Economic Freedom and Subjective Well-being–Revisiting the Relationship

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Abstract

This study investigates the relationship between economic freedom and two different dimensions of subjective well-being (SWB)–life satisfaction and hedonic experiences. Using a large sample of world citizens from the World Value Survey (WVS) we find that the effect of economic freedom on life satisfaction is positive and significant. This effect is robust with respect to the estimation procedure, consistent across different subgroups of the sample, but differs across countries based on their level of economic development. Economic freedom, for example, tends to benefit not only the top 20 percent of income earners but even more so those at the bottom income quintile. Much of the positive effect of economic freedom in high income countries, however, is entirely through the income channel. These results should be interpreted with caution due to the strong multicollinearity between aggregated variables which may explain the mixed results found in the empirical literature. A variety of alternative measures of good governance and subjective well-being from the Worldwide Governance Indicators (WGI) and the WVS provide additional robustness tests. Finally, we test the effect of economic freedom on the hedonic experiences of people.

Keywords: Economic Freedom, Subjective Well-being, Formal Institutions
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1 Introduction

The empirical literature on the link between economic freedom and subjective well-being (SWB) has produced inconsistent evidence in support of a positive, negative, and insignificant relationship. The goal of this study is to investigate some of the causes for this empirical heterogeneity. Using a large pool of world citizens that represent 90 percent of the world population for more than three decades, we test the robustness of the effect of economic freedom on predicting two separate dimensions of subjective well-beinglife satisfaction and hedonic experiences. We find that the effect of economic freedom on life satisfaction is positive and statistically significant. This effect is robust with respect to the estimation procedure and the choice of economic freedom and SWB variables, consistent across different subgroups of the sample, but differs across countries based on their level of economic development. Economic freedom, for example, tends to benefit not only those at the top of the income distribution, but also those at the bottom. Much of the positive effect of economic freedom in high income countries, however, is entirely through the income channel. Once we decompose the EFW index into its five main categories, we find that what matters for subjective well-being is not the size of the government, but the quality of the institutions that define the legal system and establish rules for the protection of private property, sound monetary policy, and friendly (low regulatory) business environment. Openness to trade internationally, however, is found to affect subjective well-being negatively.

Recent research has also started distinguishing between two separate dimensions of subjective well-being life satisfaction and emotional well-being. Life satisfaction is a reflective assessment which involves an evaluative judgment of ones life and requires an effort to remember and evaluate past experiences. Emotional well-being, on the other hand, refers to the everyday positive and negative emotional states which are experienced real timethe frequency and intensity of hedonic experiences such as joy, sadness, anger, stress, or loneliness that make ones life pleasant or unpleasant. In light of this research, the second part of this paper explores the effect of economic freedom on the hedonic experiences of people. We find that people who live in countries with higher level of economic freedom are more likely to feel excited, to feel on the top of the world, less likely to be feel restless, depressed, and lonely, and more likely to feel that their lives are going their way. To some extent, these results can explain the high correlation between economic freedom and life

evaluation. On the other hand, however, people who live in countries with institutions consistent with the principles of economic freedom are less likely to receive compliments that make them feel proud, are more likely to be bored, and less likely to feel a sense of accomplishment.

Several robustness tests are used to verify the results. First, nine measures of quality of governance from the WVS and the WGI reveal similar patterns. Second, consistent results are discovered when alternative measures of subjective well-being are used as a dependent variable. For example, economic freedom tends to increase not only life satisfaction but also financial satisfaction, happiness, satisfaction with government and satisfaction with democracy. In addition, countries with high level of economic freedom also have lower levels of happiness inequality. .. Thus, this paper advances the literature on the relationship between economic freedom and subjective well-being in several ways. First, it uses a very large sample of world citizens from 53 countries that spans over three decades which allows us to control for a large set of individual level variables such as relative income, employment status, and family and cultural values. Second, it is the first study we are aware of that distinguishes between two separate dimensions of subjective well-beinglife evaluation and hedonic happiness in the economic freedom literature. Third, several econometric models are tested and particular attention is paid to the multicollinearity problem, which is an issue in cross-section studies that use aggregated variables such as economic freedom. Fourth, a large number of alternative measures of subjective well-being and economic freedom are used to verify the results. Fifth, because economic freedom is measured by complex composite indicators such as the Economic Freedom of the World (EFW) index, this study decomposes the effect of economic freedom into the areas that underlie the index within the context of individual level data. Finally, a number of models in this study test if the effect of economic freedom differs among different sub-groups in the sample. This allows us to answer questions such as does economic freedom benefit only the rich, or does it also affect positively the SWB of the poorest citizens?

2 Literature Review

There is a large literature that investigates empirically the effect of economic freedom on a variety of socio-economic outcomes such as economic growth, inflation, unemployment, investment, health, education, and more recently quality of life measures such as social capita and subjective

well-being. In a summary of the literature, Hall and Lawson (2013) conclude that out of 392 articles that study the effect of economic freedom on different measures of quality of life, over two-thirds find a good outcome. In addition, only 4 percent of these papers find a negative result such as economic freedom tends to affect negatively income inequality. Thus, the majority of the economic freedom literature provides a very strong evidence for the positive effect of economic freedom on quality of life.

Within this literature, a number of studies investigate the effect of economic freedom on subjective well-being and find inconclusive results. While the majority of these studies suggest a positive correlation between economic freedom and happiness, the results are not robust and appear sensitive to the choice of empirical model, data sources, economic freedom and happiness variables, and control variables. Table 12 in the Appendix summarizes the literature and shows this empirical heterogeneity. The table suggests that most empirical studies rely on simple partial correlations and OLS analysis, and only a few attempt to control for country and year fixed effects, which may be important source of heterogeneity in cross sectional studies. Below, we provide a short review of this literature. Using a cross section of 44 countries in the 1990s, Veenhoven (2000) finds that economic freedom and happiness are strongly and positively correlated. His study relies on simple bivariate correlations and examines which type of freedomeconomic, political, or personal freedom-contributes to happiness, under what conditions, and whether on net freedom affects happiness positively. This effect is independent from the level of a countrys economic development. Political and personal freedoms, on the other hand, show no significant correlation with happiness. In addition, the study suggests that economic freedom has a much stronger positive effect on happiness in less developed countries. In a more recent analysis, Ovaska and Takashima (2006), using a cross section of 68 countries, find that economic freedom is positively correlated to happiness in three out of four models tested. Their models use country averages for 1990-2000 and control for a large set of variables including economic growth, absolute income, relative income, inflation, unemployment, and the level of foreign trading. Economic freedom, however, is found to be statistically insignificant in their most comprehensive model which controls for religiosity and age of the population.

In another study, Luechinger et al. (2006) develop a rent-seeking index and find that countries with more public employees who are seeking rents tend to have lower levels of life satisfaction. While the number of rent-seeking employees is not a direct measure of economic freedom, it is a proxy

for the strength of the institutions that define the quality of governance and thus could be seen as an important determinant of economic freedom itself. Luechingers (2006) study presents a strong argument why people who live in countries with less rent seeking experience higher levels of life satisfaction. Contrary to previous studies, Bjornskov et al. (2008) find that institutional variables such as the quality of governance and regulation, which could be seen as important components of economic freedom, do not exhibit a robust and significant impact on well-being. These results are rather surprising because they suggest that people with higher income tend to suffer from better governance and are worse off in countries with better legal quality. Further, regulatory quality significantly reduces life satisfaction. The authors conclude that these results are puzzling and need further research.

Yet, in a more recent study, Bjornskov et al. (2010) revisit the relationship between formal institutions and life satisfaction. Their findings support the existence of a positive relationship between formal institutions and average national happiness. This conclusion is qualitatively rather insensitive to the specific measures of happiness used. In addition, the effect of formal institutions tends to differ among poor and rich countries. By separating different types of institutional quality, the authors discover that economic-judicial institutions tend to dominate the political institutions when sufficient number of low-income country enter the sample.

Similarly, Ott (2010) finds that there exists a strong correlation between the quality of governance and happiness. The correlation between technical quality of government and happiness is positive in both rich and poor countries. However, the correlation between democratic quality and happiness is only positive in rich nations. Ott (2010) also finds that correlations between governance and happiness are independent of culture, so good governance is a universal condition for happiness. Thus, he concludes that people live happier in well governed nations due to a causal effect of good governance on happiness. Inglehart et al. (2008) show that economic development, democratization, and increase in social tolerance over the past thirty years have increased the subjective well-being of millions of people around the world. It is true that as society becomes richer, economic gains have decreasing importance to human happiness. Economic growth, however, is important even beyond some basic level of development, because it allows people to maximize their free choice in other realms of life:

Under conditions of scarcity, people focus on survival needs, giving top priority to economic

and physical security. Economic development increases peoples sense of existential security, leading them to shift their emphasis from survival values toward self-expression values and free choice, which is a more direct way to maximize happiness and life satisfaction. This model proposes that human development shifts emphasis from the pursuit of happiness through economic means toward a broader pursuit of happiness by maximizing free choice in all realms of life. (Inglehart et al, 2008, p.266)

Similarly, drawing on insights from economics and psychology, Verme (2009) shows empirically that individuals value freedom of choice and derive utility from it. Using data from the WVS and the EVS, Verme (2009) demonstrates that the degree of perceived control that individuals have over choice a construct known as the locus of control in psychologyregulates how we value freedom of choice. A variable that measures freedom of choice is found to predict life satisfaction better than any other known factor such as health, employment, or marriage across countries and within countries.

Using data for 122 countries, Graafland & Compen (2012) estimate the relationship between various sub-indicators of economic freedom and life satisfaction. Their estimation results suggest that life satisfaction is positively related to the protection of property rights and the quality of the legal system. -. In addition, freedom of trade is found to foster life-satisfaction but only for poor countries. However, once the model controls for income per capitathe relationship between economic freedom and life satisfaction becomes negative. Thus, the authors conclude that economic freedom affects life satisfaction but only through the income channel. Similarly, life satisfaction is negatively related to government size and sound money when income is held constant. Only the quality of the legal system shows a robust positive relationship.

Gropper et al. (2012) find a positive relationship between national levels of happiness and economic freedom. However, as GDP per capita increases, the effects of economic freedom begin to diminish. Generally, less developed countries benefit the most from economic freedom while developed countries benefit at a diminished rate.In a more recent paper, Rode (2012) addresses the question of causalitydo good institutions, in the form of democracy and economic freedom, lead to elevated scores of subjective well-being, or do happier citizens build better institutions? Using aggregated cross-country data from the WVS, he finds that overall economic freedom and electoral democracy are important determinants of life satisfaction in lower income countries. By

decomposing the EFW index, Rode (2013) further discovers that citizens in poor countries derive procedural utility from the access to sound money and freedom to trade. In addition, using a two-stage least squares to evaluate causality, he finds strong evidence that economic freedom increases life satisfaction. There is only weak evidence, however, in support of the inverse relationshiplife satisfaction may influence economic freedom through the enhancement of social capital.

Finally, using a similar dataset for 86 countries from the WVS, Gehring (2013) finds that economic freedom has a significant positive effect on subjective well-being. He also examines the effect of the different dimensions of the EFW index and finds that legal security and property rights, sound money, and regulation are strong predictors of subjective well-being. The overall effect is not influenced by socio-demographic factors such as gender, age, political orientation and social class, but it depends on the level of economic development. Poorer countries are found to benefit more from economic freedom than richer countries.

In this study, we extend Rodes (2012) and Gehrings (2013) research in several ways. First, we use data on the individual level, not the aggregate one, which allows us to control for a larger set of variables. In particular, we include a large set of variables that control for personal characteristics such as absolute and relative income, gender, religious belief, cultural and family values, employment status, etc., which are known to have a much greater effect on subjective well-being than aggregate variables such as GDP per capita or economic freedom. Using individual level data also helps us avoid the ecological fallacy. On the aggregate level, we also control for the level of income inequality, which is known to be an important determinant of subjective well-being (see Paolo Verme, 2010). This approach also allows us to test what the effect of economic freedom is for different subgroups of the population based on individual characteristics such as gender or level of income. For example, does economic freedom benefit equally both rich and poor citizens, not just rich and poor countries? Second, we test the effect of several additional models such as clustered robust and ordered logit models and pay closer attention to the multicollinearity issue. Contrary to Gehring (2013), for example, we find a strong multicollinearity between aggregated variables in the study. For example, economic freedom tends to be highly collinear with the GDP per capita variable. This may explain some of the inconsistent results in the previous literature which relies primarily on aggregated variables. Generally, however, our results are consistent with the findings in both Rode (2012) and Gehring (2013) and provide further evidence that individual

and aggregate results do not deviate much, a result also found in Bjornskov et al. (2010). Third, since the EFW index is a complex composite index, we provide additional robustness tests by using alternative measures of governance from the WGI and the WVS. We also use alternative measures of subjective well-being such as financial satisfaction and happiness inequality, which are not found in either Rode (2012) or Gehring (2013). These alternative measures provide additional robustness tests and suggest some avenues for future research. We also use a larger dataset covering the period from 1981-2012. Finally, we examine the effect of economic freedom on a number of hedonic experiences such as excitement, depression, boredom, a sense of accomplishment, etc., which extends Rodes and Gehrings research even further.

3 Possible Causes of Empirical Heterogeneity

While economic freedom has been widely acknowledged as an important source of entrepreneurship and economic development, there has been little agreement as to what actually constitutes economic freedom. Scholars have proposed a wide range of definitions, which have generated numerous measures of freedom. Most of these measures are complex composite indexes that involve multiple dimensions of social and political life. Yet, no single measure can summarize an idea as complex as economic freedom. Thus, one source of heterogeneity in the literature may come from the choice of economic freedom measure. Previous studies have used EFW index, the World Bank Worldwide Governance Indicators, or subjective measures such as self-reports on satisfaction with governance. In this paper, we use several alternative variables that measure the economic and political institutions that define economic freedomfrom EFW index to subjective measures such as the sense of control and freedom that citizens report.

Another source of heterogeneity may come from the fact that economic freedom may benefit in a different way different groups of society based on income, education, gender, or even different countries. For example, it is argued that neoliberal policies in the United States since the 1970 have benefited primarily the top income earners in the country contributing to the growing level of income inequality (Harvey, 2005). Similarly, the effect of economic freedom may change with the level of economic development. As countries become richer they are able and willing to dedicate more resources to support a larger welfare state and build a greater social safety net. Thus, several

of the models test the interactive effect of economic freedom with variables such as income, gender, and GDP per capita.

Next, the economic freedom variable may be highly collinear with other aggregate variables such as the GDP per capita or the country and year fixed effects that are commonly included in happiness regressions to control for country heterogeneity and time dependence. However, economic freedom is measured at the country level and using country and year fixed effects increases the problem of multicollinearity with other variables that may change in a similar fashion over time and across regions. Multicollinearity does not affect the consistency of the model as a whole, but it makes regressors sensitive to small changes in the model by inflating the standard errors, which can lead to unreliable estimation of the coefficients.

Another factor may be the estimation of the standard errors. Using robust estimators or regional clusters can impact the estimated coefficients significantly especially for aggregated variables such as economic freedom and GDP per capita. Usually, robust estimators such as the Huber-White Sandwich estimator are used when the data is heteroskedastic or contains outliers. Regional clusters are used to relax the assumption that observations are independent across different regions. Using robust standard errors or regional clusters does not affect the magnitude of the estimated coefficients but may have impact on their statistical significance.

Finally, an important issue that is often ignored in the literature is that of causality. Do good institutions make citizens happy, or do happy citizens demand and help create good institutions? It can be argued that happier people demand policies from the government that promote higher level of economic freedom. However, as Gehring (2013) points out, there is no psychological theory that suggests that happier people have preference for economic freedom. On the contrary, previous empirical research suggests that the relationship runs from formal institutions to happiness (see Verme, 2009). In addition, a recent study by Rode (2013) indicates the existence of a causal channel from economic freedom to well-being. Yet, Rode (2013) also argues that there could be a long run effect of well-being on economic freedom through the social capital channel. The evidence for such inverse relationship, however, is rather weak.

4 Data

Table 1 in the Appendix provides description and sources of all variables used in this study and Table 2 shows summary statistics. Below, we describe some of the main variables in greater detail.

4.1 Economic Freedom

The measure of economic freedom is from the 2012 Economic Freedom of the World index by Gwartney, Hall, and Lawson (2012). The index measures the degree of economic freedom in five major areas: (1) Size of Government (2) Legal Structure and Security of Property Rights; (3) Sound Money; (4) Freedom to Trade Internationally; (5) Regulation of Credit, Labor, and Business. Within the five major areas, there are 23 policy components. Many of those components are themselves made up of several sub-components. In total, the index comprises 42 distinct variables. Each component and sub-component is placed on a scale from 0 to 10 that reflects the distribution of the underlying data. The sub-component ratings are averaged to determine each component. The component ratings within each area are then averaged to derive ratings for each of the five areas. In turn, the five areas ratings are averaged to derive the summary rating for each country. The Economic Freedom of the World Index is on a scale from 0 (least free) to 10 (most free).[1]

4.2 Income Inequality

Data on inequality was obtained from the Standardized World Income Inequality Database (SWIID). Typically, such data has been rather inconsistent for cross-country examination. According to Scully (2002) more than 2600 calculations of GINI coefficients have been estimated through countries and time. These GINI coefficients vary tremendously from country to country and from year to year. The SWIID provides comparable GINI indices of gross and net income inequality for 171 countries for as many years as possible from 1960 to the present along with estimates of uncertainty in these statistics. It uses a custom missing-data algorithm which is used to standardize the United Nations University's World Income Inequality Database and data from other sources. Data collected by the Luxembourg Income Study serves as the standard. By maximizing compara-

[1]Detailed description of each area of the EFWI, and the policy variables that are used to build it, can be found at: http://www.freetheworld.com/2012/EFW2012-complete.pdf (p. 5-9)

bility for the largest possible sample of countries and years, the SWIID is better suited to broadly cross-national research on income inequality than previously available sources (Solt, 2009).[2]

4.3 Subjective Well-being

Data on personal characteristics and subjective well-being were collected from the integrated file of the World Value Survey (WVS) and the European Value Survey (EVS).[3] Specifically, the data on life satisfaction was collected using the following question: All things considered, how satisfied are you with your life these days? The scale of possible answers ranged from 1 (not at all satisfied) to 10 (very satisfied). The observation come from five different waves of the survey conducted between 1981 and 2012. We focus on life satisfaction for the main analytical part of this paper, although we use several alternative measures such as financial satisfaction and happiness in the robustness analysis for two reasons. First, previous literature on the topic has largely used life satisfaction (Easterlin, 2010; Sacks et al. 2010) so the results will be more comparable. Second, the upwards trend in happiness data over time from the WVS tends to be due to primacy bias due to a change in the instructions to the interviewers between adjacent waves of the survey (Easterlin, 2010). It is important to note that Easterlin (2010) presents only one side of the happiness debate, namely that economic development does not produce permanent gains in happiness over time. Sacks et al. (2010) and Inglehart et al. (2008), on the other hand, argue that economic development and liberalization have improved subjective well-being for millions of people over time. Finally, happiness data may also be problematic due to a censoring problem. Since the happiness scale is restricted to only ten points, further life improvements are less likely to be reflected in the index as populations become happier.

Although traditionally data on the self-reported level of life satisfaction (or subjective well-being) has been viewed with suspicion by economists, most recently such data has become more accepted in economic research. Frey, and Stutzer (2002), Kahneman and Kruger (2006), and Di Tella et al. (2003) and Di Tella and McCulloch (2006), for example, argue that aggregated subjective well-being data passes different validation tests and moves predictably with other variables (such

[2]The data can be downloaded from: http://myweb.uiowa.edu/fsolt/swiid/swiid.html

[3]The integrated WVS and EVS file can be downloaded together with description of all variables from: http://www.wvsevsdb.com/wvs/WVSIntegratedEVSWVS.jsp?Idioma=I

as income or growth in GDP) and is thus valid, reliable, and comparable.[4]

4.4 Aggregating the Datasets

Unfortunately, data on economic freedom, income inequality, and subjective well-being is available only for select years. To maximize the number of observations for the econometric analysis, we take the latest observations from the EFW index and SWIID that are available within the previous period (if they are no older than 2 years from the WVS wave). This allows us to significantly expand the dataset and include more countries and years in the sample. One justification for this approach is that institutional changes reflected in the EFW index or the SIID often happen over longer periods of time.

5 Model and Empirical Strategy

We use the following model for the main analytical part of this paper which is standard in the happiness literature (e.g., see Di Tella et al., 2003, Alesina et al., 2003):

$$SWB_i = \theta EFW_{ct} + \beta INEQ_{ct} + \lambda GDP_{ct} + \gamma X_i + T_c + Y_t + \epsilon_i \quad (1)$$

where SWB = life satisfaction, EFW = economic freedom index, INEQ = income inequality, X = a vector of personal characteristics and values including personal income, T = vector of country dummies, Y = a vector of time dummies, and = error term; $\theta, \beta, \lambda, and \gamma$ = parameters to be

[4]Self-reported data, by its nature, cannot be validated. However, an extensive literature exits that attempts to validate such data indirectly. Below I provide a short overview of the main arguments why happiness data is reliable, valid, consistent, and can be used in economic analysis. First, self-reported happiness tends to be consistent with other meaningful measures of utility. For example, people that report themselves happy smile more often during social interactions (Fernandez-Dols and Ruiz-Belda, 1995). Happy people are also more likely to be rated happy by friends and family (Sandvik et al., 1993) and by their spouses (Costa and McCrae, 1988), and less likely to commit suicide (Helliwell, 2006). Second, happiness data tends to move in an expected manner with many external factors such as unemployment and marriage. For example, unemployed people report lower levels of happiness and so do those who are recently divorced. On the other hand, work promotion and marriage are associated with higher self-reported happiness (Kahneman et al., 1999). Similarly, happiness data tends to move in a predictable way with many macroeconomic variables such as GDP per capita, the general level of unemployment, and income inequality (e.g., see Di Tella et al., 2003; Alesina et al., 2006). Richer countries tend to report higher levels of mean happiness, and countries with high levels of income inequality tend to have, on average, lower levels of life-satisfaction. A third important validation comes from neuropsychological studies that measure electrical changes in brain activity and heart rate. These changes tend to be significantly correlated with a variety of hedonic experiences and the subject's self-report (Davidson 1992, 2000; Davidson et al., 2000). Finally, a principal axis factor analysis of self- and non-self-reported subjective well-being measures reveals a single unitary construct underlying the measures (Sandvik et al. 1993).

estimated; i = individuals, c = countries, and t = years. A variety of reduced form regressions will be used to estimate the coefficients on economic freedom. The data is cross-sectional and includes a pool of world citizens from 58 countries that represent 90 percent of the world population. It spans over the period 1981-2012.

Since the dependent variable in this study, SWB, is a categorical variable, it requires an ordered logit estimation. Although we use ordered logit estimation, we report the coefficients from OLS regression in most of the models. There are two reasons for this approach. First, Ferrer-i-Carbonell (2004) provide extensive evidence that the results from OLS and ordered logit regressions hardly differ in the context of happiness research. Second, we are interested in estimating the marginal effects of economic freedom and OLS allows for easier interpretation of the coefficients. Ai and Norton (2003), for example, show that the coefficients in ordered probit regressions are more difficult to interpret than commonly assumed.

In the next section, we estimate the relationship between economic freedom and life satisfaction by varying many of the factors listed above. While the list is not exhaustive, the goals of this study are to provide a more consistent approach to testing the relationship between economic freedom and subjective well-being than previous studies have done and to suggest some explanations for the heterogeneity found in earlier empirical literature.

6 Empirical Tests

In this section, we test the consistency of the EFW variable in a systematic way by comparing its sign and statistical significance across a wide range of specifications and different subsamples.

We start the analysis by estimating the proposed model in equation (1). The model includes country and year fixed-effects which allow us to control for country heterogeneity and time dependence. In addition, the model uses a robust estimator which further allows us to relax the assumption that the error term and the control variables are identically distributed.

Table 3 in the Appendix shows the main results. In addition to the country and year fixed-effects used in model (1), the table also includes a standard OLS estimator (2), clustered robust (3), and ordered logit (3) estimators. In model (3), the observations are clustered around regions which allow us to relax the assumption that individual observations within regions are independent.

In all four models the EFW variable has a positive coefficient and in three of them the coefficient is statistically significant at the .01 level. Only in the clustered robust model is the coefficient not statistically significant although it has the expected sign. Thus, the results in this table provide evidence for a positive association between economic freedom and life satisfaction. This effect is independent from GDP per capita and income inequality which are also included as controls and have the expected signs and are statistically significant in three out of the four tested models. This result is consistent with the findings of Rode (2012) and Gehring (2013), who use aggregate level data.

The rest of the control variables in the model are also consistent with previous findings in the happiness literature. As expected, for example, higher level of personal income, ones relative position in society, higher education, better health, and higher level of social trust are all associated with higher levels of life satisfaction. On the other hand, divorce, unemployment, poor health, and lower level of education are associated with lower levels of life satisfaction. All of these additional control variables are statistically significant and have the expected sign in all four models, which provides confidence in the basic model used in this study.

In all four models, however, the EFW variable is highly collinear with the other independent variables in the model. This is revealed in the high levels of the variance inflation factor (VIF) which is reported at the bottom of Table 3. Additional tests reveal that EFW variable is highly correlated with the GDP and inequality variables and the country and year dummies included in the model.

The high correlation between the GDP, Gini, and EFW variables is unsurprising because these variables are aggregated over time and within countries and rely on a limited number of observations compared to the individual variables. However, in the presence of multicollinearity, the coefficient estimates may change sporadically in response to small changes in the model and data. Multicollinearity does not change the predictive power or reliability of the model as a whole, but it can affect individual regressors in unexpected ways. This collinearity may be the cause for some of the heterogeneity found in previous studies since these variables are commonly chosen as predictors in happiness regressions. The estimates that follow will provide additional test for the consistency of the results from the main model by varying the sample size, changing the set of regressors, and using alternative measures for economic freedom.

Table 4 shows the results for several sub-samples of the population based on gender, personal income, political affiliation, and the level of education of the respondents. In all sub-samples, the EFW variable has a significant and positive sign. The results suggest that economic freedom has a slightly higher positive effect on the life satisfaction of men compared to women. This could be driven by the fact that in some countries from the sample, especially those in Africa and Asia, there are still significant gender inequalities. Thus men are more likely to benefit from more economic opportunities associated with higher level of economic freedom. It also tends to benefit modestly more those in the bottom 20 percent of the income distribution than those at the top 20 percent. This is a rather interesting result because it is contrary to arguments that neoliberal policies in the United States have benefited primarily the top income classes when it comes to income and wealth accumulation. The effect seems to be indistinguishable between people with different political affiliation and to be slightly stronger for individuals with higher education. Overall, however, the differences between the various sub-samples are rather modest.

The effect of economic freedom on life satisfaction may also depend on interaction between various factors. For example, the importance of institutions may vary with the level of economic development. As Carlsson & Lundstrom (2002) argue, the ability to pay for public services and the role of the government changes as countries become richer. Wealthier countries are not only able to sustain a larger public sector, but also dedicate more resources to the redistribution of wealth. It is more appropriate, then, to examine countries with similar levels of development. In table 5, we split the sample into two groups, high and low income, to examine the effect of economic freedom at different levels of economic development. In addition, the sample is split into countries with high and low levels of income inequality as well as post-communist countries.

The results suggest that once a country reaches some basic level of economic development, the positive effect of economic freedom on SWB may be entirely through the income channel. Income inequality does not change the effect of economic freedom on life satisfaction. However, the effect of economic freedom on life satisfaction is found to be negative for post-communistic countries. This could be due to the fact that many post-communistic countries are going through a fundamental institutional change which in the early stages of the transition is often associated with high level of political corruption. Post-communistic countries such as Bulgaria and Romania, for example, have the highest level of perceived corruption in the European Union (Transparency

International, 2013). In addition, as Gwartney (2008) points out that the different dimensions of economic freedom work together like a team. Put another way, they may be linked more like the wheels, motor, transmission, drive shaft, and frame of a car () If any of the key parts are absent, the overall effectiveness is undermined.(Gwartney, 2008, p.). This also reminds us of the remarks of Milton Friedman after the fall of the Soviet Union, who stressed out the importance of rule of law in addition to economic freedom. If citizens dont abide to the rules of society, in particular the quality of contract enforcement, property rights, police, and the courts, then economic reforms may lead to even worse outcomes. Another issue is the time dimension. The EFW index represents a mix of institutional variables some of which have high transformation cost (e.g., legal structure and protection of private property) while others have low transformation costs (e.g., freedom to trade internationally or sound money). The appropriate specification may therefore depend on the appropriate response of people to the new institutional change. This response, however, may differ considerably across the different dimensions of the EFW index.

Table 7 decomposes the effect of EFW index into its five different areas: (1) Size of Government; (2) Legal Structure and Security of Property Rights; (3) Sound Money; (4) Freedom to Trade Internationally; (5) Regulation of Credit, Labor, and Business. The results show that it is not the size of the government that matters, but the quality of the institutions. Better legal system and protection of private property, sound monetary policies, and lower level of business regulations are found to have a positive effect on life satisfaction. On the other hand, freedom to trade internationally has a negative effect on life satisfaction. This result contradicts several other papers in the literature. For example, Gehring (2013) finds the variable on international trade to be positively correlated and significant with subjective well-being in one of three different specifications and positive but insignificant in the other two. We should be careful interpreting these results because the areas of the EFW index are also highly correlated with each other and some of the other aggregated variables in the model such as the GDP per capita and the Gini coefficient. Berggren & Jordahl (2005), for example, also find a puzzling negative effect of this area of economic freedom on growth. One possible explanation of this finding could be that the addition of foreign investment in the index creates measurement error. For example, larger inflow of foreign investment may reflect not only a more favorable business climate, but also a larger accumulation of international debt. Table 6 provides a correlation matrix between the different areas of EFW index.

To further test the robustness of the results, we use ten alternative measures of governance from the WGIand the WVS that can be seen as a proxy for the quality of the institutions in a country. The set of Worldwide Governance Indicators reports aggregate and individual governance indicators for 215 economies for the period 1996-2012 for six dimensions of governance: (1) Voice and Accountability, (2) Political Stability, (3) Government Effectiveness, (4) Regulatory Quality, (5) Rule of Law, and (6) Control of Corruption. These aggregated indicators combine the views of a number of enterprise, citizen, and expert survey opinions in both industrial and developing countries. The alternative variables from the WVS, on the other hand, measure the subjective valuation of respondents to question that range from confidence in government to perception of corruption.

Table 8 provides a correlation matrix for the WGI and the WVS variables. Table 9 summarizes the results from the basic model using each one of the alternative measures separately. Model (8) further combines all dimensions of the WGI, and model (13) combines all subjective measures. The results are consistent with the observations made so far in the paper. With the exception of one area of the WGI, the Rule of Law, all other alternative measures have a positive and significant effect on life satisfaction. The negative and significant effect associated with the variable the Rule of Law is rather puzzling and requires further investigation by future studies since virtually all other measures of good governance are associated with positive effect on subjective weill-being. Next, we test the effect of economic freedom on financial satisfaction, happiness inequality, satisfaction with government and satisfaction with democracy. Table 10 reports the results from the fixed-effects regressions. First, people who live in countries with higher level of economic freedom tend to report higher level of life satisfaction, satisfaction with their government and, generally, satisfaction with democracy. In addition, economic freedom is associated with lower level of happiness inequality, which is a constructed variable that represents standardized standard deviation of the life satisfaction variable.

Recent research has also started distinguishing between two separate dimensions of subjective well-being life evaluation and emotional well-being. Life satisfaction, which is the object of analysis for the first part of the paper, is a reflective assessment which involves an evaluative judgment of ones life and requires an effort to remember and evaluate past experiences. Emotional well-being, on the other hand, refers to the everyday positive and negative emotional states which are experienced

real timethe frequency and intensity of hedonic experiences such as joy, sadness, anger, stress, or loneliness that make ones life pleasant or unpleasant.

Table 11 explores the effect of economic freedom on the hedonic experiences of people. The results show that people who live in countries with higher level of economic freedom are more likely to feel excited, to feel on the top of the world, less likely to feel restless, depressed, and lonely, and more likely to feel that their lives are going their way. To some extent, these results can explain the high correlation between economic freedom and life evaluation. They also contradict some recent hypotheses that more freedom and more choice can lead to lower life satisfaction.[5]

On the other hand, however, people who live in countries with institutions consistent with the principles of economic freedom are less likely to receive compliments that make them feel proud, are more likely to be bored, and less likely to feel a sense of accomplishment. People in free societies, for example, will have more freedom to decide how to allocate their time, which may lead to more boredom at times. On the other hand, if people are told what to do, it is reasonable to believe that boredom will not be an issue even if their life satisfaction is low. Similarly, more freedom implies more choices, and more choices can make people feel less sense of accomplishment because it is easy to imagine that you could have made a much better choice when many other alternatives are present. This may lead to regret and a sense of under accomplishment. Such feelings of under accomplishment, however, may drive people to be more creative and productive (indeed a major finding in the economic freedom literature).All of these results indicate that economic freedom plays an important role in determining subjective well-beingboth life satisfaction and short term emotional well-being. Economic freedom may improve subjective well-being through variety of channels. It can lead to faster economic development and provide people with opportunities for more satisfying and better paid jobs. People who live in countries with higher level of economic freedom may also be anle to pursue higher education, which may also lead to more socio-economic opportunities in life. More importantly, however, higher level economic freedom may lead to greater agency, or the capacity of citizens to act and make choices for themselves. This may increase their sense of control over their lives. Recent studies have found that one of the most important determinants of happiness is the perception of freedom of choice. This relationship is stronger than the relationship between any other factor known and subjective well-being (see Paolo Verme, 2008).

[5]See The Paradox of Choice by Barry Schwartz (2005).

Economically, the results in this study suggest that policies that promote more freedom of choice may lead not only to economic growth but ultimately to higher subjective well-being.

7 Conclusion

The empirical literature on the link between economic freedom and subjective well-being provides mixed evidence in support of positive, negative, and insignificant relationship between the two. This study investigates some of the causes for this empirical heterogeneity. Using data from the World Value Survey that spans over three decades, we test the consistency of the effect of economic freedom in predicting life satisfaction. We find that economic freedom has a positive effect on subjective well-being. This effect is robust with respect to the estimation procedure, consistent across different subgroups of the sample, but differs across countries based on their level of economic development. The positive effect of economic freedom in high income countries is found to be entirely through the income channel. Decomposing the EFW index further reveals that what matters to subjective well-being is not the size of the government but the quality of the institutions that define the legal system and establish rules for the protection of private property, sound monetary policy, and low regulatory business environment. On the other hand, openness to trade internationally is found to affect subjective well-being negatively. The results are confirmed using several alternative measures of governance from the Worldwide Governance Indicators and the World Value Survey which can be seen as a proxy for the quality of institutional environment in a country. Finally, we test the effect of economic freedom on the hedonic experiences of people. We find that people who live in countries with higher level of economic freedom are more likely to feel excited, to feel on the top of the world, less likely to feel restless, depressed, and lonely, and more likely to feel that their lives are going their way. On the other hand, however, they are less likely to receive compliments that make them feel proud, are more likely to be bored, and less likely to feel a sense of accomplishment. Whether economic freedom causes higher life satisfaction, or people who are more satisfied with life are more likely to seek to live in an environment that is more economically free remains an open question. This study, however, provides a comprehensive overview of the empirical literature and points out some difficulties with previous research which may be the reason for the mixed results so far. It is further, to the best of our knowledge, the

first study to attempt to differentiate between two different dimensions of subjective well-beinglife evaluation and hedonic experiences.

Finally, the findings in this paper further emphasize the importance of policies that enhance the quality of the legal system and establish rules for the protection of private property, sound monetary policy, and friendly (low regulatory) business environment, all of which seem to promote faster economic growth but also improve many aspects of emotional well-being. As argued in the paper, such policies benefit not only the richest quintile of income earners but even more so those at the bottom of the income distribution. Economic freedom is also associated with less happiness inequality. Thus, the results suggest that there is no contradiction between the economic growth and happiness agenda as it is sometimes claimed in the happiness literature.

8 References

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8. Appendix

Table 1: Definition and Sources of Variables

Main Variables	Description	Source
Aggregated Variables		
Economic Freedom	The index measures the degree to which the policies and institutions of countries are supportive of economic freedom. 0 'least free' to 10 'most free'	Fraser Institute, Gwartney *et al*. (2012) http://www.freetheworld.com/
A1: Gov Size	0 'least free' to 10 'most free'	
A2: Legal System	0 'least free' to 10 'most free'	For description of each area and how it is constructed see: http://www.freetheworld.com/2012/EFW2012-app.pdf
A3: Sound Money	0 'least free' to 10 'most free'	
A4: Int Trade	0 'least free' to 10 'most free'	
A5: Regulation	0 'least free' to 10 'most free'	
WB Governance Indicators	Aggregated indicators based on 30 underlying data sources reporting perceptions of governance and a large scale of survey respondents and expert assessments worldwide.	World Bank (WGI project) http://info.worldbank.org/governance/wgi/index.asp
Voice and Accountability	-2.5 'weak' to 2.5 'strong' governance performance	For detailed methodology how each indicator is constructed see Kaufmann *et al.* (2010)
Political Stability	-2.5 'weak' to 2.5 'strong' governance performance	
Government Effectiveness	-2.5 'weak' to 2.5 'strong' governance performance	
Regulatory Quality	-2.5 'weak' to 2.5 'strong' governance performance	
Rule of Law	-2.5 'weak' to 2.5 'strong' governance performance	
Control of Corruption	-2.5 'weak' to 2.5 'strong' governance performance	
Gini (net)	Gini coefficient (net of taxes) measured on a scale from 0 'perfect equality' to 100 'perfect inequality'	Standardized World Income Inequality Database (Solt, 2009) http://myweb.uiowa.edu/fsolt/swiid/swiid.html
GDP per capita (US, PPP)	Real GDP per capita (billions of chained 2005 dollars)	Penn World Tables https://pwt.sas.upenn.edu/
Post-Communist	Dummy (1 ' post-communist' 0 'not')	Own calculations
Education	Mean years of schooling	Barro & Lee (2010), 2011, 04 Sep. Update, *version 1.2* http://www.barrolee.com/
Health	Life expectancy at birth	International Human Development Indicators http://hdrstats.undp.org/en/tables/
Micro Variables		
Life Satisfaction	Data was collected with the question: "*All things considered, how satisfied are you with your life as a whole these days? Please use this card to help with your answer.*" 1 'Very dissatisfied' to 10 'Very Satisfied'	All microeconomic variables came from the WVS/EVS Integrated 1981-2008 data file, ZA4804: v.2.0.0, 2011-12-30 and can be freely downloaded at: http://www.wvsevsdb.com/wvs
Income	Scale of incomes 1 'lowest step' to 10 'highest step	Own calculations
Relative Income	y_i/y^* where y* is mean income for country (by year)	Own calculations
Age	Age in years	
Female	Gender dummy (0: Male, 1: Female)	
Marital Status		
Married	Dummy for 'married'	
Divorced	Dummy for 'divorced'	
Separated	Dummy for 'separated'	
Widowed	Dummy for 'widowed'	
Single	Dummy for 'single'	
Unemployed	Dummy for 'unemployed'	
Tertiary Education	Dummy for tertiary (college) education	
Health	Data was collected with the following question: "*All*	

	in all, how would you describe your state of health these days?	
Very Poor	Dummy if 'very poor'	
Poor	Dummy if 'poor'	
Fair	Dummy if 'fair'	
Good	Dummy if 'good'	
Very Good	Dummy if 'very good'	
Social Trust	Data was collected with the question: "*Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people*?" (0 'cannot trust', 1 'can be trusted')	
Importance of	Data was collected with the following statement: "*Please say, for each of the following, how important it is in your life*:"	
Family	1 'not at all important' to 4'very important'	
Friends	1 'not at all important' to 4'very important'	
Leisure	1 'not at all important' to 4'very important'	
Religion	1 'not at all important' to 4'very important'	
Work	1 'not at all important' to 4'very important'	
Politics	1 'not at all important' to 4'very important'	
Confidence in Government	Data were collected with the following question: "*How much confidence you have in [government]*? 1 'none at all' to 4'a great deal'	
Subjective Democracy	Perceived level of democraticness in own country 1 'not at all democratic' to 10 'completely democratic'	
Sense of Freedom	Data were collected with the following question: "*Please use the scale to indicate how much freedom of choice and control you feel you have over the way your life turns out?*" 1 'none at all' to 10'a great deal'	
Perception of Corruption	Perceived extent of political corruption: 1 'almost no public officials are engaged' to 4'almost all public officials are engaged"	
Hedonic Experiences		All variables came from the European Value Survey 1981-2008 Longitudinal Data File, which can be downloaded from: http://zacat.gesis.org/
	Data were collected with the following question: "We are interested in the way people are feeling these days. During the past few weeks, did you ever feel ..."	
Excited	Lately felt: Particularly excited or interested: 0 'no' and 1 'yes'	
Restless	Lately felt: Restless: 0 'no' and 1 'yes'	
Proud	Lately felt: Proud because someone complimented you: 0 'no' and 1 'yes'	
Lonely	Lately felt: Very lonely or remote to other people 0 'no' and 1 'yes'	
Accomplish	Lately felt: Pleased about having accomplished something: 0 'no' and 1 'yes'	
Bored	Lately felt: Bored 0 'no' and 1 'yes'	
Top World	Lately felt: On the top of the world 0 'no' and 1 'yes'	
Depressed	Lately felt: Depressed or very unhappy 0 'no' and 1 'yes'	
Your Way	Lately felt: that things were going your way 0 'no' and 1 'yes'	
Upset	Lately felt: upset because someone criticized you 0 'no' and 1 'yes'	
Happiness Inequality	Standardized standard deviation of the life satisfaction variable	Own calculations

Table 2: Summary Statistics

Main Variables	**Observations**	**Mean**	**St. Dev.**	**Min**	**Max**
Macro Variables					
Economic Freedom	163	6.47	1.22	2	9.15
A1: Gov Size	163	6.10	1.44	0.65	9.93
A2: Legal System	163	5.95	1.66	1.43	9.62
A3: Sound Money	163	7.13	2.45	0.00	9.89
A4: Int Trade	163	6.90	1.75	0.00	10.00
A5: Regulation	163	6.20	1.35	1.00	9.43
WB Governance Indicators					
Voice and Accountability	131	0.10	0.94	-2.28	1.83
Political Stability	131	-0.19	1.04	-3.32	1.95
Government Effectiveness	131	0.24	0.97	-2.45	2.41
Regulatory Quality	131	0.24	0.95	-2.68	2.25
Rule of Law	131	0.07	1.01	-2.67	2.00
Control of Corruption	131	0.14	1.09	-2.06	2.59
Gini (Net)	167	38.30	9.96	15.05	71.33
GDP per capita (US, PPP)	180	11667	11352	160.93	136248
Post-Communist	187	0.20	0.40	0	1
Micro Variables					
Life Satisfaction	252679	6.51	2.50	1	10
Log Income	226003	9.47	1.04	5.07	12.35
Relative Income	226003	1	0.53	0.18	3.47
Age	247978	40.31	15.91	14	99
Age Squared	247978	1878	1457	196	9801
Female	252941	0.52	0.50	0	1
Marital Status					
Married	253001	0.5834	0.4930	0	1
Divorced	253001	0.0309	0.1730	0	1
Separated	253001	0.0172	0.1299	0	1
Widowed	253001	0.0588	0.2353	0	1
Single	253001	0.2501	0.4330	0	1
Unemployed	246625	0.0942	0.2921	0	1
Tertiary Education	230283	0.1433	0.3504	0	1
Health					
Very Poor	246228	0.0078	0.0877	0	1
Poor	246228	0.0710	0.2568	0	1
Fair	246228	0.2840	0.4509	0	1
Good	246228	0.4147	0.4927	0	1
Very Good	246228	0.2226	0.4160	0	1
Social Trust	246798	0.2682	0.4430	0	1
Importance of					
Family	237142	1.9463	0.8359	1	4
Friends	236174	1.9120	1.0439	1	4
Leisure	237142	1.9463	0.8359	1	4
Religion	236174	1.9120	1.0439	1	4
Work	237494	1.4379	0.7030	1	4
Politics	234922	2.6706	0.9832	1	4
Confidence in Government	207560	2.4217	0.9379	1	4
Subjective Democracy	68176	6.3766	2.4493	1	10
Sense of Freedom	238634	6.7495	2.4829	1	10
Perception of Corruption	69526	2.8989	0.8439	1	4

Table 3: Main Results

	(1) Fixed Effects			(2) OLS			(3) Clustered Robust			(4) Ordered Logit		
Economic Freedom	0.2867	***	(.0249)	0.1119	***	(.0080)	0.2867		(.1068)	0.2206	***	(.0203)
Gini	-0.1168	***	(.0066)	0.0317	***	(.0008)	-0.1168	***	(.0337)	-0.0965	***	(.0054)
GDP per capita	4.37E-05	***	(6.68E-06)	3.74E-05	***	(8.30E-07)	4.37E-05		(3.50E-05)	3.40E-05	***	(5.72E-06)
Personal Characteristics												
Log of income	0.1623	***	(.0339)	0.2012	***	(.0299)	0.1623		(.0985)	0.1109	***	(.0287)
Relative income	0.5186	***	(.0378)	0.3712	***	(.0332)	0.5186	***	(.1155)	0.4247	***	(.0319)
Age	-0.0487	***	(.0025)	-0.0525	***	(.0026)	-0.0487	***	(.0056)	-0.0420	***	(.0021)
Age squared	0.0006	***	(.0000)	0.0006	***	(.0000)	0.0006	***	(.0001)	0.0005	***	(.0000)
Female	0.1074	***	(.0127)	0.0985	***	(.0133)	0.1074	***	(.0326)	0.0940	***	(.0104)
Marital Status												
Living as married	-0.1536	***	(.0252)	0.2189	***	(.0250)	-0.1536	***	(.0568)	-0.1254	***	(.0209)
Divorced	-0.4425	***	(.0330)	-0.4705	***	(.0346)	-0.4425	***	(.0464)	-0.3788	***	(.0259)
Separated	-0.6149	***	(.0474)	-0.3388	***	(.0506)	-0.6149	***	(.0591)	-0.5101	***	(.0391)
Widowed	-0.3000	***	(.0313)	-0.3253	***	(.0327)	-0.3000	***	(.0552)	-0.2726	***	(.0261)
Single	-0.3274	***	(.0192)	-0.2725	***	(.0200)	-0.3274	***	(.0402)	-0.2883	***	(.0158)
Unemployed	-0.4559	***	(.0257)	-0.5880	***	(.0268)	-0.4559	***	(.0596)	-0.3630	***	(.0211)
Tertiary Education	0.0651	***	(.0165)	0.1477	***	(.0169)	0.0651	*	(.0325)	0.0296	**	(.0134)
Health												
"Poor"	0.5146	***	(.1109)	0.5326	***	(.1173)	0.5146	***	(.1362)	0.5471	***	(.1005)
"Fair"	1.3913	***	(.1082)	1.5234	***	(.1143)	1.3913	***	(.1380)	1.2608	***	(.0986)
"Good"	1.9661	***	(.1083)	2.1202	***	(.1143)	1.9661	***	(.1421)	1.7354	***	(.0988)
"Very good"	2.5068	***	(.1089)	2.6466	***	(.1149)	2.5068	***	(.1446)	2.2676	***	(.0994)
Social Trust	0.1101	***	(.0142)	0.1000	***	(.0145)	0.1101	***	(.0359)	0.0886	***	(.0116)
Importance of												
Family	-0.1933	***	(.0186)	-0.1251	***	(.0195)	-0.1933	***	(.0258)	-0.1531	***	(.0149)
Friends	-0.1039	***	(.0098)	-0.0975	***	(.0101)	-0.1039	***	(.0213)	-0.0874	***	(.0082)
Leisure	-0.0876	***	(.0088)	-0.1891	***	(.0090)	-0.0876	***	(.0256)	-0.0847	***	(.0074)
Religion	-0.1451	***	(.0074)	-0.1335	***	(.0068)	-0.1451	***	(.0162)	-0.1289	***	(.0060)
Work	0.0090		(.0095)	-0.0607	***	(.0097)	0.0090		(.0190)	-0.0047		(.0078)
Politics	0.0369	***	(.0071)	0.0429	***	(.0073)	0.0369	**	(.0168)	0.0320	***	(.0060)
Countries dropped	0/58			Na			0/58			0/58		
Years dropped	1/15			Na			1/15			1/15		
R-Squared	0.2603			0.1766			0.2603			0.0686		
Observations	120829			120829			120829			120829		
VIF GDP	113			2.79			226.25			102		
VIF GINI	113.36			1.42			113.36			109.36		
VIF FREE	25.14			2.03			25.14			21.23		

Note: ***(**)[*] indicate significance at p<.01(p<.05)[p<.1]. Robust standard errors are reported in parenthesis. The categories 'male', 'married', 'very poor' health, "less than tertiary education', and 'cannot trust others' were omitted because they are used as a base category. VIF refers to the Variance Inflation Factor and is calculated as 1/(1-R2) from the regression with a dependent variable Economic Freedom (or any of the other variables for which the VIF is calculated) and regressed on all other variables used in the equations. This is a common test for collinearity. When VIF is equal to one indicating no collinearity, and VIF greater than one indicates high collinearity. Values of five or more are considered to be an indication for a high level of collinerity between the variables.

Table 4: Main Results by Subgroups

	Gender						Personal Income					
	Female			Male			Bottom 20%			Top 20%		
Economic Freedom	0.2413	***	(.0345)	0.3403	***	(.0363)	0.3363	***	(.0622)	0.3010	***	(.0296)
Gini	-0.1286	***	(.0092)	-0.1069	***	(.0095)	-0.1161	***	(.0168)	-0.1204	***	(.0076)
GDP per capita	0.0000		(.0000)	0.0000	***	(.0000)	0.0000	***	(.0000)	0.0001	***	(.0000)
Log of income	0.1790		(.0465)	0.1416	***	(.0497)	0.4103	***	(.3446)	-0.0696		(.0524)
	Political Affiliation						Education					
	Left			Right			Low			High		
Economic Freedom	0.2844	***	(.1049)	0.2927	***	(.0267)	0.2911	***	(.0276)	0.3469	***	(.0643)
Gini	-0.0862	***	(.0280)	-0.1206	***	(.0070)	-0.1225	***	(.0072)	-0.0689	***	(.0175)
GDP per capita	-0.0001		(.0000)	0.0001	***	(.0000)	0.0001	***	(.0000)	0.0000		(.0000)
Log of income	-0.0584		(.1289)	0.1782	***	(.0364)	0.1461	***	(.0372)	0.2277	**	(.1019)

Note: ***(**)[*] indicate significance at p<.00(p<.05)[p<.1]. Robust standard errors are reported in parenthesis. All estimates are pooled OLS and include controls for age, age squared, sex, race, marital status, unemployment, education, health, trust, and the importance that the respondent places on family, friends, leisure, religion, work, and politics. The categories 'male', 'married', 'very poor' health, "less than tertiary education', and 'cannot trust others' were omitted because they are used as a base category. The regressions estimate the effect of economic freedom for various subsamples. 'Bottom 20%' ('Top 20%') of income earners represents a sub-sample of respondents who place themselves in the bottom (top) two scales of the income variable. Political affiliation represents self-positioning in the political scale from 1 'Left' to 10 'Right.' Left is the sub-sample of respondents who self-position themselves less than 5 on the political scale, and 'Right' represents respondents who self-position themselves greater than 6. 'High" education represents people with at least a tertiary education, and 'Low' education people with lower than tertiary degree.

Table 5: Main Results by Subgroups

	No Income Variables						Conditioning on Income					
	<12,000			>12,000			<12,000			> $12,000		
Economic Freedom	0.2274	***	(.0344)	0.4425	***	(.1181)	0.1072	***	(.0376)	-0.1705		(.2369)
Gini	-0.1233	***	(.0072)	-0.1251	***	(.0192)	-0.1173	***	(.0073)	-0.1963	***	(.0293)
GDP per capita							0.0002	***	(.0000)	0.0000		(.0000)
Log of income							0.1179	***	(.0433)	0.1396	***	(.0519)
	Post Communist						Inequality					
	All Others			Post-Communist			Low Inequality (Gini < 38)			High Inequality (Gini > 38)		
Economic Freedom	0.2462	***	(.0379)	-1.5180	***	(.5564)	0.3302	***	(.0453)	0.5713	***	(.0582)
Gini	-0.1474	***	(.0084)	0.1870	**	(.1072)	-0.1470	***	(.0103)	-0.1848	***	(.0118)
GDP per capita	0.0000	***	(.0000)	0.0009	***	(.0003)	0.0001	***	(.0000)	0.0002	***	(.0000)
Log of income	0.1579	***	(.0341)	0.3865	***	(.0800)	0.1690	***	(.0413)	0.2138	***	(.0484)

Note: ***(**)[*] indicate significance at p<.00(p<.05)[p<.1]. Robust standard errors are reported in parenthesis. All estimates are pooled OLS and include controls for age, age squared, sex, race, marital status, unemployment, education, health, trust, and the importance that the respondent places on family, friends, leisure, religion, work, and politics. The categories 'male', 'married', 'very poor' health, "less than tertiary education', and 'cannot trust others' were omitted because they are used as a base category. The regressions estimate the effect of economic freedom for various subsamples.

Table 6: Correlation Matrix: Areas of the Economic Freedom of the World Index

	A1: Gov Size	A2: Legal System	A3: Sound Money	A4: Int Trade	A5: Regulation
A1: Gov Size	1.0000				
A2: Legal System	-0.2426	1.0000			
A3: Sound Money	0.0359	0.5183	(1.0000)		
A4: Int Trade	0.0415	0.5041	(.4757)	1.0000	
A5: Regulation	0.2716	0.4613	(.6213)	0.5343	1.0000

Table 7: Decomposing the Economic Freedom of the World Index

	(1)		(2)		(3)		(4)		(5)		(6)	
Area 1: Gov Size	-0.0706	***									-0.0154	
	(.0211)										(.0239)	
Area 2: Legal System			0.0163	***							0.0765	***
			(13.1500)								(.0204)	
Area 3: Sound Money					0.1397	***					0.1183	***
					(.0094)						(.0104)	
Area 4: Int Trade							-0.1062	***			-0.1127	***
							(.0153)				(.0181)	
Area 5: Regulation									0.2495	***	0.2419	***
									(.0224)		(.0332)	
Gini	-0.1530	***	-0.1398	***	-0.1221	***	-0.1395	***	-0.1116	***	-0.1425	***
	(.0080)		(.0062)		(.0063)		(.0062)		(.0068)		(.0081)	
Real GDP	3.00E-05	***	3.26E-05	***	7.30E-05	***	-9.02E-06	***	1.22E-05	***	4.93E-05	***
	(7.34E-06)		(6.37E-06)		(7.36E-06)		(7.04E-06)		(6.15E-06)		(9.46E-06)	
Countries dropped	0 / 58		0 / 58		0 / 58		0 / 58		0 / 58		0 / 58	
Years dropped	1 / 15		1 / 15		1 / 15		1 / 15		1 / 15		1 / 15	
R-Squared	0.2493		0.2606		0.2609		0.2598		0.261		0.2521	
Observations	119092		120829		120829		120829		122559		119092	
VIF A1	17.1										22.27	
VIF A2			17.33								33.87	
VIF A3					16.53						19.68	
VIF A4							17.35				24.74	
VIF A5									17.49		34.55	

Note: ***(**)[*] indicate significance at p<.00(p<.05)[p<.1]. Robust standard errors are reported in parenthesis. All estimates are pooled OLS and include controls for age, age squared, sex, race, marital status, unemployment, education, health, trust, and the importance that the respondent places on family, friends, leisure, religion, work, and politics. The categories 'male', 'married', 'very poor' health, "less than tertiary education', and 'cannot trust others' were omitted because they are used as a base category.

Table 8: Correlation Matrix: Alternative Measures of Freedom

	EF	VA	PS	GE	RQ	RL	CC	GC	PD	SFC
Economic Freedom	1									
Voice and Accountability	0.7449	1								
Political Stability	0.7053	0.713	1							
Government Effectiveness	0.8011	0.7585	0.6985	1						
Regulatory Quality	0.8549	0.8586	0.6834	0.9109	1					
Rule of Law	0.8345	0.8129	0.7744	0.9567	0.9049	1				
Control of Corruption	0.8049	0.8273	0.7417	0.9418	0.8855	0.9644	1			
Confidence in Government	0.1016	0.1857	0.014	0.0532	0.1136	0.0604	0.0878	1		
Perception of Democracy	0.1421	0.1376	0.1812	0.1757	0.1491	0.1804	0.166	-0.3421	1	
Sense of Free Choice	0.0405	0.0431	0.0037	0.0595	0.0523	0.0251	0.0512	-0.0789	0.1546	1

Table 9: Alternative Measures of Governance & Economic Freedom

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Aggregated Indexes													
Economic Freedom	**0.2867**												**1.4685**
	(.0249)												(.2928)
Voice and Accountability		**0.4875**						**0.4114**					
		(.0764)						(.1046)					
Political Stability			**0.2711**					**0.4104**					
			(.0571)					(.0785)					
Government Effectiveness				**0.3641**				0.0530					
				(.0842)				(.1485)					
Regulatory Quality					-0.3879			0.2241					
					(.1146)			(.1583)					
Rule of Law						**-0.3035**		**-0.9763**					
						(.1121)		(.1484)					
Control of Corruption							**0.4341**	**0.2539**					
							(.0805)	(.1389)					
Subjective Measures													
Confidence in Government									**0.1699**				**0.0785**
									(.0077)				(.0135)
Subjective Democracy										**0.0924**			**0.0654**
										(.0054)			(.0055)
Sense of Freedom											**0.2650**		**0.2367**
											(.0030)		(.0061)
Perception of Corruption												**-0.0650**	
												(.0141)	
Countries dropped	0 / 58	0 / 63	0 / 63	0 / 63	0 / 63	0 / 63	0 / 63	0 / 63	0 / 63	2 / 33	0 / 6	2 / 39	0 / 63
Years dropped	1 / 15	1 / 9	1 / 9	1 / 9	1 / 9	1 / 9	1 / 9	1 / 9	3 / 15	3 / 3	3 / 17	5 / 5	1 / 9
R-Squared	0.2603	0.2985	0.2984	0.2984	0.2983	0.2983	0.2984	0.2984	0.2984	0.2774	0.3313	0.3378	0.2984
Observations	120829	105687	105687	105687	105687	105687	105687	105687	105687	33755	131167	42701	105687
VIF (Aggregated Index)	25.14	126.29	90.2	185.84	284.58	300.49	171.28	na	na	na	na	na	24.13

Note: ***(**)[*] indicate significance at p<.00(p<.05)[p<.1]. Robust standard errors are reported in parenthesis. All estimates are pooled OLS and include controls for age, age squared, sex, race, marital status, unemployment, education, health, social trust, and the importance that the respondent places on family, friends, leisure, religion, work, and politics. The categories 'male', 'married', 'very poor' health, "less than tertiary education', and 'cannot trust others' were omitted because they are used as a base category.

Table 10: Alternative Measures for Subjective Well-being

	(1) Life Satisfaction		(2) Financial Satisfaction		(3) Happiness Inequality		(4) Satisfaction Democracy		(5) Satisfaction Government	
Economic Freedom	0.2867	***	0.4910	***	-0.0236	***	0.3507	***	0.0722	***
	(.0249)		(.0245)		(.0009)		(.0486)		(.0220)	
Gini	-0.1168	***	-0.0850	***	-0.0260	***	0.0050	***	-0.0241	***
	(.0066)		(.0065)		(.0008)		(.0024)		(.0064)	
GDP per capita	4.37E-05	***	1.24E-04	***	1.04E-04		-4.19E-05	***	-2.18E-07	***
	(6.68E-06)		(8.30E-07)		(9.87E-07)		(2.80E-06)		(7.08E-06)	
FE	Yes		Yes		No		Yes		Yes	
R-Squared	0.2603		0.2812		0.4374		0.2053		0.2293	
Observations	120829		122619		121745		36575		72983	
VIF FREE	25.14		2.03		2.02		21.23		23.45	

Note: ***(**)[*] indicate significance at p<.00(p<.05)[p<.1]. Robust standard errors are reported in parenthesis. All estimates are pooled OLS and include controls for age, age squared, sex, race, marital status, unemployment, education, health, social trust, and the importance that the respondent places on family, friends, leisure, religion, work, and politics. The categories 'male', 'married', 'very poor' health, "less than tertiary education', and 'cannot trust others' were omitted because they are used as a base category.

Table 11: Ordered Logit Models: Economic Freedom and Hedonic Experiences

	(1) Excited	(2) Restless	(3) Proud	(4) Lonely	(5) Accomplish	(6) Bored	(7) Top World	(8) Depressed	(9) My Way	(10) Upset
Economic Freedom	**0.3670**	**-0.1609**	**-0.8079**	**-0.4288**	**-0.8856**	**1.7413**	**0.2940**	**-0.5620**	**0.2432**	-0.1361
	(.0776)	(.0801)	(.0812)	(.0956)	(.1077)	(.1180)	(.0805)	(.1228)	(.0802)	(.1004)
GDP per capita	**0.9775**	**2.6721**	**7.7309**	**2.7986**	**7.3778**	**-5.5833**	**2.4965**	**4.1239**	**1.1790**	**2.0029**
	(.3222)	(.3442)	(.3472)	(.4034)	(.4297)	(.5045)	(.3644)	(.3903)	(.3280)	(.4389)
Personal Income	**0.0672**	-0.0041	**0.0186**	**-0.0345**	**0.0432**	**-0.0306**	**0.0135**	**-0.0345**	**0.0433**	0.0141
	(.0071)	(.0074)	(.0070)	(.0089)	(.0085)	(.0083)	(.0071)	(.0086)	(.0071)	(.0087)
Observations	18898	18891	18887	18881	18874	18872	18845	18862	18826	18861
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of countries	14	14	14	14	14	14	14	14	14	14
Pseudo R^2	0.0817	0.0674	0.1079	0.1088	0.1166	0.0711	0.1114	0.1237	0.1021	0.0289

Note: ***(**)[*] indicate significance at p<.00(p<.05)[p<.1]. Robust standard errors are reported in parenthesis. All estimates are ordered logit and include controls for age, age squared, sex, race, marital status, unemployment, education, health, social trust, and the importance that the respondent places on family, friends, leisure, religion, work, and politics. The categories 'male', 'married', 'very poor' health, "less than tertiary education', and 'cannot trust others' were omitted because they are used as a base category.

Table 12: Review of Previous Literature

Study	Data Source	Model	Happiness Variable	Freedom Variable	Results	Income Controls	Country FE	Year FE	Robust	Cluster
Gehring (2013)	WVS, EVS	OLS, FE, RE, AR(1)	Mean Life Satisfaction, Percentage of Respondents in top 3 happiness categories, Mean Happiness (country averages)	EFWI (2012)	Positive	Log GDP per capita	Yes	Yes	Yes	Na
Gropper *et al.* (2013)	WVS, Gallup	OLS	Happiness, Happy Life Years (country averages)	EFWI (2008)	Positive, less developed countries benefit more from economic freedom	GDP per capita	Na	Na	Na	Na
Rode (2013)	WVS	OLS, Two-Stage Least Squares	Mean Life Satisfaction (country averages)	EFWI (2011)	Positive	Log GDP per capita	Yes	Yes	Yes	No
Graafland & Compen (2012)	WDH	OLS	Happiness (country averages in the 2000s)	EFWI (2008)	Negative	GDP per capita	Na	Na	Na	Na
Ott (2010)	WDH	bivariate and partial correlations	Happiness (Cantril Ladder)	WB Quality of Governance, Size of Government	Positive	Na	Na	Na	Na	Na
Bjornskov *et al.* (2010)	WVS	OLS with corrected st. errors	Life Satisfaction, Percentage of Respondents in top 3 happiness categories (country averages)	Variety of indices for government quality	Positive; it differs with the level of GDP	GDP per capita	Yes	Yes	Yes	Na
Ott (2009)	WDH	bivariate and partial correlations	Happiness (Cantril Ladder)	WBDI Quality of Governance	Positive, Insignificant	na	Na	Na	Na	Na
Helliwell & Huang (2008)	WVS	OLS	Life Satisfaction	WBDI Quality of Governance	Positive, Negative, Insignificant	Log of Income	Yes	Yes	Na	Na
Inglehart (2008)	WVS	OLS	Life Satisfaction (country averages)	Sense of free of choice and control over life	Insignificant	GDP per capita, growth	Na	Na	Na	Na
Bjornskov *et al.* (2008)	WVS	ordered probit	Life Satisfaction	Various	Negative	Income scale, GDP per capita	Na	Na	EBA	Yes
Ovasaka *et al.* (2006)	WDH	OLS	Happiness, Life Satisfation (country averages for 1990-2000)	EFWI, Freedom House	Positive, Insignificant	GDP per capita, GDP growth	Na	Na	Na	Na
Veenhoven (2000)	WDH	partial correlations	Happiness (Country averages in the 1990s)	EFWI (Gwartney et al. 1996)	Positive	Wealth (?)	Na	Na	Na	Na