economic effects. Sen's point is simple, brutal, and yet very deep. Authoritarian regimes oversee human death on a scale scarcely imaginable and yet stay in power. "Democratic governments, in contrast, have to win elections, and face public criticism, and have



strong incentives to undertake measures to avert famines and other such catastrophes” (Sen 1999, 16).

Subsequent literatures expand on the sheer breadth of mechanisms by which a democracy helps stymie catastrophically bad public policy. Diamond and Morlino (2004), for instance, note the value of democracy in their discussion of ‘quality of democracy,’ identifying eight different dimensions of citizen influence, including among others government responsiveness, rule of law, participation, and political competition.

We propose that these dynamics of accountability and public responsiveness in democracies condition the effect of income on life satisfaction. States and markets are complementary mechanisms of ‘want’ and ‘need’ provisions. “Both are concerned with organizing and coordinating human activity, marshalling resources, managing conflict, allocating burdens and benefits, and providing for the satisfaction of human wants and needs” (Clark 1998, p.6). The complementarity implies that individuals’ needs not fulfilled through state provision are subject to the discretion of market. The state provision of human needs is in principle a non-exclusionary public good, while market provision is selective and exclusionary depending on individuals’ resources (Therborn 1987).

A robust democracy provides citizens with a variety of tools to influence governance outcomes. Presence of free press, for instance, increases public awareness of a pending human crisis, enabling citizens to voice their concerns (Verba, Schlozman, and Brady 1995). Strong and effective parties add extra pressure on the government to be responsive to such crises, and in democracies political parties serve as conduits of societal preferences that governments must consider in the policy-making process (Lipset 1996, p.169). Collective societal actors, particularly the working class, also mitigate human misery by forging some form of welfare-state regime in democracies. Power resource theory, for instance, argues that labor and left-leaning governments in democracies expanded the role of the state in by providing a generous safety net that meets the needs of citizens (Huber, Ragin, and Stephens 1993).

To the extent that citizens push states to accommodate their needs, democracy reduces citizens’ dependence on the market, especially the instances of potentially severe shocks to life satisfaction. Sen (1999, 16) in this regard, dramatically states, “It is not surprising that no famine has ever taken place in the history of the world in a functioning democracy – be it economically rich...or relatively poor.”

This leads us to our fifth hypothesis:

**H<sub>5</sub>:** The association of individual income with life satisfaction weakens with the level of democracy of a country.

#### IV. Method and Data

To create the individual-level variables, we use the World Value Survey (WVS) data. WVS is a large-scale, cross-country, and multi-wave project that the extant literature on life satisfaction widely draws on (Frey and Stutzer 2000a, 2000b, 2005; Hagerty and Veenhoven 2003, Bjørnskov, Dreher, and Fischer 2008; Welzel and Inglehart 2010, to name a few). In particular, the waves two

(1989-1993) through six (2010-2014) are used. As discussed in detail above, the dependent variable that captures individuals' subjective well-being is self-rated '*life satisfaction*' ranging between 1 (very unsatisfied) and 10 (very satisfied). The individual survey question used is: "on a scale of 1 to 10, how satisfied would you say you are?"

Our motivation for employing this variable is both theoretical and empirical. First, 'life satisfaction' (A170, "satisfaction with your life?") is conceptually the closest variable in WVS to overall subjective well-being. This choice is consistent with the relevant literature (Altman et al. 2017; Mikucka et al. 2017; Prati 2022). Other survey items could be considered, but the data availability for them is severely limited. The survey items in WVS from A010 ('excitement in life') to A019 ('ever felt upset') could be plausible components of subjective well-being; and yet, these questionnaires were asked only in one wave, as opposed to six waves that we are using. The results obtained from two drastically different samples would not be readily comparable, due in no small part to the differing variations in country-level conditioning variables.

Second, there are alternative approaches such as viewing well-being as a latent concept (Margolis et al. 2019). Alternatives, however, do not offer different results. There are two variables--- 'happiness' (A008, "feeling of happiness") and 'health' (A009, "state of health (subjective)") --- available over multiple waves. Both are four-level Likert-scale variables, offering much less variations than the 10-point scale life satisfaction variable. Nonetheless, we generated a composite indicator using these three variables together, with the possibility of capturing an undiscovered latent variable that might 'truly' resemble overall subjective well-being. However, when factor analysis was conducted, we find that there exists only one factor, suggesting that there is really a single dimension cutting across these three indicators. Not surprisingly, as seen in the Appendix Table A4, employing this factor as a dependent variable does not alter our benchmark estimates in any noticeable way. Likewise, taking an average for these three variables leads to the same conclusion, at the cost of 5000 observations. As such, we adopt a single-item measure of life satisfaction, which offers the advantage of simplicity of interpreting findings (Veenhoven 1996).

The primary individual-level independent variable is the self-reported *income* level ranging between 1 (lowest step) and 10 (highest step). Along with the income variable, a set of individual-level covariates are taken from the WVS data including *interpersonal trust*, *leftist ideology*, *gender (male)*, *age*, and *educational attainment*. These are standard controls included in most studies of life satisfaction (Frey and Stutzer 2005; Bjørnskov, Dreher, and Fischer 2008; Welzel and Inglehart 2010; Orviska, Caplanova, and Hudson 2014).

To account for the level of economic development, as the first national-level factor that we argue condition the effect of income on life satisfaction, we use the natural logarithm of the *Gross Domestic Production (GDP) per capita* from the World Development Indicators (World Bank 2018).

To measure democracy, the second national-level conditioning variable, we utilize the two most widely used measures of democracy in Political Science. The primary variable is the *Freedom House Index (FH)* (Freedom House 2018), which is the sum of 'political freedom' and 'civil lib-

erty.’ We keep the original coding of the Freedom House index such that smaller numbers represent freer (more democratic) societies. As a supplement we also make use of the Polity IV democracy variable, which is part of the Polity IV dataset developed by the Center for Systemic Peace. This variable specifically measures the democratic characteristics of political regimes, emphasizing institutionalized procedures through which citizens can express effective preferences about alternative policies and leaders. We specifically utilize the *polity2* variable of the POLITY IV project (Marshall et al. 2018). While both data sets are widely used in various social science fields, we choose the Freedom House Index for our primary democracy variable not only because it more closely captures the citizenry aspect of democracy than POLITY does, but also, at least in our sample, covers three additional country cases.

Along with these key conditioning variables, we use two national-level covariates, namely, *GDP growth* rates and natural logarithm of *inflation* rates in any given country-year. The distribution of observations for inflation is highly skewed and log-transformation is necessary to obtain normality. In dealing with non-positive inflation observations, we follow the conventional practice described in Eichengreen and Irwin (1995). Detailed explanations for the individual- and national-level control variables are offered in the Appendix.<sup>6</sup>

With these variables, our sample consists of up to 171,372 observations that are distributed over 80 countries. Since multiple waves of surveys were conducted in many of these countries, the number of country-years is 173. The data offer an incomparably large number of observations with sufficient country-level variations to allow for a comprehensive test of our hypotheses. The descriptive statistics and the list of countries included in the sample are reported in Table 1 and Appendix Table A1, respectively.

[Table 1 about here]

We estimate the effect of income levels on life satisfaction using ordinary least standard (OLS) regression models with country- and year-fixed effects. Fixed effect models are now the “gold standard” in using cross-national data (Hamaker and Muthén 2020, 365). Given the constraints posed by the possibility of model specification problems (i.e., omitted variables), the possible correlation between the variables in the country- and individual-level, or the number of clusters (Esarey and Menger 2019; Bell and Jones 2015), fixed effect models stand out as the least problematic choice. We also consider multi-level mixed effect models as an alternative, which we discuss in the robustness check section below.

The baseline fixed effect model used to test  $H_1$  and  $H_{1a}$  can be written:

$$\text{Life Satisfaction} = \beta_0 + \beta_1 \text{Income}_{ijt} + \beta_2 \text{Age}_{ijt} + \mathbf{X} + \psi_j + \kappa_t + \varepsilon_j, \text{ Eq}(1)$$

where  $\beta$ s are coefficients for each variable,  $i$  indicates each individual,  $j$  identifies country, and  $t$  reflects the year of survey.  $\psi$  and  $\kappa$  are country- and year-fixed effects.  $\mathbf{X}$  is a vector of covariates. For testing  $H_{1b}$ , a square term for the age variable ( $\beta_4 \text{Age}^2_{ijt}$ ) is added to this equation.

To test the marginal effects of income and democracy, multiplicative interaction terms need to be added to the baseline model. The fixed effect model to test  $H_4$  (development as a conditioning variable) can be written:

$$\text{Life Satisfaction} = \beta_0 + \beta_1 \text{Income}_{ijt} + \beta_2 \text{GDP pc}_{jt} + \beta_3 \text{Income}_{ijt} \times \text{GDP pc}_{jt} + \beta_3 \text{Age}_{ijt} + \mathbf{X} + \psi_j + \kappa_t + \varepsilon_j. \text{ (Eq2)}$$

Similarly, the model to test  $\mathbf{H}_5$  (democracy as a conditioning variable) can be written:

$$\text{Life Satisfaction} = \beta_0 + \beta_1 \text{Income}_{ijt} + \beta_2 \text{Democracy}_{jt} + \beta_3 \text{Income}_{ijt} \times \text{Democracy}_{jt} + \beta_3 \text{Age}_{ijt} + \mathbf{X} + \psi_j + \kappa_t + \varepsilon_j. \text{ Eq(3)}$$

## V. Findings

### Benchmark Result

Table 2 reports the result of our baseline model (Equation 1). The significantly positive coefficient of the individual income variable in all columns, and particularly Column 4 where two-way fixed effects are applied, lends strong support to  $\mathbf{H}_1$ : The effect of income on happiness is positive. The finding indicates that individual income is positively associated with life satisfaction, providing support to the traditional perspective that increasing income levels help meet human needs, subsequently increasing subjective well-being (Veenhoven 1991; Hagerty and Veenhoven 2003). The table suggests that the estimates are not sensitive to the type of fixed effect or the use of an alternative democracy variable, POLITY (Column 5).

[Table 2, about here]

The Table also offers evidence supportive of  $\mathbf{H}_{1a}$ . The coefficient of the age variable is consistently significantly negative significant across all models ( $\mathbf{H}_{1a}$ ). However, this negative linear effect might not reflect the entire picture. The last column suggests the curvilinear effect of age on life satisfaction ( $\mathbf{H}_{1b}$ ), implying that the negative effect is limited to a certain age. The bell-shaped relationship is visually demonstrated in Figure 2.

[Figure 2, about here]

The benchmark results do not confirm either  $\mathbf{H}_2$  or  $\mathbf{H}_3$ , meaning that there is not a clearly significant direct effect of wealth or democracy on life satisfaction. We caution, however, that the results should not be taken as strong evidence against conventional wisdom, because the strength of the WVS is not in its country coverage, but rather complementing individual level data. With an N of 80 in terms of distinct countries, it is perhaps not overly surprising that the coefficients, while having the correct signs, do not reach conventional significance levels.

The benchmark results reported in Table 3 corroborate our central arguments. While the effect of income is always significantly positive consistent with  $\mathbf{H}_1$ , the result of the models with interaction terms, particularly the benchmark fixed effect regressions (Columns 7 and 8), suggest that the treatment effect of income varies significantly over different levels of democracy and development as  $\mathbf{H}_4$  and  $\mathbf{H}_5$  suggested.

[Table 3, about here]

We illustrate the marginal effect of income over different values of the conditioning variables in Figure 3 to offer an intuitive interpretation of the benchmark results. Specifically, the downward trend of the marginal effect curve in the right panel of Figure 3 indicates that the effect of individual income on life satisfaction is smaller in more affluent societies (higher GDP per capita). Similarly, as the upward trend in the left panel in Figure 3 indicates, the effect of income on life satisfaction is weaker in more democratic societies (lower Freedom House scores). This result is not altered when Freedom House is replaced with Polity: The effect of income is smaller in more democratic societies (higher Polity scores).

[Figures 3 and 4, about here]

The size of these effects compared to those of other independent variables is not small. Take the case of the conditional effect of development. Figure 4 presents the standardized marginal effect of income conditional on specific values of  $\ln(\text{GDP per capita})$ . The effect of one standard deviation change in the income variable (2.33) on life satisfaction when  $\ln(\text{GDP per capita})$  is at about one standard below its mean (6.5) is 0.696 (right estimate at the bottom of Figure 4A) while a similar case with  $\ln(\text{GDP per capita})$  at its mean plus one standard deviation (9.2) is 0.437 (left estimate at the bottom of Figure 4A). The difference between these two estimates is about 0.259. That is to say, the difference in life satisfaction between a relatively better- and worse-off individual in a lower-middle income country versus a comparable difference in a substantially more developed society. This is not a small effect compared to the effects of other covariates. As shown in Figure 4 which plots the standardized marginal effect of the covariates by multiplying the coefficients with their standard deviations, this effect is larger than those of any other covariates. In short, the effect of individual income level is not only statistically significantly weaker but also substantially weaker in a richer economy.

The same story holds true about the effect of income when democracy is the conditioning variable. The effect of a one standard deviation change in the income variable (2.33) on life satisfaction when Freedom House score is at its mean minus one standard deviation is 0.347 (left estimate at the bottom of Figure 4B) while a similar case with Freedom House score of 10 (one standard deviation plus the mean) is 0.610 (right estimate at the bottom of Figure 4B). More intuitively speaking, the former number is the difference in life satisfaction between a relatively poor and a relatively affluent individual in a fully democratic country whereas the latter is the difference between a comparable pair in a substantially undemocratic society. The difference between these two pairs, which a substantive change that income can make in life satisfaction of individuals in these two societies is, therefore, 0.263. This result implies that the effect of one's personal income on one's life satisfaction is reduced by over 43% when living in a (relatively) democratic country as opposed to a (relatively) authoritarian country.

In short, we conclude that  $H_4$  and  $H_5$  are supported not only in terms of statistical significance but also in terms of the size of the income variable's substantive effect. Overall, the findings provide strong evidence that macro-economic and political structural environments condition the relationship between individual income and subjective well-being.

### Robustness Check 1: Multi-level Mixed Effect Model

As an alternative, we also use mixed effect random intercept models given that the primary unit of observations (individuals) is nested in groups (survey). The mixed effect estimates, as reported in Appendix Table 2, are nearly identical to the benchmark fixed effect models, though they differ at decimal points. For example, the coefficient of the interaction term between democracy (Freedom House) and income in the benchmark fixed effect model are .013819 (Model 7 of Table 3) whereas that in the mixed effect model is .0139767 and (Model 2 of Appendix Table A2). We attribute this similarity to the relatively large number of clusters (surveys) as well as the generally similar patterns of relationship between income and subjective life satisfaction across surveys as demonstrated in Appendix Figure A1. Likewise, when tested with wild clustered bootstrap (Roodman et al. 2019), the null hypothesis that the coefficient of the income variable is equal to zero is rejected, reassuring that our benchmark estimates do not suffer from the problems of ‘unbalanced or too few cluster structure’ (MacKinnon, Nielsen, and Webb 2023; Esarey and Menger 2019).

### Robustness Check 2: Matching

Another reasonable alternative to consider with respect to using observational data is matching methods. The imperfect comparability between the treated and controlled observations using non-random trials is well documented (Angrist and Pischke 2008) and matching is often recommended as a way of addressing it (Abadie and Imbens 2006). While matching has its own shortcomings, using a matching method comparable to our benchmark lends further confidence to the latter. We use the ‘coarsened exact matching’ (CEM) developed by Iacus et al (2008). CEM requires less assumptions and is less sensitive to model specifications compared to other matching methods (King et al. 2019).

Our execution of CEM is as follows. First, we construct a dichotomous treatment variable for income for each country-year. We define our treatment, ‘Poor’ (=1) as observations whose income levels are below the country-year mean level. The rich, in other words, are coded as zero. We then run CEM for each country-year sample to generate weights for matched observations. Once the weights are generated, we run an ordinary least squares (OLS) regression with robust standard errors for each survey sample to obtain the average treatment effect (ATE). As expected, most of these case-specific ATEs are negative, meaning that in most countries poor individuals are less happy than the rich ( $H_1$ ). We also regress democracy over these ATEs (i.e., the coefficient of Poor). The result for this regression is plotted in the left panel of Figure 5, indicating that the income effect becomes significantly larger as the society becomes less free. The right panel of Figure 5 suggests that this result is unaltered when the t-statistics, instead of the coefficients, of Poor are used, lending further credence to the significant marginal effect of political regime. Figure 6 indicates that the conditioning effect of development is somewhat weaker, but not much, and the absolute size of the income effect remains statistically significantly larger in less developed economies.

[Figure 5, about here]

[Figure 6, about here]

### Limitations

Before turning to conclusions, we note some important caveats. First, the World Values Survey, while extremely heavily utilized, might be considered more of a ‘convenience sample’ than a ‘probability sample,’ by which we mean that no attempt has been made to randomly select countries. Indeed, a cursory look at Table A2 shows that despite our large sample, African countries are underrepresented.

Second, as discussed earlier, the World Values Survey only provides extensive data on life satisfaction, and technically we therefore cannot yet speak to the overall state of “subjective well-being”. As publicly available datasets continue to expand, however, our framework could easily be extended to other fuller measures of SWB.

## VII. Conclusion and Implications

We postulated that the relationship between individual income and life satisfaction is conditioned by the political economy environment. Drawing on Maslow’s (1943) hierarchy of human needs and Inglehart’s (1996) distinction between material and post-materialistic concerns, we argued that individual incomes play a more important role in influencing life satisfaction in poorer countries where people are more likely to have physiological or material human needs that can primarily be met by income. Among richer countries, on the other hand, individuals have post-materialist concerns that cannot be met by individual income such that income levels come to play a relatively less important role. Our findings strongly confirm this hypothesis.

Second, the link between individual income and life satisfaction is conditioned by the political environment. The link between the two is stronger among less democratic countries and weaker among the more democratic countries. Drawing on a vast body of literature that highlights the benefits of democratic regimes over non-democratic regimes in influencing subjective (Frey and Stutzer 2000, 2005; Owen, Videras, and Willemsen 2008) and objective (Sen 1999) well-being outcomes, we argue that democratic governments provide different political mechanisms to cater to the needs of its citizens. As a result, democratic citizens are less dependent on individual incomes to meet their needs. Non-democratic governments, on the other hand, do not provide such mechanisms and citizens are more dependent on individual incomes to meet their basic needs. Again, our findings strongly confirm this hypothesis.

These findings are not only original but have substantial implications for public policy as well as future studies of life satisfaction. In terms of policy, to the extent that we want to enhance citizen subjective well-being, political leaders and policymakers need to consider the broader structural environment of countries. The relationship between personal income and well-being is perhaps central to human life in modern society, and our findings indicate that this phenomenon varies dramatically across political contexts.

Indeed, just as welfare states can ‘decommodify’ wage laborers (Esping-Anderson, 1993), so too can democracy, somewhat loosely speaking, ‘decommodify’ life satisfaction. In a democracy, or in a wealthy country, satisfaction is much less determined by personal income, and open to influence by citizens’ fuller expression of their broader range of wants and desires. Put in yet another vocabulary, we have essentially argued that democracy allows citizens to better climb Maslow’s Hierarchy of Needs, finding pleasure in self-actualizing, and being less trapped by personal income. Democracy, in short, matters in a hitherto unperceived manner, with rather notable (indirect) effects on citizens’ life satisfaction.

The article also advances the life satisfaction literature per se, complementing other recent research addressing contextual matters. Recent research highlights the importance of other economic determinants, such as inequality (Ng and Diener 2019), as well as the combined effect of inequality and social trust, in enhancing life satisfaction (Mikucka et. al. 2017). Collectively, our study represents an advancement in exploring the role of *context* in life satisfaction.

Finally, our work complements other work connecting democracy and subjective well-being. Democracies provide citizens an array of mechanisms to address their grievances, and existing literature clarifies some of the mechanisms, such as prevalence of direct democracy in producing outcomes that are closer to the preferences of the citizens (Frey and Stutzer 2000a; 2000b). Our approach, therefore, advances a more general attempt to provide a ‘politics’ of subjective well-being, focusing on the effect of different governance attributes such as corruption (Iddisah et al. 2017), as well as the quality of institutions and institutional trust (Shiroka-Pula et. al 2023), on subjective well-being.



## References

- Abadie, A., & Imbens, G. W. (2006). Large sample properties of matching estimators for average treatment effects. *Econometrica*, 74(1), 235-267. <https://doi.org/10.1111/j.1468-0262.2006.00655.x>
- Altman, D., Flavin, P., & Radcliff, B. (2017). Democratic Institutions and Subjective Well-Being. *Political Studies*, 65(3), 685-704. <https://doi.org/10.1177/0032321716683203>
- Angrist, J. D., & Pischke, J.-S. (2008). *Mostly harmless econometrics: An empiricist's companion*. Princeton University Press.
- Bell, A., & Jones, K. (2015). Explaining fixed effects: Random effects modeling of time-series cross-sectional and panel data. *Political Science Research and Methods*, 3(1), 133-153. <https://doi.org/10.1017/psrm.2014.7>
- Bentham, J. (1907). *Introduction to the Principles of Morals and Legislation* (reprint Ed.). Oxford: At the Clarendon Press.
- Bertoni M. (2015). Hungry today, unhappy tomorrow? Childhood hunger and subjective well-being later in life. *Journal of health economics*, 40, 40-53. <https://doi.org/10.1016/j.jhealeco.2014.12.006>
- Bjornskov, C., Dreher, A., & Fischer, J. A. V. (2010). Formal institutions and subjective well-being: Revisiting the cross-country evidence. *European Journal of Political Economy*, 26(4), 419-430. <https://doi.org/10.1016/j.ejpoleco.2010.03.001>
- Blackwell, M., Iacus, S., King, G., & Porro, G. (2009). cem: Coarsened exact matching in Stata. *The Stata Journal*, 9(4), 524-546. <https://doi.org/10.1177/1536867X0900900402>
- Boes, S., & Winkelmann, R. (2010). The effect of income on general life satisfaction and dissatisfaction. *Social Indicators Research*, 95, 111-128.
- Clark, B. S. (1998). *Political Economy: A Comparative Approach* (2nd ed.). Praeger Publisher.

- Delhey, J. (2010). From materialist to post-materialist happiness? National affluence and determinants of life satisfaction in cross-national perspective. *Social Indicators Research*, 97(1), 65-84. <https://doi.org/10.1007/s11205-009-9494-3>
- Diamond, L., & Morlino, L. (2004). The Quality of Democracy: An Overview. *Journal of Democracy*, 15(4), 20-31. <https://doi.org/10.1353/jod.2004.0060>
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95(3), 542. <https://doi.org/10.1037/0033-2909.95.3.542>
- Dorn, D., Fischer, J. A. V., Kirchgässner, G., & Sousa-Poza, A. (2007). Is it culture or democracy? The impact of democracy and culture on happiness. *Social Indicators Research*, 82(3), 505-526. <https://doi.org/10.1007/s11205-006-9025-4>
- Easterlin, R. A. (1995). Will raising the incomes of all increase the happiness of all? *Journal of Economic Behavior and Organization*, 27(1), 35-47. [https://doi.org/10.1016/0167-2681\(95\)00003-B](https://doi.org/10.1016/0167-2681(95)00003-B)
- Easterlin, R. A. (2001). Income and happiness: Towards a unified theory. *Economic Journal*, 111(473), 465-484. <https://doi.org/10.1111/1468-0297.00646>
- Easterlin, R. A. 2003. Explaining happiness, *Proceedings of the National Academy of Sciences* 100(19): 11176-11183. <https://doi.org/10.1073/pnas.163314410>
- Easterlin, R. A., McVey, L. A., Switek, M., Sawangfa, O., & Zweig, J. S. (2010). The happiness-income paradox revisited. *Proceedings of the National Academy of Sciences of the United States of America*, 107(52), 22463-22468. <https://doi.org/10.1073/pnas.1015962107>
- Esarey, J., & Menger, A. (2019). Practical and effective approaches to dealing with clustered data. *Political Science Research and Methods*, 7(3), 541-559. <https://doi.org/10.1017/psrm.2018.50>
- Eichengreen, B., & Irwin, D. A. (1995). Trade blocs, currency blocs and the reorientation of world trade in the 1930s. *Journal of International Economics*, 38(1-2), 1-24. [https://doi.org/10.1016/0022-1996\(94\)01376-A](https://doi.org/10.1016/0022-1996(94)01376-A)
- Freedom House. (2018). *Freedom in the World*. <https://freedomhouse.org>
- Frey, B. S., & Stutzer, A. (2000a). Happiness, economy and institutions. *Economic Journal*, 110(466), 918-936. <https://doi.org/10.1111/1468-0297.00592>
- Frey, B. S., & Stutzer, A. (2000). Happiness prospers in democracy. *Journal of Happiness Studies*, 1(1), 79-102. <https://doi.org/10.1023/A:1010031813402>

- Frey, B. S., & Stutzer, A. (2005). Beyond outcomes: Measuring procedural utility. *Oxford Economic Papers*, 57(1), 90-111. <https://doi.org/10.1093/oep/gpi002>
- Frijters, P., & Beaton, T. (2012). The mystery of the U-shaped relationship between happiness and age. *Journal of Economic Behavior & Organization*, 82(2-3), 525-542. <https://doi.org/10.1016/j.jebo.2012.03.008>
- Hagerty, M. R., & Veenhoven, R. (2003). Wealth and happiness revisited - Growing national income does go with greater happiness. *Social Indicators Research*, 64(1), 1-27. <https://doi.org/10.1023/A:1024790530826>
- Hamaker, Ellen L., and Bengt Muthén. 2020. "The fixed versus random effects debate and how it relates to centering in multilevel modeling." *Psychological methods* 25(3): 365-379. <http://dx.doi.org/10.1037/met0000239>
- Huber, E., Ragin, C., & Stephens, J. D. (1993). Social democracy, Christian democracy, constitutional structure, and the welfare state. *American Journal of Sociology*, 99(3), 711-749. <https://doi.org/10.1086/230300>
- Iacus, S. M., King, G., & Porro, G. (2008). Matching for causal inference without balance checking. *Political Analysis*, 20(1), 1-24. <https://doi.org/10.1093/pan/mpi013>
- Iddisah Sulemana, Abdul Malik Iddrisu, & Jude E. Kyoore (2017). A Micro-Level Study of the Relationship Between Experienced Corruption and Subjective Well-being in Africa. *The Journal of Development Studies*, 53(1), 138-155. <https://doi.org/10.1080/00220388.2016.1187721>
- Inglehart, R. (1996). The diminishing utility of economic growth: From maximizing security toward maximizing subjective well-being. *Critical Review*, 10(4), 509-531. <https://doi.org/10.1080/08913819608443487>
- King, G., & Nielsen, R. (2019). Why Propensity Scores Should Not Be Used for Matching. *Political Analysis*, 27(4), 435-454. doi:10.1017/pan.2019.11
- Lichbach, M. I. (2003). *Is rational choice theory all of social science?*. University of Michigan Press.
- Lim, L. (2012, November 10). *A Grim Chronicle of China's Great Famine*. NPR. <https://www.npr.org/2012/11/10/164732497/a-grim-chronicle-of-chinas-great-famine>
- Lipset, S. M. (1996). What are Parties For? *Journal of Democracy*, 7(1), 169-175. <https://doi.org/10.1353/jod.1996.0009>

- Liu, Y., Wang, L., & Ye, M. (2022). Public participation in democracy, local accountability and happiness: Evidence from rural China. *Governance*, 1–21. <https://doi.org/10.1111/gove.12738>
- Loubser, R., & Steenekamp, C. (2017). Democracy, well-being, and happiness: A 10-nation study. *Journal of Public Affairs*, 17, e1646. <https://doi.org/10.1002/pa.1646>
- Mackenzie, J. (2023, June 14). North Korea: Residents tell BBC of neighbors starving to death. *BBC*. <https://www.bbc.com/news/world-asia-65881803>
- MacKinnon, J. G., Ørregaard Nielsen, M., & Webb, M. D. (2023). Cluster-robust inference: A guide to empirical practice. *Journal of Econometrics*, 232(2), 272-299. <https://doi.org/10.1016/j.jeconom.2022.10.002>
- Margolis, S., Schwitzgebel, E., Ozer, D. J., & Lyubomirsky, S. (2019). A New Measure of Life Satisfaction: The Riverside Life Satisfaction Scale. *Journal of Personality Assessment*, 101(6), 621–630. <https://doi.org/10.1080/00223891.2018.1464457>
- Marshall, M. G., Gurr, T. R., & Jaggers, K. (2018). *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2017*. Center for Systemic Peace. <https://www.systemicpeace.org>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396. <https://doi.org/10.1037/h0054346>
- Mikucka, M., Sarracino, F., & Dubrow, J. K. (2017). When Does Economic Growth Improve Life Satisfaction? Multilevel Analysis of the Roles of Social Trust and Income Inequality in 46 Countries, 1981–2012. *World Development*, 93, 447-459. ISSN 0305-750X. <https://doi.org/10.1016/j.worlddev.2017.01.002>.
- Møller, V. (2001). Happiness Trends Under Democracy: Where Will the New South African. *Journal of Happiness Studies*, 2(1), 33-53. <https://doi.org/10.1023/A:1011522623545>
- Nussbaum, M. C. (2012). Who is the happy warrior? Philosophy, happiness research, and public policy. *International Review of Economics*, 59, 335–361. <https://doi.org/10.1007/s12232-012-0168-7>
- Ng, W., & Diener, E. (2019). Affluence and Subjective Well-Being: Does Income Inequality Moderate their Associations? *Applied Research Quality Life*, 14, 155–170. <https://doi.org/10.1007/s11482-017-9585-9>
- Ono, H., & Lee, K. S. (2016). Welfare states and the redistribution of happiness. In *Behavioral Economics of Preferences, Choices, and Happiness* (pp. 463-491). Springer Japan.

- Orviska, M., Caplanova, A., & Hudson, J. (2014). The Impact of Democracy on Well-being. *Social Indicators Research*, 115(2), 493-508. <https://doi.org/10.1007/s11205-012-9997-8>
- Oshio, T., Nozaki, K., & Kobayashi, M. (2011). Relative Income and Happiness in Asia: Evidence from Nationwide Surveys in China, Japan, and Korea. *Social Indicators Research*, 104(3), 351-367. <https://doi.org/10.1007/s11205-010-9757-1>
- Owen, A. L., Videras, J., & Willemsen, C. (2008). Democracy, participation, and life satisfaction. *Social Science Quarterly*, 89(4), 987-1005. <https://doi.org/10.1111/j.1540-6237.2008.00589.x>
- Prati, G. (2022). The Association between Subjective Well-being and Regime Type across 78 countries: The moderating role of Political Trust. *Applied Research in Quality of Life*, 17(6), 3393-3413. <https://doi.org/10.1007/s11482-022-10070-y>
- Proto, E., & Rustichini, A. (2015). Life satisfaction, income and personality. *Journal of Economic Psychology*, 48, 17-32.
- Roodman, D., Nielsen, M. Ø., MacKinnon, J. G., & Webb, M. D. (2019). Fast and wild: Bootstrap inference in Stata using boottest. *The Stata Journal*, 19(1), 4-60. <https://doi.org/10.1177/1536867X19862908>
- Radcliff, B., & Shufeldt, G. (2016). Direct Democracy and Subjective Well-Being: The Initiative and Life Satisfaction in the American States. *Social Indicators Research*, 128(3), 1405-1423. <https://doi.org/10.1007/s11205-015-1085-4>
- Sen, A. (1999). *Development as freedom*. New York, Alfred: Knopf.
- Shiroka-Pula, J., Bartlett, W., & Krasniqi, B. A. (2023). Can the Government Make Us Happier? Institutional Quality and Subjective Well-Being Across Europe. *Applied Research Quality Life*, 18, 677-696. <https://doi.org/10.1007/s11482-022-10099-z>
- Therborn, G. (1987). *Welfare States and Capitalist Markets*. *Acta Sociologica*, 30(3/4), 237-254. <https://doi.org/10.1177/000169938703000302>
- Veenhoven, R. (1991). Is happiness relative? *Social Indicators Research*, 24(1), 1-34. <https://doi.org/10.1007/BF00292648>
- Veenhoven, R. (1996). Developments in satisfaction research. *Social Indicators Research*, 37, 1-45. <https://doi.org/10.1007/BF00300268>
- Verba, S., Schlozman, K. L., & Brady, H. E. (1995). *Voice and equality: Civic voluntarism in American politics* (Vol. 4). Cambridge University Press.

Welzel, C. (2013). *Freedom Rising: Human Empowerment and the Quest for Emancipation*. Cambridge. Cambridge University Press. doi:10.1017/CBO9781139540919

Welzel, C., & Inglehart, R. (2010). Agency, values, and well-being: A human development model. *Social Indicators Research*, 97(1), 43-63. <https://doi.org/10.1007/s11205-009-9557-5>

World Bank. (2018). *World Development Indicators*. <https://datacatalog.worldbank.org/dataset/world-development-indicators>.

Footnotes

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<sup>1</sup> Consistent with the traditional welfare state literature, we define market here as an environment where the ‘exclusion principle’ applies and therefore individuals cannot attain goods unless they ‘earn’ them by themselves (Therborn 1987, 240).

<sup>2</sup> Even here though, Nussbaum (2012) states that one must distinguish between physical suffering, which preoccupies political economists, versus mental suffering, which is ubiquitous and yet less well understood.

<sup>3</sup> Democracies also permit citizens to participate in the decision-making process and this creates a ‘procedural utility’ which enhances subjective well-being since citizens have the opportunity to be involved in democratic political processes (Frey and Stutzer 2005; Owen, Videras, and Willemsen 2008). The emphasis here is on the utility derived from participation where citizens can play an influential role in determining political outcomes. This is consistent with other studies such as (Welzel and Inglehart 2010; Radcliff and Shufeldt 2016; Liu et al. 2022) that emphasize the role of agency or ability among individuals to control their lives and participation in local politics in enhancing subjective well-being. These studies lend support to the procedural utility argument that highlights the perceived benefits of democratic participation prevalent in governance.

<sup>4</sup> It is plausible that individuals view their individual income in relative terms. In other words, the applicability of the SCT, discussed above, is likely. Our measure of individual income is self-reported income so either ET or SCT could be at play. We don’t adjudicate between the two in this article. Rather, our broader aim is to analyze how micro and macro determinants influence individual life satisfaction.

<sup>5</sup> Welzel (2013) proposes a broad model of human empowerment that incorporates capability or action resources, motivation or emancipative values, and guarantees to exercise freedom or civic entitlements.

<sup>6</sup> Replication materials are made public on [AUTHOR’S WEBPAGE].