

# Economic Freedom and Subjective Well-Being: Empirical Evidence from the MENA Region

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## Abstract

In this article, we exploit the differences in economic freedom between countries to study the relationship between developed institutions and subjective well-being for the case of the MENA region over the period 2007–2017, using the Least Squares method panel data analysis. We empirically examined the link between subjective well-being and institutions using the index of economic freedom as an institutional variable. We found that economic freedom appears to function as a proxy for developed institutions and that the effect of subjective well-being is more pronounced in the presence of the economic freedom variable and these components. According to the data on happiness, the evidence suggests that countries with better institutions of economic freedom, captured by the rule of law, regulatory efficiency, open market and limited government, are much more likely to experience greater subjective well-being.

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# 1. Introduction

In recent decades, many theoretical and empirical works have established economic freedom as a set of policies, and that institutions that emphasise the importance of the rule of law, the size of government, regulatory efficiency, market openness and freedom of competition are associated with many positive socio-economic outcomes.

Most of these outcomes include faster economic growth and prosperity, large investments in physical and human capital, poverty reduction, low levels of unemployment, higher levels of social capital, trust, tolerance, better standards of living, and greater happiness (see Hall and Lawson (2014).

Several recent studies have explored the empirical link between economic freedom and subjective well-being (SWB). In addition, people living in countries with institutions that respect the principles of economic freedom are happier and have a higher level of subjective well-being (Bjørnskov, Dreher & Fischer, 2010; Gehring, 2013; Gropper, Lawson & Thorne, 2011; Ott, 2010; Rode, 2013; Spruk & Kešeljević, 2016; Nikolaev & Bennett, 2016). This follows a recent trend of using subjective measures of well-being in economic analysis.

In this work, our study is the first that shows the contribution of economic freedom to subjective well-being in the MENA region, although some economic data are not available, we try to examine the impact of economic freedom on the subjective well-being of 14 countries between 2007 and 2017 using a prosperity score that measures the happiness and quality of life given by Legatum Institute.

In this article, we will explore the link between the quality of institutions and subjective well-being (happiness and life satisfaction). We try to identify which economic institutions have the potential to raise the level of happiness in the citizens of a country. Several studies show that the relationship between developed economic institutions and income suggests that good governance promotes economic growth (Rodrik, Subramanian & Trebbi, 2004; Acemoglu, Johnson & Robinson, 2005; Keefer & Knack, 2007; Rodrik, 2008). Better quality economic institutions can improve subjective well-being and increase and sustain the positive effect on happiness in a society. In their review article, Bjørnskov et al. (2010) indicate that studies on the link between institutional quality and subjective well-being are limited and the results of this work are not all conclusive. Bjørnskov et al. (2010) found that in poor countries, the effects of economic and judicial institutions on subjective well-being are greater than those of political institutions.

Although the results of recent work in this area are fairly unequivocal, the authors prove that a high level of economic freedom has a positive effect on subjective well-being. According to a study by Rode, Knoll and Pitlik (2013), one might think that if the level of political and economic freedom is high in a country, the level of national happiness increases. Freedom of international trade, democracy, the efficiency of the legal and monetary system all contribute to increasing economic growth and reducing unemployment, and arguably increasing the level of happiness. Spruk and Kešeljević (2016) suggest that countries with better economic institutions and a greater degree of economic freedom, captured by security of property rights, international trade, the monetary system and more limited government, are much more likely to experience greater subjective well-being.

The main objective of this paper is to examine the effects of institutional quality on subjective well-being by exploiting the variation in the level of economic freedom from one country to another to verify whether the paradigmatic and ideological shift towards the rule

of law, government size, regulatory efficiency and market openness has influenced the dimension of subjective well-being. Our Least Squares method estimates indicate that all pillars of economic freedom have a strong influence on subjective well-being. Three of these pillars, the rule of law, regulatory efficiency and market openness, have a positive impact on subjective well-being. To our surprise, we found a negative relationship between the size of government and subjective well-being. This may be due to the fact that reducing the size of the government can lead to a reduction of the tax burden, optimal management of public expenses, which then increases incomes, decreases unemployment and increases subjective well-being.

The paper is organized as follows: after the introduction, section 2 provides a brief overview of the literature on subjective well-being and economic freedom, and presents an empirical analysis of the relationship between them. In section 3, we describe the data used for the study, and present the empirical data analysis model. In section 4, we explain and interpret the empirical results, and finally, section 5 concludes the discussion.

## 2. State of the Art

In this section, we will describe the concept of subjective well-being and economic freedom and the relationship between them.

McGillivray and Clarke (2006) claim that, “subjective well-being involves an assessment of life, including cognitive judgements of life satisfaction and affective evaluations of emotions and moods”. Some economists use the term “subjective well-being” as synonymous with “happiness,” but in psychology, happiness is a narrower concept than subjective well-being (SWB).

Bruni and Porta (2007) shed light on the differences between happiness and SWB. They point out that, “psychologists distinguish 1) the satisfaction of life which is a cognitive element, 2) affection, the affective element, and 3) subjective well-being (SWB), as a state of well-being, a long-lasting synthetic that includes both the emotional and cognitive aspects.” In other explanations they assert that, “SWB is composed of four components i) pleasant emotions ii) unpleasant emotions iii) overall judgement of life (evaluation of life) and iv) life domain satisfaction (marriage, leisure, health, etc.)”. Happiness, on the other hand, is a narrower concept than SWB and different from life satisfaction: although happiness and life satisfaction are an integral part of SWB, life satisfaction reflects the distance perceived by individuals in relation to their aspirations, while happiness results from a balance between positive and negative affect. In this approach, subjective well-being is synonymous with being “happy” (i.e. based on the Aristotelian approach to happiness as *eudaimonia*), while concepts such as “satisfaction” and “happiness” are considered to be similar to “feeling happy” (i.e. a hedonic approach) (Bruni & Porta, 2007).

Despite these differences, economists have used the terms “happiness” and “satisfaction in life” interchangeably to measure subjective well-being (Easterlin, 2004). There is no clear consensus on what the word “happiness” means. Therefore, instead of trying to define happiness from an outside point of view, economists try to capture it in other ways. According to Frey & Stutzer (2002), there are two extreme concepts of happiness (subjective and objective happiness) and the means of capturing them, an intermediate concept: experiential sampling measures. Subjective happiness asks people how happy they feel. This results from

surveys in which people are asked to declare their own happiness, all things considered. Richard Easterlin et al. pioneered the economic analysis of happiness data.

Today, several surveys evaluate happiness. One type of question (e.g. in general social surveys) asks: “Overall, how would you say things are happening today: would you say that you are very happy, rather happy or not too happy?”. The second type of question asks people to rate their satisfaction with life on a scale from 0 to 10 (e.g. in the World Values Survey (WVS)). Objective happiness theory involves a physiological approach that aims to capture happiness through the measurement of brain waves. A third way to capture happiness (as in experiential sampling measures) is to analyse the mood and emotions of people several times a day for a prolonged period of time (Frey & Stutzer, 2002). The fourth approach to capturing the happiness of citizens and the progress of countries is to determine the level of prosperity in a country on the basis of the findings of the Legatum Institute. Its methodology is based on 9 main criteria: the natural environment, safety, health, education, governance, the quality of the economy, individual freedoms, social capital and the business environment. The criteria for assessing prosperity combines economic growth and measures of happiness and quality of life, and therefore subjective well-being.

Happiness can guide policy making by studying its determinants. For example, some policies that affect employment and inflation can be assessed by how they change happiness levels. We can analyse compromises in terms of happiness between inflation and unemployment and opt for a policy that minimizes the loss of happiness. Institutional conditions may have an impact on happiness, so it may be desirable to increase transparency, accountability and social cohesion in terms of improving subjective well-being (Frey & Stutzer, 2002).

To explore in detail the relationship between economic freedom and life satisfaction, we need to become familiar with the concept of economic freedom. The main ingredients of economic freedom are individual choices, the freedom to exchange, the freedom to compete, and the protection of people and private property. For example, the freedom to make personal choices means that people can choose how to use their skills to do their job or pursue the type of production they want, no matter who the competitors are (Gwartney, Lawson & Block, 1996).

To be consistent with economic freedom, institutions and public policies must “provide an infrastructure for voluntary free trade and protect individuals and their property from abusers who seek to use violence, coercion and fraud to seize things they do not have the right to own” (Gwartney, Lawson & Hall, 2015). This is the case when legal systems protect property rights and enforce contracts. Access to a stable monetary system also contributes to economic freedom as it facilitates trade. Economic freedom also requires governments to exercise restraint. They must not interfere with individual choices, nor restrict voluntary exchanges and freedom of enterprise. Nor should they compete with existing businesses that offer goods and services. Excessive taxes and taxes run counter to economic freedom, as they prevent people from using their assets as they see fit. The government limits individual choices when it raises taxes or imposes regulations that unduly restrict voluntary exchanges.

Every aspect of measured economic freedom plays a vital and important role in promoting and maintaining personal and national prosperity. However, they all have a complementary impact and progress in one area is often likely to strengthen or even inspire progress in another. Similarly, repressed economic freedom where non-free countries in one area (e.g. a lack of respect for property rights) can make it much more difficult to achieve high levels of freedom in other categories.

The most comprehensive indices used for economic freedom today are the Index of Economic Freedom by the Heritage Foundation and Economic Freedom of the World by the Fraser Institute. The index of economic freedom is divided into twelve economic freedoms grouped into four broad categories (see Appendix, Table 1). Each freedom is scored on a scale from zero (no freedom) to one hundred (total freedom).

Many authors have also discovered that economic freedom contributes positively to well-being. Countries with greater economic freedom tend to have higher growth rates (Easton & Walker 1997; De Haan & Sturm 2000; Scully 2002; Cole 2003; Berggren 2003; Gordillo & Alvarez 2003; Carlsson & Lundstrom 2002; Dawson 2003; Justesen 2008; Azman-Saini, Baharumshah & Law, 2010) and are more prosperous in terms of well-being, measured in income per capita (Hanke & Walters 1997; Farr, Lord & Wolfenberger, 1998) than those with low levels of economic freedom. In addition, economic freedom has positive effects on many other determinants of human well-being, such as lower unemployment (Gwartney, Lawson & Gartzke, 1997, Grubel 1998), longer life expectancy (Esposto & Zaleski 1999), a more equitable distribution of income (Berggren 2003, Scully 2002), poverty reduction (Connors & Gwartney, 2010), improving the quality of health care and education (Stroup, 2007) and improving ecological consequences (Norton, 1998). Then we can see that economic freedom is linked to many socio-economic benefits.

Institutional structure can be understood in the context of different levels of economic freedom. Societies with higher levels of economic freedom generally benefit from a stronger rule of law, small government, greater regulatory efficiency and better market openness than those whose economic freedom is less extensive.

Several authors (Gehring, 2013; Jackson, 2016; Spruk & Kešeljević, 2016) have confirmed the existence of a relationship between economic freedom and happiness. Over the past decades, many theoretical and empirical works have established that economic freedom based on a set of policies and institutions that emphasise the importance of personal freedom, voluntary exchanges, the protection of property and the freedom to enter and compete is associated with many positive socio-economic outcomes. Some of these factors include faster economic growth, greater rates of investment in physical and human capital, higher levels of social trust and tolerance, poverty reduction, and lower unemployment rates (Hall and Lawson, 2014).

Numerous recent studies have examined the empirical link between economic freedom and subjective well-being and have shown that people living in countries with institutions that respect the principles of economic freedom are more likely to self-report higher levels of subjective well-being (Bjørnskov et al, 2010; Gehring, 2013; Gropper et al., 2011; Ott, 2010; Rode, 2013). Recent research in the US has also highlighted the fact that increased economic freedom is closely associated with greater subjective well-being (Belasen & Hafer, 2013).

However, most of these studies examine the effect of economic freedom on life satisfaction. Nikolaev and Bennett (2016) explore the relationship between emotional well-being and economic freedom. They use data from a sample of 12 countries from the second wave of the World Value Survey (WVS) and the Economic Freedom of the World (EFW) index, and found that people living in more economically free societies are more likely to report the presence of positive affect and the absence of negative affect, and they found a positive association between economic freedom and life satisfaction (Nikolaev & Bennett; 2016).

Jackson (2016) examines the impact of good institutions of economic freedom and subjective well-being according to the answers of the people interviewed in the Generalized

Social Survey (GSS) in the United States. It has been found that the level of economic freedom in the United States has a positive effect on self-declared happiness and the average happiness of states. Dynamic panel analysis is also performed both as a robustness check and to control for endogeneity. This confirms that the relationship is positive and suggests a positive causal impact of economic freedom on the average happiness of states. These results from the study by Jackson (2016) are identical to many previous studies demonstrating the strong and positive relationship between economic freedom and subjective well-being.

Yilmaz and Tag (2016) tested the link between economic freedom and happiness (subjective well-being). Estimates indicate that all components of economic freedom have a strong influence on average subjective well-being in the country. They argue that reducing the size of government can lead to lower government spending and increased unemployment, leading to a decline in subjective well-being. Measures of subjective well-being (life satisfaction, happiness) in this area have been provided by various sources, including the World Values Survey (WVS), (Yilmaz and Tag, 2016).

Fereidouni, Najdi and Amiri (2013) investigated the effects of governance and happiness (data obtained from the Prosperity Index developed by the Legatum Institute) in the MENA region while controlling for other relevant determinants. Empirical results show that a higher level of political stability and the absence of violence, the effectiveness of governments and the rule of law greatly increase happiness in the MENA region.

According to theoretical and empirical studies, there are several reasons why the effects of economic freedom on subjective well-being could be positive or negative. The next section is essentially empirical to present the model, identify the relationship between economic freedom and subjective well-being, and to pass from the correlation to an interpretation of the obtained results.

### 3. Empirical Model and Data

In this section, we try to understand the sources and forms of subjective well-being and analyse their effect at the national level. The growing interest among authors and researchers in this subject has led to many attempts to measure life satisfaction and national happiness. The world database of happiness is derived from the Prosperity Index developed by the Legatum Institute. We build our sample by combining survey data from the Legatum Prosperity Index (LPI) with macroeconomic indicators derived from the World Bank's World Development Indicators (WDI), and Heritage Foundation data on the index of Economic Freedom of the World (EFW). Although the WDI and economic freedoms data we use in our analyses have been available since 1995, our sample period is limited to the years covered by the Legatum Institute data, available for the period 2007 to 2017. Therefore, our final sample includes observations from 14 MENA countries for the period 2007 to 2017.

In the framework of the analysis of our variables, we conducted regressions in order to better understand the explanatory power of each of the independent variables for our dependent variable -- subjective well-being. This section presents the econometric model and tables with the results of the regressions.

Recent literature provides many explanations for the diversity of the subject of well-being at the national level. These explanations of subjective well-being can be classified into three broad categories: economic, social and institutional. In addition, some studies have



traced a link between institutions of economic freedom and subjective well-being at the national level. Therefore, in our analysis of the empirical results, we focus our attention on how transnational diversity in economic freedoms is linked to subjective well-being at the national level.

To determine whether economic freedom and subjective well-being at the level of 14 MENA countries (Algeria, Bahrain, Egypt, Iran, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, Turkey, Arab Emirates) are empirically linked over the period (2007–2017), we draw upon the models by Nikolaev and Bennett (2016); Belasen and Hafer (2013) and Yilmaz and Tag (2016), according to the following equation:

$$SWB_{i,t} = \alpha_i + \beta_1 EF_{i,t} + \beta_2 LGDP_{i,t} + \beta_3 Gov_{i,t} + \beta_4 X_{i,t} + \varepsilon_{i,t}$$

$i = 14; t = 1, 2, \dots, 11$

$i$  and  $t$  respectively denote countries and time,

...where  $SWB_i$  refers to the measure of happiness or subjective well-being for the same country, LE is an institutional variable that represents the composite index of economic freedom and could be one of the five dimensions of economic freedom. LGDP is the logarithm of real GDP per capita, Gov is the index of the quality of governance and X is the matrix of control variables (unemployment and inflation).

With  $\varepsilon_{i,t}$  the individual specific effect,  $\beta_1, \beta_2, \beta_3$  and  $\beta_4$  are the parameters for estimating in this model and  $\varepsilon_{i,t}$  is the error term. We therefore performed a least squares analysis using the Eviews software, version 9. Below, we describe the measures for these variables.

The Prosperity Index of the Legatum Institute is one of the most complex (if not the most complex) indexes covering the subjective well-being of countries. It is based on both income (also taking into account GDP) and other indicators of happiness. From a methodological point of view, it is a composite index based on nine sub-indexes concerning: economic quality, the business environment, governance, education, health, safety and security, individual liberty, share capital, and the natural environment (introduced in 2016).

The above sub-indices are based on a total of 104 variables that have been normalised and weighted via regression analysis. Each country analysed is classified under a total score, as well as using the scores assigned to each sub-index.

The Legatum Institute exists to provide both the leadership and the vision needed to meet these challenges, shaping the values, ideas and policies that will transform society and help all citizens prosper, creating bridges between poverty and prosperity.

As noted above, our main concern in this section is how economic freedom and its components are related to subjective well-being. Economic freedoms are defined as the right of an individual to direct his work and control and manage his property. One of the best-known evaluations of economic freedom institutions is provided by the Heritage Foundation's Economic Freedom Index.

Our measure of economic freedom is the widely used index of the world's economic freedom (EFW), which measures the extent to which a country's institutions and policies are compatible with personal choice, voluntary exchanges, open markets, and the protection of people and their property rights against aggressors. It is composed of 12 variables derived from publicly available sources, each variable is transformed on a scale from 0 to 100. The economic freedom is based on 12 qualitative and quantitative factors, grouped into 4 main

pillars of economic freedom: “1” Rule of Law (property rights, judicial effectiveness and government integrity); “2” Size of government (tax burden, government spending and fiscal health); “3” Regulatory efficiency (business freedom, labour freedom and monetary freedom); and “4” Market openness (trade freedom, investment freedom and financial freedom). The scores for these 12 components of economic freedom, which are calculated from a number of sub-variables, are weighted and averaged equally to obtain an overall economic freedom score for each economy.

The methodology used to calculate the scores for each of the 8 available components of economic freedom is as follows: The property rights component assesses the extent to which a country’s legal framework allows individuals to acquire, hold and use private property, protected by clear laws that the government applies effectively. The integrity of government increases public confidence and economic vitality by minimizing corruption and the costs of economic activity. The tax burden is a composite measure that reflects the marginal tax rates on personal and business income and the general level of taxation (including direct and indirect taxes imposed by all levels of government) as a percentage of gross domestic product (GDP). The government’s spending component includes the burden of government spending, which includes government consumption, and all transfer payments associated with various entitlement programmes. The labour freedom component is a quantitative measure that takes into account various aspects of the legal and regulatory framework of a country’s labour market, including the regulation of minimum wages, laws prohibiting dismissals, severance pay, regulatory restrictions on hiring and hours worked. The monetary freedom component combines a measure of price stability with an assessment of price control. Inflation and price controls distort market activity. Price stability without microeconomic intervention is the ideal state for the free market. The trade freedom component is a composite measure of the tariff and non-tariff barriers that affect the import and export of goods and services. The Investment Freedom Index assesses various regulatory restrictions generally imposed on investments. In an economically free country, there would be no constraint on the flow of investment capital. Individuals and businesses would be allowed to transfer their resources without restriction into specific activities, both within the country and outside the country.

Income per capita is a very important determinant of happiness and life satisfaction, as it increases the level of consumption and improves health, education and employment (Dolan, Peasgood & White, 2008; Frey & Stutzer, 2001; Di Tella & MacCulloch, 2010). Stevenson and Wolfers (2008) and Fischer (2008) have shown a positive correlation between income and subjective well-being, which is robust and significant across countries. As a result, we included income per capita as a basic and explanatory variable in the regression analysis of subjective well-being. GDP per capita was based on purchasing power parity (PPP) in current international dollars from the World Bank’s World Development Indicators (WDI). To address the non-linearity of the linkage between subjective well-being and income per capita, we used the natural log of GDP per capita (Log GDP) (Graafland & Compen, 2015). Diener, Harter and Arora (2010) found that measures of well-being are dependent on GDP per capita for rich and poor countries, once the logarithm of income per capita (instead of absolute income per capita) is used.

The overall level of governance is established using six sub-indices as an unweighted average, with the objective of ensuring the balanced composition of the index in relation to each good governance category and sub-index. The Governance Index is applied to six



indicators of the Worldwide Governance Indicators (WGI): Voice and Accountability, Political Instability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption (The World Bank, 2019).

In addition, we consider two control variables related to the macroeconomic environment as factors determining subjective well-being. One of these variables is unemployment, which refers to the share of the labour force that is unemployed but available and looking for a job (the level of unemployment in a country). The other variable is inflation measured using the annual consumer price index as a percentage. The data on these two variables come from the World Development Indicators (WDI).

Before turning to our regression results, it is useful to look at some preliminary statistics. Table 3 (see Appendix, Table 3) lists the MENA countries in order of the subjective well-being index. As shown below, the average of the subjective well-being measure is 58, with a standard deviation of 3.9.

The ranking suggests that countries with the highest levels of subjective well-being (SWB) are clustered in the Middle East region. It also appears that low-welfare states are clustered in the North Africa region. This apparent aggregation reinforces the need to take into account regional variations in our regression analysis. Table 2 (see Appendix, Table 2) also lists the overall scores of the components of economic freedom (at 2007–2017 levels) for the MENA region. The mean economic freedom score is 61.78, with a standard deviation of only 7.97, which indicates a much narrower distribution than for the measure of subjective well-being. Bahrain is the country with the highest degree of economic freedom, and Iran has the lowest. Does economic freedom form the same grouping as that found for well-being? The correspondence is less clear, although high-level subjective welfare countries are generally characterised by relatively average freedom scores. Similarly, average subjective welfare countries, as a group, tend to have high freedom scores. Countries that have a low subjective well-being score remain at the bottom of the ranking in terms of economic freedom. Although this is the perception, the correlation between the two indices (subjective well-being and economic freedom) is 0.8 (see Appendix, Table 4), which shows that there is a strong relationship in terms of sensitivity.

It is interesting to explore the bivariate correlations in our data before performing the regression analysis. Table 2 and 4 (see Appendix, Table 2 and 4) present summary statistics and the correlation matrix, respectively. Note that average subjective well-being is around 58, with a standard deviation of 3.8; it seems that the nations of the world vary greatly with respect to their happiness. It is therefore important to explore the determinants of these variations. From the correlations matrix, we observe that the majority of the pillars of economic freedom are strongly linked to subjective well-being. We now go beyond simple correlations and explore this relationship using average panel data estimates. Table 2 (see Appendix, Table 2) presents the summary statistics of the variables used in the empirical analysis covering 14 MENA countries over the period 2007–2017. As shown in the data above, the average index of economic freedom (61.7) indicates that the region is classified as “moderately free”. GDP per capita averages 36.134 and has a maximum value of 123.418, reflecting the fact that some countries in the region are benefiting from substantial economic growth. In addition, subjective well-being averages 58, a maximum value of 64.8 reflects the happiness of the citizens of a country and a minimum value of 52.1 reflects the dissatisfaction of the citizens of a country in the MENA region.

## 4. Results and Discussion

This section will now present the results of the regression analysis of the previous equation and interpret the regression coefficients. In general, the table (Table 1) indicates that there are variables that are statistically significant and others that are not and that may be positively or negatively correlated with the dependent variable. The results in the table clearly indicate that economic freedom and its components positively influence subjective well-being in the MENA region, as their estimated coefficients are overall positive and statistically significant, suggesting that economic freedom promotes subjective well-being (SWB) and the happiness of the citizens of MENA countries.

With respect to the equation for subjective well-being, the results are largely consistent with previous empirical results. The index of economic freedom has a strong positive effect on subjective well-being. Importantly, the rule of law and regulatory efficiency seem to matter. The size of government has a significant impact but it does not have a positive effect on subjective well-being.

Higher levels of economic freedom are associated with higher levels of happiness for the citizens of a country; that is, greater freedom of choice, greater freedom of competition, and greater freedom voluntary exchange are associated with higher levels of subjective well-being.

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One possible explanation for economic freedom contributing positively to subjective well-being is that economic freedom stimulates competition, which implies a need to improve the process of production. This implies, for example, greater confidence due to job protection, public health care and robust social relationships.

In column (1), the effects of economic freedom on happiness are considered from potential and structural covariates. Our estimates imply that a 10-percentage point increase in the level of economic freedom (EF) is associated with a 3.9 pp increase in happiness-based subjective well-being, and is significant at the 1% level. Excluding basic and structural control variables, differences in the magnitude of economic freedom (EF) account for about 64% of the variance in average individual happiness across countries.

In column (2), GDP per capita is in line with the base sample specification to control for income effects and Easterlin's possible paradox. The estimated coefficient indicates that a 1% increase in per capita income (LGDP) is associated with a 5 pp increase in the average level of happiness and is significant at the 1% level. The inclusion of GDP per capita (LGDP) in structural covariates leads to a substantial reduction in the estimated magnitude of the coefficient of economic freedom (EF) from 0.390 to 0.261, which remains statistically significant at 1%. A lower value of the coefficient for economic freedom (EF) also suggests that, without the income level variable, the effects of economic freedom on average happiness between countries are overestimated; to a large extent, this is attributed to income effects on the level of economic growth and economic freedom between countries.

Table 1. Regression Results

	(1)	(2)	(3)	(4)
EF	0.390*** (16.523)	0.261*** (13.521)		
LGDP		5.080*** (12.717)	4.860*** (7.062)	4.659*** (7.028)
GOV				1.830*** (3.614)
PR			0.024* (1.924)	0.012 (0.973)
GI			0.119*** (8.155)	0.078*** (4.298)
GS			0.031*** (3.817)	0.027*** (3.407)
TB			-0.069*** (-3.591)	-0.053*** (-2.832)
LF			0.026*** (2.711)	0.022** (2.426)
MF			0.077*** (4.373)	0.074*** (4.352)
TF			0.016 (1.053)	0.010 (0.688)
IF			0.006 (0.729)	0.006 (0.744)
INF			-0.034* (-1.860)	-0.027 (-1.494)
UNEMP			-0.065 (-1.343)	-0.039 (0.829)
C	33.874*** (22.985)	19.557*** (12.831)	26.311*** (6.373)	29.526*** (7.268)
N	154	154	154	154
F Test (Prob > F)	273.036 (0.000)	361.751 (0.000)	166.773 (0.000)	166.950 (0.000)
R <sup>2</sup>	0.64	0.82	0.92	0.92

Notes: \*\*\* significance at 1%, \*\* significance at 5%, \* significance at 10%. Real GDP per capita is expressed in natural logarithms. The t-statistics are indicated in parentheses. The MCO system is the estimator.

Subsequently, the indicators for economic freedom (EF) are added to the model to see if they explain any variation in happiness in addition to the governance variable and the control variables (inflation and unemployment). In Columns (3) and (4) the available sub-variables of economic freedom and the variable for good governance (GOV) is added to the base model specification to determine whether differences in the breadth of happiness across countries can be explained by variables of institutional structure and whether the impact of income on subjective well-being is independent of economic freedom and alternative institutional solutions and political outcomes. The evidence in column (3) suggests that the majority of indicators of economic freedom affect happiness to the same extent since some

indicators are invariably more noticeable than others. Once the covariates of economic freedom are added to the model specification, the income effect is set to a 1% significance level, suggesting that policies and institutions that reinforce or reduce the level of income have a separate impact on the extent of subjective well-being between countries. The estimated impacts of the good governance variable (GOV) suggest that countries that exercise greater control over the rule of law, regulatory efficiency, and market freedom tend to experience greater subjective well-being, while no evidence regarding the systematic effects of the size of the government (Tax Burden Indicator) is found. For example, society can evolve into a strengthened rule of law, a more efficient public sector, better monetary policies, effective labour regulation and greater market freedom. However, these policies add little to well-being without a real downsizing of the government such as a lower tax burden, which reduces the profitability of private investment, discourages investors from investing, slows productivity, and reduces income and subjective well-being.

In respect to the importance of the rule of law, the estimation result shows that two variables, private property rights (PR) and the integrity of government (IG), are positively correlated with subjective well-being. The result clearly indicates that property rights (PR) positively influences subjective well-being, given that its estimated coefficient is positive and statistically significant at 1%, consistent with the idea that security of property rights and efficiency of legal system contribute to the improvement of subjective well-being. The integrity of the government (IG) has a strong relationship with subjective well-being; more specifically, a ten percentage point increase in the level of the government's wholesome integrity (IG) is associated with an increase of 1.19 pp of happiness, and is significant at the 1% level. There is a strong positive correlation between regulatory efficiency and happiness. The estimated coefficient of the freedom of labour variable (LF) is always positive and statistically significant at 1%, indicating a preponderant effect on subjective well-being, which implies that work is thus the guarantee of social status, beyond the means to obtain the resources necessary for life and increases the level of happiness. Regarding the importance of monetary freedom (MF), (which involves maintaining price stability and minimizing inflation), although there is a positive correlation with life satisfaction. Market openness has a positive but weak effect on subjective well-being, through policies that stimulate trade freedom (TF) and investment freedom (IF). A country must compete with other countries to stay in business, which may require more work time. Too much work can affect life satisfaction because there is less free time. Inflation (INF) also has a negative effect on the subjective well-being, perhaps because it contributes to uncertainty, thereby discouraging investment and eroding the value of savings. It is clear that the problems associated with inflation have a negative impact on life satisfaction for citizens. The results for the relationship between unemployment and life satisfaction are clear: the effect is negative. An increase in the unemployment rate (UNEMP) by 1 unit leads to a decrease in life satisfaction of 0.065 on average, and according to the results, unemployment has a greater impact on happiness than inflation.

In column (4), since the logarithm is derived from per capita income (LGDP), this should be interpreted as an approximate increase in life satisfaction by 4.6 pp due to a 1% increase in per capita income. The low coefficients, but especially those for GDP growth, suggest that an increase in the standard of living is not important for the evaluation of life.

The results show that good governance (GOV) that includes political stability and the absence of violence, government effectiveness, the respect of the law, regulatory quality and

the control of corruption has a positive and significant impact on the happiness of the region. A 1% increase in institutional quality (GOV) is associated with a 1.8 pp increase in happiness. Good governance is more effective at creating conditions that contribute to average happiness. It can create individual freedom by maintaining stable and predictable conditions that allow for individuals to make life decisions. It can be a source of happiness in itself. It makes a difference if citizens are treated with care and respect. Control, accountability and transparency are essential features of a healthy democratic society. They protect against corruption and wrongdoing, produce better decisions and bring greater benefits to citizens. The rule of law coefficients are positive but weak, implying that the integrity of government can encourage opportunities for corruption and illegal interactions that jeopardise the transparency necessary for effective macroeconomic performance and life satisfaction among the citizens. An increase of one unit in the index of private property rights (PR) increases subjective well-being by 0.012 percentage points. The security of property rights, protected by the country's legal system, is essential to economic freedom (Kaur, 2006). The result of estimating the size of the government has a small, negative and significant impact at 1%. The influence of the level of public spending (PS) on happiness is actually moderated by the quality of these expenditures – real or just perceived by the citizens. The effect directly depends on satisfaction with the state, trust in the state and perception of its effectiveness. A 1% increase in the level of public spending (PS) is associated with an increase of 0.027 points in life satisfaction, which implies that satisfaction with public services such as education, health or the legal system as the quality of public spending is relatively low. Estimating the tax burden variable (TB) always has a negative effect on happiness. If the tax burden index (TB) increases by one unit, satisfaction with life decreases by 0.053 percentage points. This implies that a reduction in the tax burden leads to a wage increase induced by productivity gains that benefits workers, and therefore increases the standard of living and happiness of citizens. An increase in index of labour freedom (LF) by one unit increases subjective well-being by 0.022 percentage points. A unique increase in the index of monetary freedom (MF) increases life satisfaction by 0.074 percentage points. Increasing the index of trade freedom (TF) by one unit increases subjective well-being by 0.010 percentage points. Increasing the index of investment freedom (IF) by one unit increases subjective well-being by 0.006 percentage points. All other indices of economic freedom, with the exception of the tax burden index (TB), are statistically positive variables. An increase of one unit in the inflation index (INF) reduces life satisfaction by 0.027 percentage points. An increase of one unit in the unemployment index (UNEMP) decreases happiness by 0.039 percentage points. Studies by (Di Tella, MacCulloch and Oswald 2001, Frey and Stutzer 2002, Wolfers 2003 and Di Tella and MacCulloch 2008) show that unemployment negatively affects subjective well-being as does inflation.

In addition, the statistics displayed in column (4) show that our model is globally significant with  $R^2 = 0.92$ ; this means that the variables introduced in the model explained 92% of the variable to be explained, and so in this case our model is acceptable and displays good fit. Therefore, in column (4), the Durbin-Watson statistic is 0.828, which implies that there is no autocorrelation problem and that most variables are positive and significant. In addition, the F (F-value) value is highly significant at the 1% level, which proves the joint impact of the explanatory variables on subjective well-being.

In general, economic freedom, institutional quality and income always have a positive effect on subjective well-being, which has already been verified in our empirical study.

## 5. Conclusion

In this paper, we have studied the link between economic institutions and happiness (subjective well-being). Our evidence based on the empirical model of happiness across countries suggests that countries with higher levels of economic freedom experience an ever higher level of subjective well-being. In our preferred specification, increasing the index of economic freedom by one basis point leads to a 0.39 point increase in the level of subjective well-being based on happiness. We found that the rule of law, regulatory efficiency and market openness had a positive impact on happiness. On the other hand, we found that the size of government and happiness in MENA countries have a negative relationship, which is contrary to our expectations. A higher tax burden makes citizens less happy because the government takes their income and expenses for the mismanagement of public spending. The positive effect of per capita income on life satisfaction is strong but declining. In addition, Easterlin, McVey, Sawangfa, Switek and Zweig (2011) and Di Tella and MucCulloch (2008) find that the positive effect of per capita income on life satisfaction disappears in the long term (which can be explained by the formation of habits). Our findings also suggest that good governance positively influences the subjective well-being of individuals, implying that a lower level of corruption, a more democratic government and better civil rights improve the well-being of citizens. In line with our expectations, the inclusion of the variables of economic freedom, good governance and income lead to an increase in the standard of living of citizens and a decrease in unemployment and inflation, which leads to an improvement in happiness and life satisfaction. Our results provide an optimistic view of the potential of economic freedom to improve subjective well-being, but also suggest that over time, greater economic freedom may have a negative effect on the happiness of countries. Future research should focus more on the longitudinal dimension of the relationship between happiness and economic freedom through a predictive model that analyses future actions and perhaps examines and tests whether the impact of economic freedom differs between its components and alternative measures.



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## Appendix

**Table 1.** The Index of Economic Freedom and Components

Global variable	Components of variables	Sub-variables	Description
Economic Freedom	Rule of Law	Property rights	Effective rules of law that protect private property rights are essential features of a fully functioning market economy. Secure property rights give citizens the confidence to undertake entrepreneurial activities, save their income and develop long-term projects.
		Judicial effectiveness	Judicial efficiency requires efficient and equitable judicial systems, ensuring full compliance with laws, as well as appropriate judicial action against violations.
		Government integrity	The integrity of government can lead to practices that are considered corrupt and they bring benefits to the detriment of others; they are totally inconsistent with the principles of fair and equitable treatment, which are essential ingredients of an economically free society.
	Size of government	Tax burden	The higher tax rates reduce the capacity and ability of individuals and businesses to pursue their goals in the market, thereby decreasing the level of overall private sector activity.
		Government spending	All public spending must ultimately be financed by higher taxation and involve an opportunity cost increasing public spending to distort the distribution of resources in the market and incentives for private investment.
		Fiscal health	Deviations from healthy and sound fiscal positions often disrupt macroeconomic stability, leading to economic uncertainty and thus reducing economic freedom.
	Regulatory efficiency	Business freedom	The ability of an individual to create and run a business without undue government interference is one of the most fundamental indicators of economic freedom.
		Labour freedom	The capacity of individuals to find employment and work is a key element of economic freedom.
		Monetary freedom	Monetary freedom requires a reliable and stable currency and market-determined prices and aims to fight inflation maintain price stability and preserve the country's wealth; citizens can rely on market prices in a predictable future.
	Market opening	Trade freedom	The degree to which commercial freedom stimulates the free flow of foreign trade has a direct positive impact on the ability of individuals to pursue their economic goals and to optimize their own productive development and well-being.
		Investment freedom	A free and open investment environment encourages innovation and competition, offers maximum entrepreneurial opportunities and incentives to develop economic activity, increase productivity and create jobs.
		Financial freedom	An accessible and efficient formal financial system provides real-time transparent information on price, ensuring the availability of diversified savings, credit, payment and investment services to individuals and businesses.

Source: Heritage Foundation.

**Table 2.** Summary statistics

Main Variables	Observations	Main	Standard Deviation	Min	Max
Economic Freedom	154	61.78	7.97	40.3	77.7
Property Rights	154	43.99	15.06	10	76.7
government integrity	154	43.08	13.01	18	77
tax burden	154	88.93	10.84	63.2	99.9
government spending	154	68.57	11.62	20.50	93.2
labour freedom	154	62.5	15.63	21.7	97
monetary freedom	154	73.23	7.41	47.30	88.4
trade freedom	154	74.51	10.39	41.4	86.8
investment freedom	154	48.31	17.63	10	75
good governance	154	-0.22	0.48	-1.23	0.72
Ln GDP per capita	154	4.38	0.38	3.74	5.11
subjective well-being	154	58.02	3.89	50.05	66.70
unemployment	154	7.44	4.71	0.12	18.33
Inflation	154	5.57	5.98	-4.86	39.26

Source: Legatum Institute, World Bank and Heritage Foundation.

Note: Real GDP per capita is expressed in natural logarithms.

**Table 3.** Mean EFW, GDP/capita and SWB by country (2007-2017)

Country	SWB	Rank	EFW	Rank	GDP per capita	Rank
U.A.E	64.8	1	68.9	2	65.957	3
Qatar	63.9	2	68.9	2	123.418	1
Bahrain	61.7	3	74	1	43.054	5
Kuwait	60.9	4	64.6	5	78.288	2
Oman	59.7	5	66.9	4	42.846	6
Saudi Arabia	57.7	7	62.9	6	49.098	4
Jordan	57.7	7	67.5	3	9.156	13
Turkey	58.4	6	62.5	4	20.642	7
Tunisia	57.4	8	58.1	8	10.620	11
Morocco	55.1	10	59	7	6.900	14
Lebanon	55.7	9	59	7	14.672	9
Iran	52.6	12	43.7	11	17.755	8
Algeria	53.9	11	52.2	10	13.460	10
Egypt	52.1	13	56.2	9	10,004	12
Average	58	—	61.7	—	36.134	—

Source: Legatum Institute, World Bank and Heritage Foundation.

**Table 4.** Correlations

	SWB	EF	LGDP	GOV
SWB	1.000000	0.801488	0.786289	0.904670
EF	0.801488	1.000000	0.524045	0.806780
LGDP	0.786289	0.524045	1.000000	0.637069
GOV	0.904670	0.806780	0.637069	1.000000
PR	0.776480	0.864133	0.481659	0.822920
GI	0.903322	0.780583	0.671732	0.913944
TB	0.606404	0.594521	0.787203	0.489173
GS	0.033492	-0.054557	-0.028832	0.013554
LF	0.557837	0.589452	0.559848	0.479222
MF	0.380177	0.526129	-0.062206	0.427521
TF	0.606946	0.791828	0.450372	0.607751
IF	0.193238	0.591760	-0.077494	0.271652
INF	-0.431661	-0.562557	-0.177040	-0.449895
UNEMP	-0.735352	-0.624226	-0.856137	-0.615503

Note: Correlations in bold are not significant at the 5% significance level. All others are significant at the level of 5% or better.