Can Money Buy Happiness?
Studying Predictors of Self-Reported Well-Being per Country

Introduction

The idea that economic wellbeing influences happiness was first popularized when Richard Easterlin (1974) introduced the field of 'happiness economics' through his infamous 'Easterlin Paradox'. The paradox claims that, both within a country and among different countries, while individuals are happier as their income levels are higher at any point in time, their happiness will invariably plateau after a certain level of income. Easterlin arrived at this conclusion using a happiness poll, where individuals were asked to report their happiness along with factors like the size of their income and their economic status.

It is extremely important to investigate the relationships between happiness and factors such as life expectancy, unemployment, and income from both a policy and an academic perspective. As Helliwell (2018) reports, the outcomes of such studies that use economic factors to measure happiness or well-being have significant political implications, since government departments or agencies are given the opportunity to design and implement more and different policies using this information in order to improve the overall well-being of the general public. This area is also of academic interest for pursuing further the relationships between happiness and larger national factors.

Since the Easterlin paradox, many studies have tried to assess whether levels of income (mostly measured by GDP) impact a person's happiness. Though GDP or levels of income are known to influence an individual's happiness (Easterlin 1974; Brulé 2017), social scientists argue that happiness is not solely dependent upon wealth, and many more factors need to be considered (Delhey 2013).

This project aims to analyze a variety of factors that possibly impact happiness or well-being of individuals in the society, looking at both within and among countries, while also investigating whether the relationship changes over time. In the initial model, we'll include variables such as the world freedom score, unemployment rate, inequality, health status as measured by life expectancy, and GDP per capita. We anticipate these factors to play a somewhat significant role in the well-being of individuals, from how well-being is sociologically defined (Brulé et al. 2017). We will compare 168 countries originally provided in the self-reported happiness dataset by the World Happiness Report, using a panel data set with four years, between, 2015 and 2018 (2018 being the last year that many of our variables were reported).

This paper aims to communicate the empirical models built to capture meaningful relationships between the independent variables of interest and happiness, the structure of our data and variables, the results obtained through the analyses, the implications of the results, and general conclusions from this study.

Empirical Model

Our models are intended to estimate the relationship between various well-being factors and happiness by country, as reported in the World Happiness Score, using the ordinary least squares (OLS) method. The most important independent variable is GDP per capita, since we are examining the impact of economic prosperity, and intend to build on the Easterlin paradox and findings from previous happiness economics studies (Easterlin 1974; Brulé 2017). Previous studies on GDP per capita and happiness have all found that GDP per capita has a positive impact on the happiness levels in a country's population. The Easterlin paradox follows this, but

also posits that as GDP per capita increases further, happiness tends to level off. We expect to observe a similar effect in our model, where a unit increase in GDP per capita positively impacts the happiness score up to a certain level, after which we might see a leveling off. Though not much prior research has been done regarding the other independent variables we are including, Winkelmann (2014) found that employment status impacts a person's satisfaction with life. Therefore, we would expect that countries with higher unemployment rates would have lower happiness scores. We expect a similar relationship with inequality, where countries with a higher inequality rate report lower happiness scores. Further, we would expect to see a higher happiness score with a higher longevity, a higher human development index, and higher freedom scores. This is supported by Hall's (2013) findings published in the UNDP's Human Development Report Office, which reports a strong correlation between happiness and well-being variables, such as life expectancy and freedom. Though we are investigating the causal impact of life expectancy on happiness, Deef and van Zonneveld (1989) found that happier people tend to live longer. This means that there exists a simultaneous causality that would bias our estimates (happiness impacting life expectancy). Therefore, we use public health expenditure, following Bjørnskov's (2008) methods, as our instrumental variable to eliminate the simultaneous causality bias.

Our initial regression models did not use instrumental variables regression. Rather, the life expectancy variable was excluded and we regressed happiness on logarithmic GDP along with other independent variables. All models included time and entity fixed effects, since we focus on numerous countries (entities) over several years. Since the initial models did not capture the essence of our intended hypotheses, we produced different iterations keeping in mind that, at an international level, countless factors influence our ability to generalize the conclusions to

countries outside our dataset. An important variable that would impact our generalizations was freedom. Rahman and Veenhoven (2018) found that freer nations reported higher levels of happiness on average. Therefore, we trisected the dataset into completely free, partially free and not free countries, aligning with Freedom House's classification, and ran three different regression models. This would ensure a higher external validity of our models.

Based on our observations of the relationship between GDP per capita and happiness for countries at each freedom level, we wanted to account for the government expenditure component of GDP especially for less free countries. Therefore, we ran different regression models using consumption per capita as opposed to GDP per capita. This was based on Plümper and Martin's (2003) observations on government spending (% of GDP) and level of democracy (a measure of freedom).

The Data

Our dataset has an unbalanced panel structure for 163 countries between 2015 – 2018. One observation consists of one country in one of the aforementioned years with associated values for happiness, GDP per capita, and our other independent variables.

The dependent variable we will be investigating is the happiness score of a country from the world happiness dataset. The happiness score is reported from a scale of 0 to 10 and is based on survey responses from 2000-3000 individuals. The variable is intended to measure the state of well-being of individuals in a country, with special consideration to the individual's social environment, natural environment and other subjective factors. These data were collected through the Gallup World Poll and have a mean of 5.37 and a standard deviation of 1.13.

One of our independent variables will be GDP per capita (in USD). This variable measures the aggregate output in the economy per person living in a given country. The data can be found on the World Bank's website and is constructed by dividing aggregate output by total population. The mean value of GDP in our dataset is $14779.76 with a standard deviation of 22885.64 (Table 1). To explore certain aspects of GDP, we will be replacing GDP with another independent variable: consumption (per capita in 2010 USD). Consumption data can also be found on the World Bank's website and is a measure of the per person consumption expenditure in an economy. The mean value of consumption in our dataset is $8181.94 with a standard deviation of 9757.28.

Another important independent variable we investigate is freedom, which is intended to measure the amount of freedom within a country based on citizen's political rights and civil liberties. The data is collected by analysts through news outlets and various other resources and can be found on the Freedom House's website. Each country is given a score of 0-4 points for each of the Freedom House's 10 political rights indicators and 15 civil liberties indicators, and the freedom score is the sum of a country's points. The variable has a mean value of 58.31 points and a standard deviation of 30.16. Freedom House also provides us with a categorical freedom status for a country, broken into not free (NF), partially free (PF), and free (F).

Our next independent variable is unemployment as a percentage. This variable measures the rate of unemployment in a country (those in the labor force actively searching for a job). The data was sourced through the World Bank and is constructed by dividing the number of unemployed people by the total labor force and multiplying that by 100. The variable has a mean value of 7.51 percent with a standard deviation of 5.67.

Our next independent variable is The Human Development Index (HDI). This measures achievements of a country in three key dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living. The data for this variable were taken from the United Nations Development Programme's website. The variable has a mean value of 0.71 and a standard deviation of 0.15. Details on the formulation of HDI can be found in Appendix A.

Our next independent variable is the inequality in a country. This variable is meant to be an unweighted measure of the inequalities in health, education, and income. These data are obtainable through the United Nations Development Programme's website. The variable has a mean of 185.18 and a standard deviation of 106.89. Details on the formulation of inequality can be found in Appendix B.

Our final independent variable is life expectancy. This is a measure of the average lifespan after birth in a country, and these data were obtained through The World Bank's website. The mean value of life expectancy was 72.38 years with a standard deviation of 7.82. To account for simultaneous causality between life expectancy and happiness, we will be using public health expenditure (per capita) in 2020 USD as an instrumental variable. These data can be found on the World Bank's website and measures the amount of money each country spends on health care services and goods per person. The variable has a mean value of $1172.99 and a standard deviation of 1899.15.

We believe that health expenditure meets instrumental relevance and exogeneity. A simple regression of life expectancy on health expenditure shows a strong, non-zero statistically significant relationship (a 1 USD change in health spending is correlated with a 0.0025016 year increase in life expectancy with $p < 0.01$, thus predicting that a $400 increase in public health

spending is correlated with an average 1 year increase in population life expectancy). Here, with a single instrument, the first-stage F-statistic is the square of the t-stat, resulting in $F = 194.6 > 10$, which is strong evidence for relevance. In addition, to estimate the relationship between longevity (life expectancy) and happiness, Bjørnskov (2008) uses public health expenditure as a 'potential indirect transmission channel'. Following this idea, we see that public health expenditure can be used as an instrumental variable that does not determine happiness of individuals. The primary possible method by which public health expenditure can influence happiness is through life expectancy. We see evidence of this in our dataset, and therefore we believe health expenditure satisfies instrumental exogeneity as well.

Variable	Obs.	Mean	Std. Dev.
Happiness	626	5.37	1.13
GDP (per capita)	754	14779.76	22885.64
Consumption (per capita)	543	8181.94	9757.28
Unemployment (%)	722	7.51	5.67
HDI	754	0.71	0.151
Inequality	601	185.18	106.89
Freedom	838	58.31	30.15564
Life Expectancy	616	72.38	7.82
Health expenditure (per capita)	586	1172.99	1899.15

Table 1. Summary statistics for both dependent (happiness) and independent variables.

Empirical Results

After grouping countries by their freedom status, our regression yielded the following results and the subsequent regression equations:

Table 2. Regression models for three levels of freedom, separated by freedom scores.

Happiness	Not Free	Partially Free	Free
Life expectancy	-0.458	0.590	0.601
	(0.75)	(1.12)	(1.44)

ln(GDP)	-0.952	5.666	2.524
	(0.75)	(1.86)	(2.02)*
Freedom	-0.032	0.069	-0.000
	(2.50)*	(1.11)	(0.00)
Inequality	-0.000	0.000	-0.000
	(0.48)	(0.09)	(0.47)
Unemployment	-0.056	-0.040	-0.024
	(0.56)	(1.19)	(0.91)
2016	0.118	-0.287	-0.141
	(0.70)	(1.98)*	(1.44)
2017	0.318	-0.517	-0.219
	(0.96)	(1.93)	(1.60)
2018	0.394	-0.708	-0.279
	(0.88)	(1.79)	(1.41)
HDI	0.785	-19.575	-20.273
	(0.04)	(0.68)	(1.56)
ln(GDP*freedom)		-0.336	
		(0.99)	
Constant	43.074	-59.458	-47.853
	(1.11)	(1.59)	(1.54)
N	113	177	235

p<0.05; ** p<0.01. Parentheses indicate t-scores

$$\hat{Happiness}_{notfree} = 43.074 - 0.952 * ln(GDP) - 0.458 * \text{life } \hat{\text{expectancy}} - 0.032 * Freedom - 0.0003358 * inequality - 0.056 * Unemployment + 0.118 * 2016 + 0.318 * 2017 + 0.394 * 2018 + 0.785 * HDI$$

$$\hat{Happiness}_{partiallyfree} = -59.458 + 5.666 * ln(GDP) + 0.590 * \text{life } \hat{\text{expectancy}} + 0.069 * Freedom + 0.0000353 * inequality - 0.040 * Unemployment - 0.287 * 2016 - 0.517 * 2017 - 0.708 * 2018 - 19.575 * HDI$$

$$\hat{Happiness}_{free} = -47.853 + 2.524 * ln(GDP) + 0.601 * \text{life } \hat{\text{expectancy}} + 0.069 * Freedom + 0.0004978 * inequality - 0.024 * Unemployment - 0.141 * 2016 - 0.219 * 2017 - 0.279 * 2018 - 20.273 * HDI$$

The results from our models provide an interesting insight as to how GDP affects happiness. We find that GDP is only significant depending on the freedom status of a country. Only countries that are considered free have a significant relationship between GDP and happiness. Conversely, for countries that are not free, the only significant variable observed is freedom. Based on our model, a 1% increase in GDP is predicted to increase a free country's happiness score by 0.025 points. Interestingly enough, we also observe that a 1 point increase in freedom score is predicted to decrease a not free country's happiness score by 0.032 points. The possible implication of this is both interesting and sound: citizens of free countries will have more autonomy and, since free countries imply free markets, can utilize their earnings in any way they see fit, so citizens in free countries can purchase goods that make them happy. If that is the case, it would explain why GDP has a significant relationship with happiness in those countries; furthermore, our data indicates that not-free countries' citizens' happiness is affected by freedom while exhibiting an insignificant relationship with GDP, so it may be the case that, since the countries will not have free markets, citizens of such countries can not purchase goods that would make them happy. The negative relationship exhibited between happiness and freedom may be explained by a possible response bias by participants in fear of repercussions that their government will pursue action against them; furthermore, media in countries with extremely low freedom scores will more often than not be completely controlled by the government, so the citizens perceptions of both their country and other countries state of affairs may be blurred and altered. Alternatively, countries that are not free, but closer to the border of partially free may experience increased political instability, a factor that our model does not directly control for, which may lower happiness. We don't currently have enough data to test these hypotheses, though they could be fruitful directions for continued research.

These findings led us to the hypothesis that less free countries likely have government expenditure as a higher proportion of GDP which would make it a less reliable measure of individual level economic well-being. This hypothesis has been explored by Thomas Plümper and Christian W. Martin (2003), where they found a U-shaped relationship between government expenditure (as a % of GDP) and level of democracy. To account for this and explore the implication of happiness at individual level economic well-being, we replaced GDP per capita with consumption per capita, as shown in table 3.

A description of each of the models in table 3 follows:

(1) Is a time- and entity-fixed effects model including the consumption & freedom interaction term, but not the instrumented life expectancy and no other controls.

(2) Is a time- and entity-fixed effects model including both the consumption & freedom interaction term and the instrumented life expectancy, but not any other controls.

(3) Is a time- and entity-fixed effects model including the consumption & freedom interaction term and life expectancy that has not been instrumented, with no other controls. We would expect this model to suffer from simultaneous causality between happiness and life expectancy.

(4) Is our preferred model. It's a time- and entity-fixed effects model with the consumption & freedom interaction term, instrumented life expectancy, and inequality and unemployment as additional controls.

(5) Is identical to 4, but with HDI added.

Table 3. Regression models using Consumption as the independent variable of interest.

	(1)	(2)	(3)	(4)	(5)
ln(Consumption)	0.799	0.906	0.618	1.218	1.462
	(1.57)	(1.65)	(1.35)	(1.92)	(1.87)
Freedom	0.006	0.007	0.005	0.030	0.030
	(0.50)	(0.54)	(0.39)	(1.68)	(1.65)
ln(Consumption*Freedom)	-0.063	-0.064	-0.060	-0.186	-0.182
	(1.26)	(1.25)	(1.27)	(2.29)*	(2.24)*
2016	-0.027	-0.058	0.028	-0.081	-0.069
	(1.29)	(1.55)	(1.10)	(2.08)*	(1.92)

2017	-0.033 (0.96)	-0.087 (1.41)	0.064 (1.57)	-0.114 (1.74)	-0.088 (1.50)
2018	-0.003 (0.07)	-0.082 (0.94)	0.133 (2.27)*	-0.126 (1.34)	-0.094 (1.10)
Life expectancy		0.097 (0.81)	-0.170 (2.30)*	0.134 (1.09)	0.176 (1.15)
Inequality				0.000 (1.57)	0.000 (1.46)
Unemployment				-0.040 (2.57)*	-0.040 (2.52)*
HDI					-8.238 (0.90)
Constant	0.539 (0.14)	-7.377 (0.70)	14.372 (2.35)*	-9.675 (0.91)	-8.957 (0.85)
R^2	0.03		0.07		
N	539	527	539	485	485

$p<0.05$; ** $p<0.01$. Parentheses indicate t-scores

Based on regression model 4, integrating consumption into our model displays convincing evidence of a causal effect on happiness from the interaction term between freedom score and consumption. While we expected this result, we are surprised to see that consumption was not, itself, statistically significant, even though it would seem to represent individual level well-being more than GDP. This lack of statistical significance implies that higher GDP in free countries may have spillover effects that increase average happiness through channels other than consumption, like improved infrastructure and lack of civil unrest, though we don't have the data to test this hypothesis. Our preferred model remains the freedom-divided GDP model shown in table 2.

Our key assumptions regard the validity of the collected data. Since our dataset includes data for most countries in the world, we are primarily concerned with the internal validity of our model, though we discuss some potential issues with external validity towards the end of this

section. Our first cause for concern is omitted variable bias. As our main variable of interest is GDP per capita or consumption, there are many factors that cause variance in these variables and happiness. To help account for the possibility of omitted variable bias, we both included many country specific variables and utilized entity fixed effects in our regression model.

Since we are using panel data, we used clustered standard errors to account for autocorrelation. In addition, for each independent variable, we checked whether the lagged effect was significant and found none. Therefore, we believe that there is no omitted lagged effect within our time frame, though we can't test for lagged effects outside of our data set.

Another key assumption deals with the collection of the data. Our independent variables are primarily based on census data (e.g. life expectancy, inequality, unemployment) where the entire population is considered; however, it is possible the validity of some figures may be imprecisely calculated, as some countries measure these factors less often. For example, the United States collects data on unemployment on a monthly basis through the Current Population Survey (CPS), but less developed countries may not collect these data as often. Also, since happiness score is computed using survey data, there could be response bias where individuals in certain countries may feel pressured to incorrectly answer questions, though, since our original data source for happiness is the Gallup World Poll, we anticipate that their researchers would have recognized and corrected for this as much as possible. Furthermore, our dataset only contains data from 2015-2018 and factors like GDP per capita and consumption as well as happiness do not have high variability within a country throughout a four year timespan. Considering this, it's very likely the case that we are not fully able to measure the causal effect of our variables, which may explain the low significance in the consumption-based models in table 3.

In considering external validity, countries who are not included in the world happiness dataset have fundamental differences from those included; thus, extrapolation is limited to certain categories of country. Prevalent characteristics of excluded countries (e.g. East Timor, North Korea, Nauru) consist of the presence of civil unrest, lack of wealth, predominantly authoritarian government systems, and small size, though our data set does include some countries with these characteristics. This sample selection bias makes it difficult to completely generalize our findings to small nations, island nations, and very authoritarian or war-torn nations.

Our final concern is simultaneous causality. To account for the aforementioned simultaneous causality between life expectancy and happiness, we utilized public health expenditure as an instrumental variable, and we assumed it was both a valid instrument and was exogenous to our model; furthermore, while it is possible there is simultaneous causality between our other variables and happiness, we do not currently see any such relationship and assume that it does not exist within our model.

As such, we believe our analysis meets the requisite assumptions for causal inference. If the conditions discussed do not hold, however, our estimates are biased and inconsistent.

Conclusion

In this project, we attempted to determine the impact of various well-being factors on the happiness of individuals across different countries between 2015-2018. We used the ordinary least squares method to estimate the regression coefficient for each independent variable. We expected to capture a positive effect for life expectancy, HDI, freedom and GDP, and a negative effect of inequality and unemployment on happiness. Through assessment of initial models and

existing literature, we anticipated simultaneous causality for life expectancy, which led us to use public health expenditure as an instrumental variable. We switched our focus from GDP/capita to consumption following an interesting relationship between a country's freedom status and the effect of GDP/capita on happiness, and, though our table 3 consumption model did not show significant effects for many of our independent variables (except for unemployment), we found evidence of an interaction between freedom and consumption that affects happiness; however, consumption itself was not a significant variable for determining happiness. Further, contrary to the Easterlin Paradox's theory of happiness plateauing after a certain level of income, we didn't find a statistically significant nonlinear relationship between happiness and consumption at any level of consumption, though 'free' countries did show evidence of a relationship between increased GDP/capita and happiness.

Our findings do not provide much evidence for our original theory of a causal relationship between spending money and increased happiness, though this surprising result may simply reflect limitations in our sample. Our analysis does capture an unexpected difference in the relationships between GDP and happiness based on freedom status, which could be explored further to understand the well-being of citizens in a given country; furthermore, our findings regarding a negative relationship between freedom score and happiness for not free countries could be further explored to extend insights into how happiness is determined in not-free countries.

Bibliography/References

Adjusted net national income per capita in USD (2018). Retrieved from the World Bank: https://data.worldbank.org/indicator/NY.ADJ.NNTY.PC.CD

Christian Bjørnskov, (2008). *Healthy and happy in Europe? On the association between happiness and life expectancy over time,* Social Science & Medicine, Volume 66, Issue 8, 2008, Pages 1750-1759, ISSN 0277-9536, doi: 10.1016.

Brulé, Maggino. Metrics of Subjective Well-Being. Cham: Springer International Publishing AG,

2017. Print.

Coefficient of human inequality (2018). Retrieved from the United Nations Development Programme's Human Development Reports: http://hdr.undp.org/en/indicators/135006

Current GDP data in 2010 USD (2020). Retrieved from the World Bank World Development Indicators database: https://databank.worldbank.org/source/world-development-indicators

Delhey J., Kroll C. (2013) A "Happiness Test" for the New Measures of National Well-Being: How Much Better than GDP are They?. In: Brockmann H., Delhey J. (eds) Human Happiness and the Pursuit of Maximization. Happiness Studies Book Series. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-6609-9_14

Easterlin (1974). "Does Economic Growth Improve the Human Lot? Some Empirical Evidence" (PDF). In Paul A. David; Melvin W. Reder (eds.). Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz. New York: Academic Press, Inc.

Human Development Index (2018). Retrieved from the United Nations Development Programme's Human Development Reports: http://hdr.undp.org/en/indicators/137506#

Life expectancy at birth in total years (2018). Retrieved from the World Bank: https://data.worldbank.org/indicator/SP.DYN.LE00.IN?name_desc=false

Unemployment, % of total labor force (2020). Retrieved from International Labour Organization, ILOSTAT database via the World Bank: https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS

World Happiness Data (2020). Originally collected through Gallup World Poll, retrieved from Kaggle. https://www.kaggle.com/mathurinache/world-happiness-report?select=2019.csv

World Freedom Scores Data (2020). Retrieved from Freedom House: https://freedomhouse.org/countries/freedom-world/scores

Plümper, T., & Martin, C. (2003). Democracy, Government Spending, and Economic Growth: A Political-Economic Explanation of the Barro-Effect. *Public Choice, 117*(1/2), 27-50. Retrieved December 19, 2020, from http://www.jstor.org/stable/30025887

Appendix A: Formulation of HDI

The HDI is the geometric mean of the three dimensional indices:

$$HDI = (I_{Health} \cdot I_{Education} \cdot I_{Income})^{1/3}$$

The dimensional indices are calculated as follows:

$$\text{Dimension index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}.$$

For example, the HDI for Bangladesh would be calculated as follows:

$$\text{Health index} = \frac{72.32 - 20}{85 - 20} = 0.8049$$

***Where life expectancy at birth = 72.32**

$$\text{Expected years of schooling index} = \frac{11.20449 - 0}{18 - 0} = 0.62247$$

$$\text{Mean years of schooling index} = \frac{6.06183 - 0}{15 - 0} = 0.40412$$

$$\text{Education index} = \frac{0.62247 + 0.40412}{2} = 0.5133$$

***Where expected years of schooling = 11.204, mean years of schooling = 6.062**

$$\text{Income index} = \frac{\ln(4{,}057.25) - \ln(100)}{\ln(75{,}000) - \ln(100)} = 0.5594$$

***Where Gross national income per capita (2011 PPP $) = 4,057.25**

$$\text{Human Development Index} = (0.8049 \cdot 0.5133 \cdot 0.5594)^{1/3} = 0.614$$

For more detail on the technical aspects of HDI, refer to technical note 1 here.

Appendix B: Formulation of Inequality

The value of inequality is computed as follows:

$$A_x = 1 - \frac{\sqrt[n]{X_1 \ldots X_n}}{\bar{X}} \quad (1)$$

where $\{X_1, \ldots, X_n\}$ denotes the underlying distribution in the dimension of interest. A_x is obtained for each variable (life expectancy, mean years of schooling and disposable household income or consumption per capita).

$$Coefficient\ of\ human\ inequality = \frac{A_{Health} + A_{Education} + A_{Income}}{3}$$

***Note: The coefficient of human inequality is as follows above AND is multiplied by 100**

For more detail on the technical aspects of the inequality coefficient, refer to technical note 2 here.

Appendix C: Initial Models and Analysis

Dependent: Happiness	(1)	(2)	(3)	**(4)**	(5)	(6)
ln(GDP)	0.915	0.900	0.865	**1.115**	0.902	0.748
	(2.04)*	(1.62)	(1.46)	**(1.59)**	(1.57)	(1.15)
2015	0.000	0.000	0.000	**0.000**	0.000	0.000
2016	-0.032	-0.044	-0.025	**-0.034**	-0.001	-0.003
	(1.63)	(2.14)*	(1.06)	**(1.37)**	(0.04)	(0.11)
2017	-0.047	-0.057	-0.040	**-0.040**	0.019	0.014
	(1.44)	(1.52)	(0.98)	**(0.89)**	(0.39)	(0.28)
2018	-0.034	-0.057	-0.030	**-0.034**	0.050	0.045
	(0.76)	(1.11)	(0.55)	**(0.57)**	(0.71)	(0.62)
Unemployment		-0.028	-0.030	**-0.026**	-0.020	-0.021
		(1.98)*	(2.27)*	**(1.88)**	(1.42)	(1.49)
Freedom		-0.001	0.001	**-0.001**	-0.002	-0.002
		(0.17)	(0.15)	**(0.11)**	(0.29)	(0.34)
Inequality		0.000		**0.000**	0.000	0.000
		(0.53)		**(0.49)**	(0.34)	(0.36)
HDI			-2.754	**-3.530**		2.536
			(0.42)	**(0.53)**		(0.42)
Life expectancy					-0.129	-0.143
					(1.67)	(1.89)
Constant	-2.510	-2.100	0.065	**-1.473**	7.177	7.709
	(0.65)	(0.43)	(0.02)	**(0.29)**	(0.99)	(1.11)
R^2	0.03	0.06	0.05	**0.06**	0.08	0.08
N	600	533	591	**533**	533	533

Table 1. Initial model. *p<.05 ; **p<.10. T-scores indicated in parentheses.