



# The Welfare State and Human Well-Being Around the World: A Cross-National Analysis

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Received: 1 February 2022 / Accepted: 21 October 2023 / Published online: 7 December 2023  
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## Abstract

Does the welfare state affect human well-being outside the developed OECD world? For decades scholars have assessed the impact of the welfare state on a variety of outcomes, largely economic and social (for reviews see Kenworthy, *Social Forces*. 77:1119–1039, 1999; Kenworthy & Pontusson, *Perspectives in Politics*. 3:449–471, 2005; O’Connor, *Review of Behavioral Economics*. 4:397–420, 2017). While more recent focus has shifted to the impact of welfare programs on human well-being, this literature has suffered from several shortcomings. First, there has been an overriding focus on developed core OECD countries. Second, the primary outcome of interest has been on subjective well-being (life satisfaction, happiness). In this paper, we try to address these shortcomings to some extent. First, we extend the analysis to a wider and more diverse sample of countries. Second, we focus on a range of aspects of human well-being beyond life satisfaction. Third, we rely on a new measure of welfare impact that goes beyond mere overall spending—expert survey based coding of social security protections from the global Quality of Government 2021 data set. We find that in our sample of countries, this welfare measure exerts a positive and significant effect on a range of well-being outcomes. Implications for the study of the welfare state and well-being are discussed.

**Keywords** Welfare · well · being · non · core · OECD

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For decades scholars have debated the possible merits of the welfare state for a range of outcomes—social, economic, political, etc. More recently, focus has shifted to the impact of welfare programs on human well-being. Given that the welfare state is nothing less than an attempt to alter fundamentally the means by which human well-being has been produced and distributed since the end of feudalism, its salience cannot be understated. In this short paper we will not recap the rather extensive scholarly back-and-forth about the pros and cons of welfare programs, such as effects on poverty, inequality, crime, family life, stress, and much more (see Gilder, 1993; Chung & Bemak, 1996; Atkinson, 1999; Buckingham, 2000; Saunders, 2000; Pacek & Radcliff, 2008; Radcliff, 2013). While these debates have provided valuable insights into the broad impact of the welfare state, they have focused on larger societal issues and pathologies. But they fall short in a number of respects.

Until recently, for example, the impact of the welfare state on both subjective and objective well-being has largely been ignored. As we outline in the next section, this has been a gross oversight given the importance of well-being for a variety of issues. While an expanding social-scientific literature on well-being has made assessing the impact of the welfare state more applicable, existing studies have still been limited in a variety of ways. First, they have focused almost exclusively on developed, democratic core OECD countries. This is perhaps understandable given that welfare states are themselves the products of democratic choices, as well as sustained through prosperous industrial economies. More practically, the availability of data on welfare programs in OECD countries has been extensive, detailed, and expanding both in quantity and quality. It is not surprising therefore, that the wider range of countries that comprise the bulk of the world's economies have been largely ignored.

Certainly assessing this empirical connection in non core OECD countries is fraught with a variety of important issues. Many of these countries do not have the level of development necessary to sustain welfare states, as understood with respect to the developed industrial world. In addition, empirical data on what welfare systems do exist, have been few and far between, spotty and inconsistent, and typically only for one or a few points in time. Further compounding the situation is that the very nature of what passes for welfare states in developing and transition countries varies dramatically not only from the models germane to OECD countries, but across the large and diverse set of non core OECD countries themselves. Not surprisingly therefore, scholars attempting to assess the impact of welfare have relied on overall spending as a percentage of GDP as the variable of choice (O'Connor, 2017; Ott, 2011).

That said, empirical research has tried to focus more and more on the broader role of government on well being in countries outside the developed industrial democracies, from welfare spending to the size of the public worker labor force (Davidson et al., 2021; O'Connor, 2017; Ott, 2011; Ram, 2009). In this paper we attempt to add to this growing focus, by assessing the impact of an additional global measure of the welfare state—social security spending—on a sample of subjective and objective measures of well being in a sample of middle and low income countries exclusively. Controlling for a variety of factors proven salient to well-being, our tentative findings suggest that even outside the developed core OECD world, the welfare state exerts a positive impact on quality of life, measured in a variety of ways. The paper

proceeds as follows. We first review the literature on determinants of subjective well-being (our principal dependent variable) and the impact of the welfare state on well-being in general. We outline our empirical strategy and data, and conclude with some implications for the study of the welfare state and well-being in general.

## Well-Being and the Welfare State

One area of data collection that has been remarkably successful globally, is survey data on subjective well-being, ie life satisfaction and “happiness,” which is to say, the extent to which individuals evaluate how satisfying their lives are on a daily basis, or related, how “happy” they find themselves on a daily basis. Comparing mean levels of these two indicators across nations has become increasingly commonplace, and the measures themselves have been subject to a battery of evaluations, and criticism as well (see Veenhoven, 1996, 1997). It is reasonable to be skeptical about using survey research items to measure such a complex and contested notion as human happiness. Not surprisingly, a large literature has evolved assessing the validity and reliability of self-reported measures of happiness and life-satisfaction. While scholarly discussion about these measures continues, there is something of a consensus that concerns about various biases can be safely discarded (Veenhoven, 2000). Biases such as language, desirability, etc. have all been subject to valid and careful scrutiny over the past few decades.

Over time, the measures themselves have expanded. For example, for years the “gold standard” was the World Values Survey global data, where life satisfaction and happiness were measured on a scale with the question “All things considered, how satisfied or dissatisfied are you with your life now?” with higher values suggesting greater satisfaction. More recently, scholars have turned to the Gallup World Poll measures, such as the Cantril Self-Anchoring Scale, which asks such questions as “Suppose the top of the ladder represents the best possible life for you and the bottom of the ladder the worst possible life. Where on the ladder do you feel you personally feel at the present time?” with 0 as the lowest possible score and 10 as the highest. The expansion of these (and other) measures of subjective well-being over the last decade has demonstrably improved the ability to delve deeper into the determinants of human well-being outside the world of the advanced industrial democracies.

Which brings us to the welfare state in non core OECD countries. Here, the issues become more problematic. For example, in many middle income or “transition countries,” welfare states were the products of highly unpopular communist regimes, rather than the products of citizen choice over time. More broadly, while anti “big government” sentiment exists throughout the OECD world, citizens in many middle and low income countries have had to deal with periods of authoritarianism that presumably have colored the potential direct impact of government, broadly speaking, on individual lives. Put differently, the welfare state could simply represent either another manifestation of an authoritarian regime citizens had no choice in, or alternately, as in some authoritarian regimes, specific benefits doled out to selectorates favorable to the ruling regime. All this renders attempts to assess,

with empirical sophistication, the impact of welfare states on well-being in non core OECD countries problematic.

That said, there are reasons to suggest that welfare programs might exert a positive impact on well-being in these countries. The most obvious argument is that these countries are more economically vulnerable to the vicissitudes of the global economy; citizens in less developed countries, with greater poverty and inequality might, of necessity, benefit more proportionately from welfare programs than their counterparts in the industrial developed world, with greater resources to fall back on. Put differently, even if welfare impact in less developed and transition countries is, in raw dollar terms or percentage of GDP only a fraction of what it is in developed countries like Sweden, Germany, the United States, etc., the ameliorating effect of welfare policies on well-being might be quite significant. As observed earlier, one of the challenges presented here of course, is the great diversity in *quality* of government across middle and low income countries which might mitigate the impact of government security programs on citizens (Helliwell & Huang, 2008; Jakobow, 2014, 2016).

More specifically perhaps, welfare policies such as income maintenance programs, family assistance, food aid programs, etc. are widely argued to improve quality of life by reducing poverty/inequality and improving living standards, which a number of studies confirm (Moller et al., 2003; Scruggs & Allen, 2006). The impact of poverty and inequality on well-being in general is well documented, in particular the effects on psychological and physical well-being due to heightened stress, poor access to health care, greater rates of alcoholism, domestic violence, divorces rates, domestic abuse, and others as well, all of which are inimical to human well-being (Radcliff, 2013; Simmons et al., 2010). Another line of reasoning has focused on the welfare state's role in reducing crime, particularly violent crime (Messner & Rosenfeld, 1997). If such programs in fact do reduce violent crime, then they might also ameliorate other social pathologies such as drug abuse or domestic violence, and hence affect human well-being in general.

Moreover, some of the few studies focusing on countries outside the core OECD world do at least suggest that the welfare state might, controlling for other factors, exert a positive influence on well being. O'Connor (2017), and Davidson et al. (2021) show that government intervention in the form of social spending and the public employment sector are positively associated with subjective well-being in middle and low income countries. While invaluable in moving the discussion forward, these studies focus on only one aspect of well-being, "life-satisfaction." Our aim here is to expand the impact of the welfare state to well-being in a broader and more general fashion.

But perhaps a greater issue concerns *what* welfare state data are appropriate and available for non core OECD countries. For example, one of the most widely used measures of welfare state impact, "decommodification" (see Messner & Rosenfeld, 1997) is not appropriate for less developed countries. This is in large part due to workers in middle (and low income countries in particular) being less "commodified" than their counterparts in the developed world. As such, the few empirical studies assessing the impact of welfare programs in the less developed countries rely on overall social protection spending primarily. While generally available, such a

measure is problematic because, quite simply, due to the very different development trajectories of the core OECD vs. the non-OECD world (Flavin et al., 2019). In the developing world, the early subjection of low-income countries to colonial powers limited the development of the ‘class compromise’ that evolved in the industrial democracies. Further, these countries’ status as ‘periphery’ nations mitigates their capacity to accumulate the capital necessary to “jump start” welfare systems. Third, most low income countries in particular lack strong, autonomous labor movements of the kind pivotal to the development of welfare systems in core OECD countries. As such, many less developed and transition countries simply lack the fiscal capacity to fund even a modest western-style welfare state, and they tend to commodify laborers to a much higher degree than do developed economies.

In addition, as we are interested in assessing the broader impact of the welfare state in non core OECD countries, we are equally interested in the impact on human well-being broadly speaking, not merely on subjective well-being (although we do not discount the salience of this concept). In recent decades, for example, myriad aspects of human well-being have been codified into large cross-national data sets with specific focus on important outcomes; life expectancy, “healthy life years,” human development, gender equality, and more besides. To cite but one example, a recent study by Audette et al. (2019) found that increases in gender equality have a positive and significant impact on human well-being overall, for men as well as women. In our study, we look at the impact of welfare programs on a variety of such well-being outcomes to address a simple, basic and important question: does the welfare state make life better outside the developed OECD world? In what follows, we outline our empirical strategy, data, and results.

## Data and Method

We base our analysis on the data and modeling strategy suggested by O’Connor (2017), which is arguably the best known and most influential paper on subjective well-being and the welfare state outside of the OECD countries. O’Connor adopts the standard econometric approach in which what is to be explained (the dependent variable) is regressed on an explanatory variable (the independent variable) and, to account for other relevant factors, a set of theoretically driven control variables. In this way, we generate results that provide an estimate of the observed effect of the independent variable on the dependent variable, i.e. the slope of that relationship, holding other variables constant. If the resulting coefficient linking the variables is statistically significant, and of the expected sign, we may conclude that there is a statistically meaningful connection between independent and dependent variables in the predicted direction. Presuming both life satisfaction and the welfare state are measured such that higher scores reflect larger values, then a positive coefficient that is statistically different from zero implies a positive relationship between observed levels of subjective well-being and welfare state provisions. Assuming significant results, we may then estimate the actual predicted change of a one-unit increase in the generosity of the welfare state on the level of life satisfaction. We are thus able to consider both the certainty by which we make conclusions about existence of a

relationship (as reflected by statistical significance) as well as the strength or substantive importance of the magnitude of such a relationship.

Again following O'Connor, we adopt as the dependent variable a nation's mean (aggregate) level of life satisfaction (at the individual level), averaged over several years (2005–2012). Here, life satisfaction is operationalized through the conventional Cantril Self-Anchoring Scale, which invites respondents to evaluate their own lives relative to their perception of the best possible life (with higher values indicating greater congruence between life as lived and life as imagined). Thus, our first dependent variable is obtained, to be clear, by averaging individual-level satisfaction to obtain the country-level mean, and then averaging those values over multiple years per country. By averaging individual scores at the country-level, and then averaging those values over multiple years, we should have a measure of well-being that is both valid and reliable. To measure the size of the welfare state, O'Connor relies on per capita spending on social protection programs, following the standard definitions from the International Labor Organization (ILO). We anchor our results to O'Connor's by provisionally utilizing this same measure as a beginning, in the sense of reproducing his core empirical finding.

We also follow O'Connor in the specification of a set of theoretically derived control variables appropriate to the core hypothesis linking well-being and the welfare state. These data are derived from O'Connor (2017) and described as follows. The first of these is purchasing power parity adjusted GDP per capita in logged form (GDP per capita in real PPP in our models), included to account for economic development, available from the Penn World Tables (Source: Feenstra et al., 2015). In addition, we include the unemployment rate (Unemployment rate in our models) available from the World Development Indicators (World Bank, 2013). Third, we include a control for the old age-dependency ratio, defined as the ration of the people aged 65 years and older to the population 15–64 (Old Age Dependency Ratio in our models), available from the International Labor Organization (World Social Security Report, various years). Finally, to control for the effect of governance quality on well being, we include a measure of the aggregate quality of government, based on the mean of six subcomponents from the Worldwide Governance Indicators (WGI) available through the World Bank. The first accounts for the positive impact on well-being usually thought to accompany greater national affluence, the second for the negative effect of unemployment, the third for the presumed negative effect of the cross-generational demographic burdens, and the last for the positive impact of government integrity and professionalism in the efficient administration of public policy (which is broad enough in its scope and definition to also serve as an indicator for level of democracy more generally). We further note that all data used from O'Connor's initial study can be found in the Appendices A2-A4 in the author's publication (O'Connor, 2017).

We reproduce O'Connor's findings on satisfaction before going on to consider several other outcome variables, in an effort to cast the widest possible empirical net for capturing the nebulous concept of human "well-being." We also consider an alternative measure of a country's "welfare regime" discussed in detail below. We thus provide a series of models in which we expand the definitions of the independent and/or dependent variables, in an effort to demonstrate that our substantive

conclusions are substantively identical across the many reported models. In all instances we retain the O'Connor control variables, which should serve admirably in that role, given that national aggregate level factors we control for when considering one kind of well-being should apply to others.

Our principal new independent variable is a recent measure, "Social Safety Nets" developed by the Bertelsmann Stiftung, via expert survey data (Source: <https://bti-project.org/en/?&cb=00000>). In their 2020 Transformation Index data set, this measure is specifically designed for the study of welfare protection in less developed countries that are undergoing market and government transformation. This variable measures the extent to which social safety nets provide compensation for social risks and focuses on the extent to which equality of opportunity exists. Country experts are assigned criteria which are then applied to 137 countries.<sup>1</sup> While data based on expert survey measures are by no means perfect (and the authors fully recognize the limitations of such data), in this case, the BTI measure at least allows us to tentatively explore the impact of the welfare state on well being in a wider range of countries than conventional data tend to be available for.

Following, we then test the effect of the BTI Social Safety Net measure on a range of metrics of human well-being, derived from the Quality of Government Basic dataset (Dahlberg et al., 2021. The Quality of Government Basic Dataset version, 2021. University of Gothenburg: The Quality of Government Institute, <http://www.qog.pol.gu.se.10.18157/qogbasjan21>). For each of the dependent variables used, we cite the original data source used by the Quality of Government data set. First, we model the effect of the Social Safety Net measure on "Healthy Life Expectancy," (who\_halet in the Quality of Government data set) the number of years since birth one can be assumed to be healthy (World Health Organization, 2021. "Global Health Observatory Data Repository." <http://www.who.int/gho/en/>). Our second dependent variable, "Human Capital Index" (pwt\_hci in the Quality of Government data set), is an index developed by the Penn World Tables and is based on years of schooling and assumed returns based on Mincer equation around the world (discussion and description at Feenstra et al., 2015. "The Next Generation of the Penn World Table." The American Economic Review 105 (10): 3150–82. <http://www.ggd.net/pwt>.)

Our final models examine the impact of the welfare state on two measures of gender equality, given prior research on the link between gender rights and access and well-being (Audette et al., 2019). Our first gender-related dependent variable, "Women Political Empowerment Index" (vdem\_gender in the Quality of Government data set) is an index (ranging from 0 -1 with 1 being "most empowered") formed by taking the average of women's civil liberties, civil society participation,

<sup>1</sup> The measure ranges from 1–10, and countries are scored in the following manner based on the following question: To what extent do social safety nets provide compensation for social risks? 1. Social safety nets do not exist. Poverty is combated hardly at all, or only ad hoc. 4. Social safety nets are rudimentary and cover only few risks for a limited number of beneficiaries. The majority of the population is at risk of poverty. 7. Social safety nets are well developed, but do not cover all risks for all strata of the population. A significant part of the population is still at risk of poverty. 10. Social safety nets are comprehensive and compensate for social risks, especially nationwide health care and a well-focused prevention of poverty.

and political participation sub-indices (detailed description of index can be found at [https://v-dem.net/media/publications/policy\\_brief\\_4.pdf](https://v-dem.net/media/publications/policy_brief_4.pdf)).

Our second gender-related dependent variable is the “Gender Inequality Index” (*gii\_gii* in the Quality of Government data set). This variable measures gender inequality in three aspects of human development: reproductive health, measured by maternal mortality ratio and adolescent birth rates, empowerment measured by proportion of parliamentary seats occupied by women vs. men, and economic status expressed as labor market participation rate of women vs. men. The measure ranges from 0–1. The higher the GII value, the more disparities between women and men and the more less to human development. We note that all data for our well-being dependent variables of interest, and accompanying codebook, can be found at the Quality of Government Basic Data Set (<https://www.gu.se/en/quality-government/qog-data>).

As noted, we reproduce O’Connor’s findings on satisfaction, and then go on to explore the effect of the welfare state on other dependent variables—alternatives to subjective well-being—in an effort to cast the widest possible empirical net for capturing the nebulous concept of human “well-being.” We thus provide additional evidence on the linkage between the social safety net and well-being when utilizing other measures of both concepts. In this way, we provide a series of models in which we expand and vary the definitions of both independent and dependent variables, in an effort to assess the robustness of the theoretical contention that the welfare state positively contributes to human well-being (outside of the special conditions applicable to high-income countries). In all instances we retain the O’Connor control variables, as these should serve admirably in their assigned role of accounting for national level conditions likely to affect well-being, beside the welfare state.

Estimation (again following O’Connor) is OLS with robust standard errors (the latter to account for any potential heteroskedasticity, which the cross-sectional nature of the data may amplify). OLS is the appropriate estimator, given that the data and model present no violations of the method’s assumptions. In particular, we would observe that a multi-level model (of the sort often used when studying life satisfaction) would not be appropriate (or, indeed, possible), given that the data are not hierarchical—the units of analysis are not individual persons nested within countries, but rather the national average level of satisfaction (such that there is only one observation per country).

## Analysis

Table 1 presents our initial findings when maintaining life satisfaction as the explanatory variable. Model 1 reproduces O’Connor’s base model, in which we find the same results: the social protection spending variable is significant and correctly signed (greater spending suggests greater average satisfaction with life). In Model 2 we report the results when maintaining satisfaction as the dependent variable but moving to the alternative BTI measure of the welfare state previously discussed. Results are again as expected: the coefficient is significant and correctly signed. We



**Table 1** The Welfare State and Life Satisfaction

	(a)	(b)
Social Protection Spending	0.045*** (0.014)	n/a
Social Safety Net	n/a	0.231*** (0.071)
GDP per capita (in real PPP)	0.613*** (0.089)	0.467*** (0.099)
Unemployment Rate	-0.034*** (0.010)	-0.028*** (0.010)
Old Age Dependency Ratio	-0.085*** (0.018)	-0.075*** (0.016)
Quality of Government	0.189 (0.117)	-0.076 (0.151)
Constant	0.750 (0.722)	0.934 (0.707)
R <sup>2</sup>	0.56	0.56
N	84	81

\*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01; Entries are unstandardized regression coefficients (standard errors in parentheses)

**Table 2** The Welfare State and Longevity

	(a)
Social Safety Net	1.33*** (0.402)
GDP per capita (in real PPP)	2.54*** (0.558)
Unemployment Rate	-0.097 * (0.055)
Old Age Dependency Ratio	-0.047 (0.093)
Quality of Government	-0.875 (0.852)
Constant	36.1*** (4.00)
R <sup>2</sup>	0.67
N	80

\*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01; Entries are unstandardized regression coefficients (standard errors in parentheses)

may thus conclude that life satisfaction varies directly with size/scope of the welfare state.

We next turn from life satisfaction (how much people enjoy being alive) to longevity (how long people are alive). To operationalize, we use the WHO’s measure of “healthy life-years” rather than raw life expectancy. This is widely considered preferable to longevity alone, in that we value not merely life but, even more so, life that is characterized by health and vitality. To live a longer life that consists of only additional years of serious ill-health or disability is not the goal of most people, such that a better comparison is between years of healthy life. As reported in Table 2, our welfare state variable remains correctly signed and statistically greater than zero, with the obvious implication that the more generous a country’s welfare system, the more years of healthy life its citizens can expect, on the average. This is no small thing, suggesting as it does that social protection programs contribute to what is arguably one of the most valuable of all things: healthier, longer lives.

Table 3 goes on to consider cross-national differences in human capital (relying on the World Bank’s index of Human Capital (HCI). Human capital refers to the

**Table 3** The Welfare State and Human Capital

	(a)
Social Safety Net	0.087** (0.046)
GDP per capita (in real PPP)	0.287*** (0.066)
Unemployment Rate	-0.003 (0.007)
Old Age Dependency Ratio	-0.031*** (0.011)
Quality of Government	-0.132 (0.100)
Constant	-0.581 (0.464)
R <sup>2</sup>	0.72
N	74

\*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01; Entries are unstandardized regression coefficients (standard errors in parentheses)

“knowledge, skills, and health” that people accumulate over their lives,” with the application of the word “capital” in this context maintaining its economic meaning: investable resources (knowledge, skills, health) that provide for a process of self-expanding value, in that the more a country currently enjoys high levels of “knowledge, skills, and health,” it will progressively become “richer” still, in the same way interest compounds. The HCI is an estimate of what a child born in a given country today can expect, in terms of health and education, by adulthood. Higher values, of course, suggest better outcomes. The reported results again vindicate the connection we are testing, as the relevant coefficient for the welfare state remains, as before, statistically significant and correctly signed. The implication is straightforward: a more generous system of social welfare is associated with higher levels of human capital.

Lastly, we turn our attention to the issue of gender. We ask two questions: (a) does the welfare state appear to contribute to the greater “empowerment” of women, and (b) does a greater commitment to the social safety net contribute to gender equality in a more expansive sense? We address these questions by adopting a new dependent variable for each. For empowerment, we rely on the Varieties of Democracy Institute’s “Women Political Empowerment Index” (WPEI), while for equality we use the United Nations Development Programme’s Gender Inequality Index (GII). The WPEI is a summary score capturing greater choice, agency, and participation for women in societal decision making; higher values indicate greater female empowerment. The GII combines measures of gender inequality in development—reproductive health measured by maternal mortality ratio and adolescent birth rates, empowerment measured by proportion of parliamentary seats occupied by women vs. men, and economic status expressed as labor market participation rate of women vs. men. The GII is calculated such that higher values indicate greater *inequality*—we thus expect it to have a negative relationship with the welfare state.

The results are in Tables 4 and 5. Considering the first, (WPEI) yields a welfare coefficient that is correctly (i.e. positively) signed and statistically different from zero: a bigger welfare state, the higher the predicted level of gender empowerment, controlling for other factors. Considering the second (GII), the coefficient for the welfare state is significant and correctly signed (i.e. for this variable, negatively signed, given that greater scores of GII suggest greater inequality).

**Table 4** The Welfare State and Gender Empowerment

	(a)
Social Safety Net	0.063*** (0.014)
GDP per capita (in real PPP)	-0.071*** (0.020)
Unemployment Rate	-0.001 (0.002)
Old Age Dependency Ratio	0.006** (0.003)
Quality of Government	0.002 (0.031)
Constant	0.972*** (0.144)
R <sup>2</sup>	0.53
N	81

\*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01; Entries are unstandardized regression coefficients (standard errors in parentheses)

**Table 5** The Welfare State and Gender Inequality

	(a)
Social Safety Net	-0.025** (0.011)
GDP per capita (in real PPP)	-0.043*** (0.015)
Unemployment Rate	0.001 (0.001)
Old Age Dependency Ratio	-0.011*** (0.003)
Quality of Government	0.001 (0.023)
Constant	0.985*** (0.111)
R <sup>2</sup>	0.76
N	80

\*p < 0.10, \*\*p < 0.05, \*\*\*p < 0.01; Entries are unstandardized regression coefficients (standard errors in parentheses)

Finally, we turn to the issue of how strong the relationships discussed above are in substantive terms. We know that the relationships (given the evidence already presented) are statistically meaningful (they are not what one would likely observe by chance), but a coefficient can be statistically significant (a relationship exists) but trivial in terms of its magnitude. We might find, for instance, that we are very confident that there is a positive relationship between two variables (significance), but also find that the coefficient linking the variables is so small as to render the relationship meaningless. Ideally, as researchers we hope to find results that are both statistically significant and substantively important.

To interpret substantive importance, the easiest and most intuitive means is simply to compare the change in the dependent variable that the estimated slope of the coefficient would predict when moving from one value of the independent variable to another. We do this in two ways: (a) we estimate the predicted change in the value of the dependent variable (in the units in which it is measured) when moving from the lowest to the highest possible values of the independent variable, and (b) we similarly compute the change in the dependent variable in response to (a more realistic) change from the middle of the distribution of the independent variable to its maximum (or minimum) value.

An example to illustrate: In Table 1, the coefficient of the welfare state variable is 0.231, implying that a one unit change in that variable produces a 0.231 change in the dependent variable. If we were to change the welfare variable from its minimum score (1) to its maximum (10), the predicted change in life satisfaction is just the coefficient multiplied by the change from 1 to 10, i.e. expected change in satisfaction is  $0.231(9)$  is 2.08. Satisfaction is in turn measured on a 0–10 scale, with a mean of 5.6 and a standard deviation of 1.0, so that our change of about 2.0 of satisfaction is exactly two standard deviations. Two standard deviations is, of course, a huge difference—here, large enough to move a country from the cross-national mean of 5.6 on satisfaction to very near the highest observed score of 7.8. We would thus conclude that the substantive impact on life satisfaction when moving from the least to the most generous welfare state is very large. Considering instead only the comparatively modest change from the middle of the welfare state distribution to its top gives exactly one-half of those figures (as we change only the min/max of 9 to the midpoint/max of 4.5, with coefficient unchanged). This remains, of course, a very substantial change in quality of life.

For healthy-life-years (Table 2), the coefficient is 1.33, meaning that moving one point ahead on the welfare measure produces an increase in healthy life span of 1.33 years. Moving minimum to maximum on welfare produces, thus, a predicted increase in years of healthy life of  $9(1.33) = 11.9$  years. As life-years is expressed in natural units (years) that require no scaling by standard deviations, we can judge for ourselves the value of 12 years more of healthy life. However, if we do scale by the standard deviation (7.0) of life-years, the min/max change represents a 1.7 standard deviation change in satisfaction—nearly as large as the value of 2 standard deviations in the dependent variable in the prior example. Moving from the welfare state mid-point to the max, the expected change is (of course) half the prior amount, i.e. 6.0 years (or 0.86 st. deviations).

For the remaining three dependent variables the min/max results (omitting the illustrative details on computation) are (a) for the Human Capital Index 0.81 (or 1.2 st. deviations), (b) WPEI 0.54 (fully 3.0 st. deviations), and (c) GII 0.225 (1.18 st. deviations); for midpoint to maximum divide by two.

In sum, for each model, the coefficients imply a relationship between the welfare state and the given measure of well-being that is robust and pronounced.

## Discussion

While tentative, our findings answer our main question concisely: welfare programs can, in fact, improve both subjective and objective human well-being outside the traditional developed OECD democracies. In essence, government intervention in the form of welfare programs positively contributes to not only citizens finding their lives more satisfying overall, but living better lives physically as well. This is not, in any way to suggest that welfare programs are a panacea for the very real problems and struggles that citizens across less developed and transition countries in particular face, relative to their counterparts in the developed world. Poverty, inequality, political instability, natural disasters, and a continuing global pandemic are all very

real hurdles that affect citizens and take their respective tolls. We gently suggest however, that our tentative findings illustrate that government intervention, even in less developed economies, can to some extent help mitigate the deleterious impact of broad economic, social, and other disruptions.

Expanding further, our study demonstrates the need for greater focus on factors thought to affect human well-being outside the set of advanced OECD democracies. While data limitations are real, they are not insurmountable, and recent advances allow further inquiry where possible. Clearly much more needs to be done; the development of additional indicators of welfare policy as necessary is a given, as is the expansion of data sets to take into account change over time in what is a set of countries that, more often than not, undergo frequent and often dramatic political, social, and economic change. This perhaps speaks to an important aspect of our findings: with caveats, we observe a similar relationship in dramatically different parts of the world. In BOTH advanced industrial countries and low income developing economies, government intervention in the form of a wide range of welfare policies can exert a positive impact on human well-being.

It is important to note what we do NOT claim in the brief study. First and foremost, we do not assert that government intervention in the economy is a “magic bullet” for the broad range of economic disorders and dislocations so evident in developing economies. Nor do we argue that welfare programs offer an antidote to the very real political instability across middle and low income countries. But it is important to note that innumerable studies have demonstrated that improvements in well being, subjective and objective, in and of themselves lead to a host of positive consequences, from human physical and mental health, to decreases in social pathologies, to increases in support for democracy, just to name a few (Lyubomirsky et al., 2005; Dorn and Fischer, 2007; Diener and Chan 2011; Inglehart & Ponarin, 2013; Chebotareva, 2015). With this in mind, it is important to note that even small improvements in subjective and objective well-being might themselves perhaps lead to a broader set of better outcomes for societies at large. While a great deal remains to be done to gain a keener sense of the impact of the welfare state on quality of life globally, we feel we have at least taken some tentative steps in addressing this salient question of scholarly concern.

## Appendix A: Countries in Sample

Czech Republic, Slovenia, Slovakia, Poland, Croatia, Kazakhstan, Lithuania, Belarus, Moldova, Estonia, Albania, Russia, Romania, Ukraine, Kyrgyzstan, Hungary, Latvia, Bosnia & Herzegovina, China, Serbia, Azerbaijan, Tajikistan, Macedonia, Armenia, Georgia, Bulgaria, Costa Rica, Panama, Venezuela, Mexico, Brazil, Singapore, Argentina, Colombia, Chile, Guatemala, Taiwan, Uruguay, Thailand, Malaysia, El Salvador, Bolivia, Jordan, Ecuador, Paraguay, Vietnam, Peru, Algeria, Honduras, Turkey, Pakistan, Nicaragua, Indonesia, South Africa, Dominican Republic, Iran, Tunisia, Laos, Lebanon, Morocco, India, Ghana, Philippines, Bangladesh, Egypt, Iraq, Mongolia, Ethiopia, Mauritania, Nepal, Syria, Uganda, Cameroon, Yemen, Sri Lanka, Afghanistan, Burkina Faso, Cambodia, Liberia, Tanzania.

**Appendix B: Main Variable Descriptions (Variable code from Quality of Government data base, Basic data set <https://www.gu.se/en/quality-government/qog-data>). Original data sources listed below, some of which are also from the QoG version as indicated by \***

**Principal Independent Variable**

**Social Safety Nets (bti\_ssn)** 1–10 scale based on the extent social safety nets provide compensation for social risks.

1. Social safety nets do not exist. Poverty is combated hardly at all, or only ad hoc.
2. Social safety nets are rudimentary and cover only few risks for a limited number of beneficiaries. The majority of the population is at risk of poverty.
3. Social safety nets are well developed, but do not cover all risks for all strata of the population. A significant part of the population is still at risk of poverty.
4. Social safety nets are comprehensive and compensate for social risks, especially nationwide health care and a well-focused prevention of poverty.

\*Source: Bertelsmann Stiftung Transformation Index 2020 (<http://www.bti-project.org/en/home>). Indices based on questions asked of countries experts on 137 middle and low income countries.

**Life Satisfaction** Cantril Self-Anchoring Scale of “best possible life” with 0 as lowest possible score and 10 as highest.

Source: Gallup World Poll, accessed through World database of Happiness ([worlddatabaseofhappiness.eur.nl](http://worlddatabaseofhappiness.eur.nl)).

**Healthy Life Expectancy (who\_halet)** Healthy life expectancy at birth (years).

\*Source: Global Health Observatory, World Health Organization (<http://www.who.int/data/gho>).

**Human Capital Index (pwt\_hci)** Human capital index based on years of schooling and assumed returns, based on Mincer equation around the world.

\*Source: Feenster, Inklaar and Timmer (<http://www.rug.nl/ggdc/productivity/pwt/>).

Details on variable construction ([https://www.rug.nl/ggdc/docs/human\\_capital\\_in\\_pwt\\_90.pdf](https://www.rug.nl/ggdc/docs/human_capital_in_pwt_90.pdf)).

**\*Women Political Empowerment Index (vdem\_gender)**. Index capturing greater choice, agency, and participation for women in societal decision-making. Index formed by taking the average of womens’ civil liberties index, womens’ civil society participation index, and womens’ political participation index.

Details on construction of the index can be found here: ([https://v-dem.net/media/publications/v-dem\\_working\\_paper\\_2015\\_19.pdf](https://v-dem.net/media/publications/v-dem_working_paper_2015_19.pdf)).

Source: Varieties of Democracy ([v-dem.net/en/data/](http://v-dem.net/en/data/)).

## Principal Dependent Variables

\***Gender Inequality Index** (gii\_gii): Index (0–1) measures gender inequality in three aspects of human development—reproductive health, measured by maternal mortality ratio and adolescent birth rates, empowerment measured by proportion of parliamentary seats occupied by women vs. men, and economic status expressed as labour market participation rate of women vs. men. The higher the GII value, the more disparities between women and men and the more loss to human development.

Source: United Nations Human Development Reports (<https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index#/indicies/GII>).

**Funding** There are no funding sources for this research.

## Declarations

**Conflict of Interest** We disclose that there is no conflict of interest, that there is no research involving human participants and/or animals, and that there is informed consent.

**Competing Interests** There are no competing interests.

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