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# The Taste for Status in International Comparison

Lewis Davis<sup>1</sup> · Stephen Wu<sup>2</sup>

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## Abstract

This paper provides the first comparative analysis of the preference for social status across countries. We develop and provide support for two hypotheses: the *cultural foundations hypothesis*, which claims that individuals' preferences for status are rooted in persistent cultural values, and the *standard of living hypothesis*, which states that in more developed economies, relative income matters more and absolute income matters less to individual utility. To investigate these hypotheses, we propose a theoretically grounded measure of the taste for status, the *marginal rate of substitution* of relative for absolute income. We find empirical support both of these hypotheses. Specifically, we find that the taste for status is positively associated with individualism, egalitarianism and per capita income. We also identify and provide evidence regarding two threshold values of the taste for status, which are associated with the onset of status preferences and with the emergence of an hedonic treadmill. Our estimates indicate that most countries fall between these two thresholds, and thus experience a positive taste for social status. Only the poorest and most hierarchical and collectivist countries fall below the threshold for a taste for status, and only the richest and most individualist and egalitarian countries experience an hedonic treadmill.

**Keywords** Life satisfaction · Subjective wellbeing · Status · Relative income preferences · Culture

## 1 Introduction

There is overwhelming evidence that people care about social status. Whether measured by a preference for high relative income, relative consumption, or relative wages, this is one of the central findings of empirical work on subjective wellbeing (Boyce et al. 2010; Clark and Oswald 1996; Luttmer 2005; Blanchflower and Oswald 2004). Clark et al. (2008) and Hefetz and Frank (2011) provide recent reviews of this literature. There are also good reasons to think that the taste for status matters for important economic outcomes. For example, a taste for status may distort decision-making, leading to the over-consumption of status-conferring positional goods (Frank 1985), a factor that potentially

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contributed to the housing price bubble that preceded the Great Recession (Diamond and Rajan 2009). A taste for status may also matter for economic policy. Davis (2018) develops a political economy model that demonstrates that the taste for status may result in the adoption of growth-retarding policies, and Easterlin (1974) argues that, if sufficiently strong, the taste for status gives rise to an “hedonic treadmill” undermining much of the rationale for growth-oriented policies. More generally, the vast majority of economic analysis is predicated on the assumption that people care exclusively about the absolute level of the discounted stream of their personal consumption. If this assumption is wrong, as evidence of a taste for status suggests, then the policy recommendations stemming from that analysis may be systematically and fundamentally flawed.

While a large empirical literature now establishes the empirical reality of a taste for status for a wide variety of countries, most of these studies examine data from a single country or a small subset of countries. For example, Easterlin (1974) considers the relationship between happiness and income levels using data from 14 countries, and Oshio et al. (2011) find evidence for relative income preferences for three separate Asian countries, China, Japan, and Korea. Ball and Chernova (2008) consider the taste for status in a set of 18 countries from the third wave of the World Values Survey (WVS), with nearly half of which are Eastern European, observed in the early years of the transition from communism. Finally, Stevenson and Wolfers (2008) examine the relationship between average income and happiness in a large set of countries, but they do not directly examine the role of status in happiness.

This paper attempts to fill this significant lacuna, providing the first systematic analysis of the taste for status in a broad set of countries. In particular, we propose and provide evidence in support of two hypotheses regarding systematic international variation in the taste for status. The first hypothesis we consider is the *cultural foundations hypothesis*, which holds that the taste for status reflects more fundamental characteristics of preferences rooted in highly persistent cultural values. Social and cultural psychological work on culture directs our attention to two dimensions of cultural variation that may be particularly likely to influence the relative importance of status in a given society, individualism-collectivism and hierarchy-egalitarianism (Triandis 1995; Hofstede 1980, 2001). The second hypothesis, which we call the *standard of living hypothesis*, holds that the taste for status rises as an economy develops. The standard of living hypothesis has numerous antecedents, and is rooted in the work of Maslow (1943) and Inglehart and Welzel (2005). The motivations for these hypotheses are discussed further below.

We investigate these hypotheses using individual level data from the first six waves of the World Values Survey (WVS), an international survey of values, norms and beliefs covering nearly 100 countries representing over 90% of the world's population. Importantly for our purposes, the WVS also contains demographic and socioeconomic information and includes a question regarding life satisfaction, which is used as our dependent variable. For measures of national culture, we employ the most commonly used international variables, Hofstede's (1980, 2001) *Individualism* variable and *Power Distance Index*, a measure of hierarchy. Because individualism and egalitarianism are highly correlated with economic development, we consider the cultural foundations and standard of living hypotheses both separately and simultaneously.<sup>1</sup>

<sup>1</sup> A number of studies identify a causal relationship between individualism and the level of per capita income (Davis 2016; Gorodnichenko and Roland 2011), institutional quality (Licht et al. 2007; Klasing 2013; Davis and Abdurazokzoda 2016), and rates of innovation (Gorodnichenko and Roland 2017).

We propose a novel measure of the taste for status. Previous empirical work has been primarily concerned with providing evidence of the *existence* of a taste for status, showing that subjective wellbeing is rising in the level of relative income or, equivalently, falling in the income level of a peer group. However, a focus on the marginal utility of relative or peer income may be misleading when trying to draw conclusions about the relative strength of status preferences across countries. The reason for this is that the marginal utility of relative income may vary systematically with other marginal utilities across countries with very different cultural values or levels of economic development (Inglehart and Welzel 2005; Gorodnichenko and Roland 2010). Moreover, consumer theory suggests that individual decisions are based not on marginal utilities per se, but on marginal rates of substitution. Consequently, an exclusive focus on the marginal utility of peer income will reflect only one element of the utility trade-offs that structure individual decision-making and economic behavior. Motivated by this consideration, we propose and utilize a novel measure of the taste for status, the marginal rate of substitution of relative for absolute income. While other marginal rates of substitution are also possible, the focus on the relationship between absolute and relative income levels fits well with narrative discussions of the taste for status and its importance for normative policy analysis, e.g. Easterlin (1974) and Clark et al. (2008).

The manner in which we define the taste for status directs attention to two key values of the taste for status. When the taste for status equals zero, individuals care only about their absolute income level; they are indifferent to changes in relative income. In contrast, in the limit as the taste for status approaches infinity, individuals care only about relative income levels, a case that coincides with an hedonic treadmill. Given the two hypotheses above, which suggest that the taste for status is a function of cultural values and levels of development, these critical values implicitly define threshold levels of cultural variables and per capita income at which the taste for status and an hedonic treadmill emerge.

We report three principle findings. First, when considered individually, we find strong empirical support for both the cultural foundations and standard of living hypotheses. That is, we find evidence of a positive, statistically significant and economically meaningful relationship between the taste for status, individualism, egalitarianism and the standard of living. Moreover, the evidence suggests that two mechanisms are active: increases in these variables are associated with both increases in the marginal utility of relative income and decreases in the marginal utility of absolute income, highlighting the importance of using the marginal rate of substitution to measure the taste for status. Second, we find mixed results when we test the two hypotheses simultaneously. We find that both individualism and the standard of living matter for the taste for status when they are considered simultaneously. In contrast, the relationship between egalitarianism and the taste for status is less robust. Finally, our findings suggest that while the taste for status varies significantly in strength across societies, a positive and finite taste for status is the norm. In particular, our estimates suggest that exclusive concern with absolute, as opposed to relative income, occurs only in a few societies with particularly collectivist or hierarchical cultures and low levels of per capita income. Similarly, only very wealthy, individualist and egalitarian societies can be expected to exhibit an hedonic treadmill.

The primary contribution of our paper lies in providing the first analysis of the taste for status in international comparison. Our findings have important implications for the literature on social status, suggesting that there is structure to the pattern of the taste for status across countries. Moreover, the taste for status is seen to have two elements, a transitory element linked to an economy's level of economic development and a more persistent element rooted in slowly evolving cultural values and norms. Our findings suggest it would be

possible to exploit the international variation in the taste for status to test a variety of the claims regarding the impact of status preferences on macro-level social outcomes. Finally, our results regarding hierarchy and the taste for status suggest potential gains to exploring the role of non-monetary factors in social hierarchies. Our findings regarding the *standard of living hypothesis* contrast with evidence provided by Ball and Chernova (2008), who estimate well-being regressions using 18 countries from the third wave of the World Values Survey (WVS, survey years of 1994–1999) and find that importance of relative income is *smaller* for individuals with higher absolute levels of income.<sup>2</sup>

Our findings also have significant implications for the rapidly emerging literature on the economics of culture. To start with, they serve to inform and clarify the interpretation of popular empirical proxies for individualism and egalitarianism. As noted above, egalitarianism is positively associated with a taste for status. Perhaps the most natural interpretation of this result is that measures of egalitarianism reflect a preference for equal opportunity or “fairness” rather than equal outcomes, as in Alesina and Angeletos (2005). Similarly, the positive association between individualism and the taste for status implies that individualism should not be equated with egoism, defined as a set of preference that are independent of social outcomes. In particular, individualism is associated with a *greater* role for peer income levels in determining individual wellbeing.

Finally, our results may have implications for the development of theories of cultural economics, which has significantly lagged the rapid pace of empirical work on culture.<sup>3</sup> Arguably, one impediment to developing cultural economic models is that, while it is clear that cultural values should enter economic models through their influence on utility, theorists have had no empirical evidence regarding how values like individualism and egalitarianism should be translated into the mathematics of utility functions. Our research provides some initial evidence on this issue: individualist utility functions exhibit a greater taste for status.

## 2 The Cultural Foundations and Standard of Living Hypotheses

The *culture foundations hypothesis* holds that the taste for status reflects more fundamental cultural and social values and, in particular, the dimensions of cultural variation associated with individualism and collectivism and with egalitarianism and hierarchy. The distinction between individualism and collectivism reflects the fundamental understanding of the nature of the self. In individualist societies, the self is seen as autonomous and independent, whereas in collectivist societies, the self is understood to be interdependent, embedded in a web of social relationships and obligations (Gorodnichenko and Roland 2010). According to Triandis (1995, p. 43), collectivism requires individual and group goals to be compatible and, when they conflict, gives priority to group goals. This appears to be

<sup>2</sup> It is possible that this difference in outcomes reflects either the structure of their data, with over 42% of the individuals in their regressions coming from post-Soviet transition economies. Alternatively, it may reflect subtle differences in the hypotheses we test. In particular, they find that taste for high relative income is falling in the level of an individual’s absolute income, while we find that it is rising in the level of per capita income. Thus, their hypothesis is interpersonal, while ours is international.

<sup>3</sup> The most significant theoretical advances address the transmission of cultural values, reviewed by Bisin and Verdier (2011). A working paper by Gorodnichenko and Roland (2010) models individualism as a positive utility from producing the highest available quality of a good. However, the model was purged from final version of the paper, Gorodnichenko and Roland (2017). For reviews of literature, see Guiso et al. (2006) and Fernandez (2011).



incompatible with a taste for social status, which is based on individual outcomes *relative* to some reference group. Collectivism may also discourage status-seeking behavior. Licht et al. (2007, p. 662) characterize collectivist cultures as ones in which individuals are “committed to maintaining the status quo” and exercise “restraint of actions or inclinations that might disrupt solidarity.” Moreover, collectivist social ties may give rise to a sense of social solidarity, tempering, or even potentially eliminating entirely, the utility gains associated with increases in relative income (Davis and Wu 2014). In contrast, a taste for status is very much in keeping with individualism, with its emphasis on individual rights and achievement over group harmony (Triandis 1995, p. 44). For example, according to Roland (2015, p. 10), “Individualistic culture emphasizes individual achievement and awards social status to outstanding success in individual achievement.” Given these considerations, we expect the taste for status to be stronger in more individualist societies.

The second dimension of cultural variation we consider is that associated with egalitarianism and hierarchy, which reflect the degree to which the self is viewed as being similar to or different from others (Triandis 1995). According to Triandis (1995, p. 44), hierarchical cultures “accept inequality, and rank has its privileges.” while in egalitarian cultures, “people should be similar on most attributes, especially status.” Given the close conceptual relationship between hierarchy and status, one might expect individuals to exhibit a greater taste for status in more hierarchical societies – greater acceptance and respect for hierarchy would appear to increase the economic and social return to status. However, it is also possible that in more hierarchical societies, people with lower social status are relatively accepting of existing hierarchies and are, therefore, less envious of other people’s incomes. In addition, more hierarchical cultures may give rise to social hierarchies that are more rigid, in that an individual’s status is determined by relatively immutable characteristics, such age, gender, ethnicity, caste, religion, and position within the family. Indeed, Mulder (1977), an important source for Hofstede (1980), found that individual striving for power is greatest when hierarchy is relatively low. If so, then the taste for status may in fact be greater in more fluid and egalitarian societies. As a result, the relationship between hierarchy and the taste for status is theoretically ambiguous.

The second hypothesis we examine is the *standard of living hypothesis*, which holds that economic development tends to increase the role of social status. In particular, we posit that as a society becomes more affluent, the importance of an individual’s absolute income falls in comparison to the importance of her income relative to some reference group, an important measure of social status. The standard of living hypothesis is broadly consistent with Maslow’s (1943) hierarchy of needs model, in which absolute income is particularly important for satisfying basic human needs related to survival and safety. Once these needs are met, there is a shift of emphasis toward psychological needs, including those related to self-esteem and social status. More recently, Inglehart and Welzel (2005) provide evidence that modernization is associated with a shift in cultural values. In particular, they find that a rise in per capita income is associated with a shift of emphasis away from “survival” and toward “self-expression.” If one associates survival with absolute income and self-expression with the search for distinction and status, then the pattern of changes they find is consistent with the *standard of living hypothesis*.

Though the precise details vary to some degree, the *standard of living hypothesis* is closely related to a number of ideas proposed or tested in the literature. For example, in the model of social comparisons presented by Clark et al. (2008, pp. 101–102), the marginal utility of additional absolute consumption approaches zero as countries become richer, while the marginal utility of status is relatively constant. Exploring a similar idea, Deaton and Kahneman (2010) provide evidence of a similar phenomenon looking across

households within the US, finding that emotional well-being rises with income, but only up to an annual amount of \$75,000, after which there is no correlation. In contrast, Stevenson and Wolfers (2008) find no evidence that the marginal utility of the log of absolute of income declines as a country develops. The propositions considered in these studies differ from the *standard of living hypothesis* in that they are focused on the relationships between material wellbeing and the marginal utility of absolute income. In contrast, we propose a relationship between per capita income and the *ratio* of the marginal utilities of absolute and relative income. Changes in this ratio may reflect a relationship between the standard of living and either of these two marginal utilities.

### 3 Modeling the Taste for Status

Consumer theory suggests that decisions are based on marginal rates of substitution, rather than marginal utilities per se, and narrative accounts of the taste for status, such as those in Easterlin (1974), tend to focus on the relative importance of absolute and relative income. Because this, we measure the taste for status by the marginal rate of substitution of the log of relative income for the log of absolute income:  $MRS_{\ln z, \ln y} = \frac{U_{\ln z}}{U_{\ln y}}$ , where  $y$  is an individual's absolute income level and  $z$  is the level of her relative income, e.g. absolute income divided by the income level of the appropriate reference group.

To make matters concrete, consider a utility function of the form

$$U(y, z) = a \ln y + b \ln(z), \quad (1)$$

where  $y$  is an individual's absolute income level,  $\bar{y}$  is the individual's "reference income level," e.g. the average income level of some reference group, and  $z = y/\bar{y}$  is relative income. In this case, the taste for status is given by  $MRS_{\ln z, \ln y} = \frac{b}{a}$ . In practice, we will estimate equations of the form

$$U(y, \bar{y}) = \alpha \ln y + \beta \ln \bar{y} \quad (2)$$

Noting that  $a = \alpha + \beta$  and  $b = -\beta$ , in this specification the taste for status is given by  $MRS_{\ln z, \ln y} = \frac{-\beta}{\alpha + \beta}$ .

Both theory and existing empirical work suggests that the marginal utility of own income is positive:  $\alpha > 0$ . However, the sign of beta and relative magnitudes of alpha and beta are ambiguous. We pay particular attention to two parameter value thresholds. The first concerns the value of beta. If  $\beta < 0$ , then utility is decreasing in reference income,  $MRS_{\ln z, \ln y} > 0$ , and the individual has a taste for status. This indicates that individuals are willing to sacrifice some amount of absolute income in return for a rise in relative income or social status. Alternately, if  $\beta > 0$ , then utility is increasing in average peer income. In this case, the  $MRS_{\ln z, \ln y} < 0$ , indicating that individuals are, to some degree, willing to sacrifice their own income in order to raise peer incomes, an outcome that is consistent with social solidarity or group altruism (Davis and Wu 2014).

The second parameter threshold of interest is  $\alpha = -\beta > 0$ , which indicates that the marginal utilities of own and reference income are equal in magnitude and have opposite signs. As a result, if the logs of own and reference incomes rise by the same amounts, as occurs for example in a situation of broadly shared economic growth, the utility increase from the rise in an individual's own income is exactly offset by her utility losses from the rise in relative income. Put differently, in this case the marginal utility of absolute income is zero,



$\alpha + \beta = 0$ , and utility depends only on relative income, resulting in an hedonic treadmill and an infinite MRS. This was the case that so interested Easterlin.

While this discussion assumes that utility is linear in the logs of absolute and relative income, the analysis may be extended to more general utility functions in a relatively straightforward manner. To begin, we note that any utility function with own and reference income as arguments may also be expressed as a function of the logs of these values. For example, if an individual's utility is represented by a function  $U = G(y, z)$ , we may also express it as  $F(\ln y, \ln z) \equiv G(e^{\ln y}, e^{\ln z})$ . Taking the first-order Taylor expansion of  $F(\cdot)$  around an arbitrary point, we have

$$F(w) \approx F(\ln y^*, \ln z^*) + F_1(\ln y^*, \ln z^*)d \ln y + F_2(\ln y^*, \ln z^*)d \ln z \quad (3)$$

which is isomorphic to the linear utility function introduced above, and thus provides the same mapping of coefficients onto our proposed measure of the taste for status.

Of course,  $G(\cdot)$  may also be linearized in a similar fashion. So either function may, in principle, be used as the basis of a linear empirical model. In practice, in choosing to use  $F(\cdot)$  rather than  $G(\cdot)$  as the basis of our estimation exercises, we are assuming that the second- and higher-order derivatives of  $F(\cdot)$  may be more safely neglected than those of  $G(\cdot)$ . In particular, the available evidence suggests that  $F_{\ln y \ln y} = 0$  is a less heroic assumption than  $G_{yy} = 0$ . For example, Stevenson and Wolfers (2008) find that happiness is essentially linear in the log of income, while Kahneman and Deaton (2010) explicitly reject a linear relationship between happiness and (non-logged) income.

## 4 Data and Empirical Strategy

The data for our empirical analysis are taken from several different sources. The individual data is taken from Waves 2–6 of the World Values Survey, a global survey of the political and social attitudes of people in countries across the world. The observations for these waves come from the years between 1990 and 2014. The World Values Survey contains basic demographic information such as age, gender, educational attainment, marital and employment status, and income scales.<sup>4</sup> Importantly, the survey also asks the following question about subjective well-being: “All things considered, how satisfied are you with your life as a whole these days? Using this card on which 1 means you are ‘completely dissatisfied’ and 10 means you are ‘completely satisfied,’ where would you put your satisfaction with your life as a whole?”

The absolute income variable is measured on a scale, and adjusted by country, in order to have ten different possible ranges. The question is specifically worded as, “on this card is an income scale on which 1 indicates the lowest income group and 10 the highest income group in your country. We would like to know in what group your household is. Please specify the appropriate number, counting all wages, salaries, pensions.”

Our measure of reference income is motivated by Pérez-Asenjo (2011), who argues that social comparisons tend to be based on observable characteristics and familiarity. In keeping with this, for each individual, we compute the average income for people in an individual's peer group, as defined by gender, cohort, region, and rural or urban location. Cohorts

<sup>4</sup> The World Values Survey is careful in the sampling design and assembly of data from different countries. In particular, samples are representative of all people 18 and over residing in each county: <http://www.worldvaluessurvey.org/WVSContents.jsp?CMSID=FieldworkSampling>.

are defined by an individual's age range: 18–25, 25–35, 35–45, 45–55, 55–65, and 65–75. We have limited the sample to those under the age of 75, though including the small number of older individuals does not change any conclusions of our analysis. In defining reference income, we do not consider variables like marital status and education, as they are not directly observable.

In order to investigate the *Cultural Foundations Hypothesis*, we use country level variables for two of Geert Hofstede's (2001) measures of cultural dimensions: *individualism* (IDV), and the *Power Distance Index* (PDI). Hofstede's (2001) cultural data is based on surveys of IBM employees in over 70 countries designed to understand differences in corporate culture.<sup>5</sup> Hofstede identifies four dimensions of cultural variation—individualism, power distance, masculinity and uncertainty avoidance—with the individualism score being the first and most important factor. In Hofstede's analysis, *individualism* (IDV) is high in countries where individuals value personal freedom and autonomy, and is low in countries where individuals value cooperation and harmony. Hofstede interprets the *Power Distance Index* (PDI) as a measure of the degree to which a society expects and accepts an unequal distribution of power. Hofstede's cultural variables range on something close to a 100 point scale, but in our analysis we normalize these variables to more easily interpret the empirical results and calculate marginal effects.

To investigate the *Standard of Living Hypothesis*, we measure the level of economic development by the natural log of real per capita income, which is obtained from the UN database. The rate of economic growth is calculated from the same data.

The empirical identification of a taste for status is complicated by the existence of an additional channel, unrelated to an individual's perceived social status, through which the level of peer incomes may influence an individual's subjective wellbeing. This channel is informational in nature and is known in the literature as a “tunnel effect.” Originally hypothesized by Hirschman and Rothschild (1973), tunnel effects exist when an individual is pleased by the success of their peers because they believe it signals an increase in their own future prospects. Empirical support for the existence of tunnel effects is reported by Clark et al. (2009), Senik (2004, 2008) and FitzRoy et al. (2014), who find that measures of subjective wellbeing are *increasing* in the average income of people in an individual's firm, occupation and industry, or region. More generally, the existence of tunnel effects gives rise to a positive relationship between peer income and subjective wellbeing that may partly or fully offset the negative relationship that arises due to a taste for social status.

The most common method for controlling for tunnel effects relies on their relationship with an individual's age: tunnel effects should be weaker for older individuals, due primarily to the reduction in length of an individual's expected future career. This relationship is central to the analysis of FitzRoy et al. (2014), Senik (2004), and Grosfeld and Senik (2010), who all find that tunnel effects are stronger for younger individuals. Similarly, Davis and Wu (2014) control for tunnel effects by interacting peer income with a measure of an individual's time to retirement. More recently, Davis (2019) develops a formal model of tunnel effects to show that they are related to *shocks* to peer income levels, which in the absence of detailed dynamic information are reasonably well proxied by economic growth. Here, we draw on both approaches, including three variables to control for tunnel effects, an interaction between an indicator variable for being young (below the age of 40, consistent with prior literature) and the reference income level, per capita income growth, and per

<sup>5</sup> Hofstede combines survey responses for a number of countries belonging to what Hofstede identifies as relatively homogenous cultural groups, East Africa, West Africa and Arab World.

**Table 1** Summary statistics

Variable	Mean	SD	Min	Max
Life satisfaction	6.82	2.36	1	10
Age	40.79	15.87	16	98
Female	0.50	0.50	0	1
Married	0.57	0.50	0	1
Partner	0.08	0.27	0	1
Divorced	0.03	0.18	0	1
Separated	0.02	0.15	0	1
Widowed	0.05	0.23	0	1
Number of children	1.81	1.69	0	7
Completed elementary	0.14	0.35	0	1
Some technical secondary	0.08	0.26	0	1
Completed technical secondary	0.17	0.38	0	1
Some preparatory secondary	0.08	0.27	0	1
Completed preparatory secondary	0.14	0.35	0	1
Some college	0.08	0.27	0	1
Completed college	0.15	0.35	0	1
Full time employed	0.36	0.48	0	1
Part time employed	0.08	0.27	0	1
Self employed	0.13	0.34	0	1
Retired	0.12	0.32	0	1
Homemaker	0.15	0.35	0	1
Student	0.07	0.26	0	1
Income scale	4.74	2.33	1	10
Power distance	66.25	18.62	22	104
Individualism	41.19	22.38	6	91
Observations	137,910			

capita income growth interacted with *young*.<sup>6</sup> The variable *young* is dummy variable equal to 1 if an individual is under 40 years of age, and zero otherwise. This is the same age threshold used by Senik (2004) and Grosfeld and Senik (2010).

In estimating happiness regressions, we control for a number of individual level characteristics that have been shown to matter for subjective wellbeing in previous work. These variables include age, age-squared, gender, educational attainment, and marital and employment status.

Hofstede's data is available for 78 countries, but these overlap imperfectly with coverage in the WVS. We have approximately 140,000 observations from 54 different countries represented in our sample with non-missing data from the WVS as well as measures of culture. Table 1 provides summary statistics of our main variables of interest. The average age of respondents is just over 40 years, male and female respondents are equally represented in the survey, and 57% of the sample is married. 36% of individuals are full time employees, while another 8% are part time employees, and 13% are self-employed. 15%

<sup>6</sup> Friedman (2005) argues that economic growth may reduce the intensity of envy, providing a second rationale for including it as a regressor.

have completed college, while another 8% have attended some college, and another 14% have completed a secondary education. The average degree of satisfaction with life is 6.82 on a scale from 1 to 10. The power distance variable ranges from 22 to 104 (with a mean of 66) and the individualism variable ranges from 6 to 91 (with a mean of 41).

Our baseline empirical model takes the following form:

$$LifeSat_{ijt} = \beta_1 y_{ijt} + \beta_2 \bar{y}_{it} + \lambda_1 young_{ijt} \bar{y}_{it} + \lambda_2 young_{ijt} growth_{jt} + \lambda_3 growth_{jt} + \beta_x X_{ij} + \gamma_j + \gamma_t + \varepsilon_{itc} \quad (4)$$

In this regression, an individual  $i$  in country  $j$  is observed at time  $t$ . The vector  $X_{it}$  consists of individual level variables that are known to influence life satisfaction. As discussed above, three controls, the rate of economic growth and *young* interacted with both growth and reference income, are used to control for the impact of tunnel effects. Country fixed effects  $\gamma_j$  control for time-invariant country-level omitted variables that influence life satisfaction, and period fixed effects  $\gamma_t$  control for global shocks to life satisfaction.

To test the cultural foundations and standard of living hypotheses, we extend the baseline specification in by introducing interaction terms between own and reference income with a measure of culture or income. The resulting equation takes the form

$$LifeSat_{ijt} = \beta_1 y_{ijt} + \beta_2 \bar{y}_{it} + \beta_3 Z_j y_{ijt} + \beta_4 Z_j \bar{y}_{it} + \lambda_1 young_{ijt} \bar{y}_{it} + \lambda_2 young_{ijt} growth_{jt} + \lambda_3 growth_{jt} + \beta_x X_{ij} + \gamma_j + \gamma_t + \varepsilon_{itc} \quad (5)$$

where  $Z_j$  is either the cultural variable in question or the natural log of per capita income. Note  $Z_j$  does not enter this specification directly, as it is measured at the country level and is thus collinear with country effects. In these specifications, the taste for status may be expressed as a function of the underlying variable,  $Z_j$ :

$$TFS(Z_j) = \frac{-(\beta_2 + \beta_4 Z_j)}{\beta_1 + \beta_2 + (\beta_3 + \beta_4) Z_j} \quad (6)$$

Before proceeding to our results, it is important to recall that, for the most part, happiness regressions do not recover causal effects, as many of the regressors of interest—income, marital status, employment—are choice variables and, thus, endogenously determined. Of particular concern in our case is the potential for reverse causation, running from happiness to income, e.g. happier people are more productive (Oswald et al. 2015). Reverse causation would tend to increase the value of  $\beta_1$ , biasing it upward and reducing our measure of the TFS. However, if this bias is similar across counties, it will not change international comparisons of the TFS. Other coefficients of interest are less likely to be affected by reverse causation. For example, reference income is endogenous only to the degree that happiness affects an individual's reference group, for example by influencing their choice to live in a rural or urban setting. Similarly, per capita income and national culture are exogenous to individual happiness.

## 5 Testing the Cultural Foundations Hypothesis

This section presents evidence on the international relationship between culture and the taste for status, focusing on two dimensions of national culture, individualism and hierarchy, which are believed to influence the taste for status. As noted above, we predict

**Table 2** Culture, income, and reference income

Variables	(1) lsat	(2) lsat	(3) lsat
Own income	0.191*** (0.003)	0.184*** (0.003)	0.181*** (0.003)
Reference income	−0.076*** (0.010)	−0.084*** (0.010)	−0.087*** (0.010)
IDV * income		−0.012*** (0.003)	
IDV * reference income		−0.036*** (0.009)	
PDI * income			0.018*** (0.003)
PDI * reference income			0.020** (0.009)
Growth	1.903*** (0.183)	1.868*** (0.187)	1.926*** (0.187)
Young * growth	−0.043 (0.192)	−0.067 (0.196)	−0.071 (0.196)
Young * reference income	−0.001 (0.005)	−0.001 (0.005)	−0.000 (0.005)
Age	−0.053*** (0.003)	−0.050*** (0.003)	−0.050*** (0.003)
Age squared	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Female	0.051*** (0.013)	0.039*** (0.013)	0.042*** (0.013)
Married	0.304*** (0.019)	0.305*** (0.020)	0.308*** (0.020)
Partner	0.137*** (0.025)	0.136*** (0.026)	0.138*** (0.026)
Divorced	−0.143*** (0.036)	−0.145*** (0.037)	−0.145*** (0.037)
Separated	−0.312*** (0.046)	−0.337*** (0.047)	−0.337*** (0.047)
Widowed	−0.105*** (0.037)	−0.104*** (0.039)	−0.100*** (0.039)
Children	0.013*** (0.005)	0.012** (0.005)	0.012** (0.005)
Elementary	0.164*** (0.026)	0.171*** (0.027)	0.170*** (0.027)
Some technical secondary	0.259*** (0.030)	0.266*** (0.030)	0.268*** (0.030)
Technical secondary	0.285*** (0.025)	0.295*** (0.026)	0.296*** (0.026)
Some preparatory secondary	0.311*** (0.030)	0.316*** (0.030)	0.320*** (0.030)
Preparatory secondary	0.350***	0.373***	0.376***

**Table 2** (continued)

Variables	(1)	(2)	(3)
	lsat	lsat	lsat
	(0.026)	(0.027)	(0.026)
Some college	0.334***	0.345***	0.350***
	(0.029)	(0.030)	(0.030)
College	0.471***	0.476***	0.479***
	(0.026)	(0.026)	(0.026)
Full time employment	0.402***	0.400***	0.403***
	(0.024)	(0.025)	(0.025)
Part time employment	0.297***	0.292***	0.295***
	(0.029)	(0.031)	(0.031)
Self employed	0.370***	0.374***	0.375***
	(0.027)	(0.029)	(0.029)
Retired	0.293***	0.288***	0.296***
	(0.034)	(0.036)	(0.036)
Homemaker	0.464***	0.477***	0.476***
	(0.028)	(0.030)	(0.030)
Student	0.420***	0.411***	0.413***
	(0.030)	(0.032)	(0.032)
Constant	7.062***	7.231***	6.203***
	(0.110)	(0.125)	(0.165)
Observations	137,154	128,000	128,000
R-squared	0.185	0.178	0.178

Robust standard errors are in parentheses

\*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$

individualism to be associated with a greater taste for status, while those in a culture with a more accepted hierarchical structure (high PDI) are expected to have a lower taste for status.

Table 2 presents the results. We begin with results from our baseline specification. As seen in column 1, our results indicate that life satisfaction is increasing in individual income and decreasing in reference income, and both coefficients are statistically significant at the 1% level. Thus, our findings confirm the existence of a taste for status in the international data.<sup>7</sup> Given these point estimates, the taste for status is given by  $TFS = \frac{-\beta_2}{\beta_1 + \beta_2} = 0.66$ , indicating that (on average) individuals are willing to trade 0.66 units of absolute income for one unit of relative income.

Next we consider three variables included to control for tunnel effects. Consistent with the theory developed by Davis (2019), the coefficient on the rate of growth of per capita income is positive and significant. However, the coefficients on the two terms formed by interacting *young* with *growth* and *reference income* are not significant. Coefficient estimates for other variables (not reported) are consistent with the general literature on

<sup>7</sup> To address the possibility that the samples are representative of the population, we also repeat all of our regressions using sampling weights, and the results are not affected.

well-being: life satisfaction is U-shaped in age, and is higher for women, and those that are married, employed, and more highly educated.

The specification in column 1 assumes that all individuals care equally about social status. Next, we consider the *cultural foundations hypothesis*. To test for the effect of culture on one's taste for status, we extend our baseline model by interacting the culture measures with both own income and reference group income, as in Eq. (5) above. We begin by considering the role of individualism. As seen in column 2, the coefficients on own and reference income continue to be significant and to have the expected signs. Thus, at the mean level of individualism, life satisfaction is increasing in own income and decreasing in comparison income. In addition, the terms formed by interacting individualism with own and comparison income levels are negative and statistically significant at the 1% level. Our results indicate that an increase in individualism is associated with an increase in the taste for status. Moreover, individualism affects the taste for status through two channels: it increases the importance of reference income and decreases the importance of own income as determinants of life satisfaction. These results provide our initial evidence in support of the *cultural foundations hypothesis*.

Utilizing (6), the point estimates in column 2 indicate that the taste for status may be expressed as a function of individualism:

$$TFS(IDV) = \frac{0.084 + 0.036 * IDV}{0.10 - 0.048 * IDV}.$$

Thus, our estimates imply that at the mean level of individualism (where the normalized value is equal to zero), individuals are willing to trade 0.84 units of absolute income for a unit of relative income. As a practical matter, the marginal utilities of absolute and relative income are roughly equal. One standard deviation above the mean level of individualism, the taste for status is significantly higher:  $TFS = 2.31$ . Thus, individuals are willing to trade 2.31 units of absolute income for a unit of relative income. At one standard deviation below the mean level of individualism, individuals are willing to trade only 0.32 units of absolute income to gain a unit of status.

This formula implies that most countries will experience a positive but finite taste for status for a considerable span of variation in individualism. Individuals experience an hedonic treadmill, in that they care only about relative income, when the marginal rate of substitution of relative for absolute income is infinite. Using the formula above, this will occur at  $IDV_{\infty} = 2.08$ , which corresponds to 2.08 standard deviations above the mean level of individualism, a level only applying to the United States, Australia, and the United Kingdom. Similarly, our results indicate that sufficiently collectivist cultures may not experience a taste for status, in that they care only about absolute income. However, the threshold level of individualism for the onset of status preferences is  $IDV_0 = -2.33$ , which corresponds to countries 2.33 standard deviations below the mean level of individualism, which is not relevant for any country in our sample. Thus, while it is possible that residents of a given country care only about absolute or only about relative income, these outcomes occur only for countries in the tails of the cultural distribution for individualism.

Our results regarding the relationship between the taste for status and hierarchy tell much the same story. As seen in column 3, both interaction terms using the power distance index are positive and significant at the 1% level. As is the case with individualism, the relationship between PDI and the taste for status appears to act through two channels, as an increase in the PDI hierarchy is associated with a rise in the importance of own income and



decrease in the importance of relative income as determinants of life satisfaction. Using the point estimates, we can define the taste for status as a function of the power distance index:

$$TFS(PDI) = \frac{0.087 - 0.02 * PDI}{0.094 + 0.038 * PDI}.$$

This expression indicates that the taste for status is somewhat less sensitive to variations in the PDI than individualism. For example, at one standard deviation above the mean level of PDI,  $TFS=0.50$ , while one standard deviation below the mean, we have  $TFS=1.91$ . Similarly, the threshold for an hedonic treadmill is  $PDI_{\infty} = -2.47$ , and that for the onset of status preferences is  $PDI_0 = 4.35$ . Only one country in the sample comes close to either of these thresholds, New Zealand, which has a PDI of 2.38. Given the range of PDI values in our sample, our results again indicate that individuals have a positive but finite taste for status for all countries represented in our analysis.

Why should more egalitarian societies care more about social status? We believe the answer lies in the nature of the measure of social status that we use, which equates social status with relative income. In particular, a society that confers status on individuals based on their income levels may be one in which other, less flexible determinants of social status, such as age, gender, family background, and race and ethnicity, matter less for social status. In this interpretation, a society is more egalitarian, not if it cares less about social status, but if it is willing to confer status on individuals based on the relatively flexible and meritocratic outcome based characteristics, such as income or education, rather than relying on inflexible and particularly inherited characteristics. A second and potentially complementary explanation is that in more hierarchical societies, people with lower social status are relatively accepting of existing hierarchies and are, therefore, less envious of other people's incomes.

Overall, our results provide consistent and significant support for the *cultural foundations hypothesis*. Individualism and egalitarianism are found to be positively and significantly related to the taste for status. Moreover, their influence on the taste for status is not trivial. One standard deviation changes in any of the three cultural variables are associated with a dramatic change in the willingness of individuals to trade absolute for relative income. Theoretical work on the taste for status suggests that these differences could significantly impact consumption, education and saving behavior, as well as preferences over public policy outcomes. In addition, our estimates suggest that a taste for status is likely to be an empirical reality for nearly all societies.

## 6 Testing the Standard of Living Hypothesis

Here we consider empirical evidence regarding the standard of living hypothesis. In particular, as argued by Easterlin (1974) and others, as countries grow richer, individuals may shift attention from survival, with its emphasis on absolute income gains, to achievement and an emphasis on relative income and social status. We call this proposition the *standard of living hypothesis*.

To test the standard of living hypothesis, we consider an extended version of our baseline specification in which we interact a measure of development, real per capita GDP, with own and reference income. Results are shown in Column 1 of Table 3 and provide preliminary support for the standard of living hypothesis. In particular, both interaction terms are negative and significant at the 1% level. Thus, an increase in the standard of living is

**Table 3** Culture, income, and reference income, controlling for real GDP per capita

Variables	(1) lsat	(2) lsat	(3) lsat
Own income	0.495*** (0.025)	0.521*** (0.033)	0.480*** (0.033)
Reference income	0.407*** (0.056)	0.370*** (0.063)	0.421*** (0.062)
Log (real GDP) * income	−0.033*** (0.003)	−0.036*** (0.003)	−0.032*** (0.003)
Log (real GDP) * reference income	−0.053*** (0.006)	−0.050*** (0.007)	−0.055*** (0.007)
IDV * income		0.011*** (0.003)	
IDV * reference income		−0.019** (0.009)	
PDI * income			−0.002 (0.004)
PDI * reference income			0.004 (0.010)
Growth	1.888*** (0.183)	1.821*** (0.187)	1.827*** (0.187)
Young * growth	−0.181 (0.192)	−0.184 (0.196)	−0.190 (0.196)
Young * income	−0.004 (0.005)	−0.002 (0.005)	−0.002 (0.005)
Constant	8.005*** (0.113)	7.333*** (0.129)	6.334*** (0.150)
Observations	137,154	128,000	128,000
R-squared	0.188	0.180	0.180

All regressions include controls for age, age squared, gender, marital status, employment status, and educational attainment. Robust @ standard errors are in parentheses

\*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$

associated with a decrease in the positive impact of an individual's own income level on life satisfaction and with an increase in the negative impact of the effect of the level of reference income.

The estimated relationship between economic development and the taste for status is given by

$$TFS(gdp) = \frac{-.407 + .053 * gdp}{0.902 - 0.086 * gdp}.$$

This expression implies that a taste for status emerges in economies when their income level reaches  $\exp(7.68) = \$2163$ , after which the relative income gradually increases in importance relative to absolute income until an income level of  $\exp(10.49) = \$35,895$ . Beyond this level of economic development, the estimate predicts that only relative income

matters. Below per capita income levels of \$2163, societies exhibit *prosocial* preferences, in that individual utility is increasing in the level of average peer income. These prosocial preferences would apply to several years of data for the following countries in our sample: Bangladesh, Ethiopia, India, and Nigeria.

At the mean level of per capita income for the sample, the TFS is 0.73, indicating that individuals are willing to give up 0.73 units of absolute income to obtain a single unit of relative income. One standard deviation above the mean level of economic development, this becomes 8.87, and one standard deviation below mean income, the TFS is 0.11.

One source of potential concern regarding our findings regarding the standard of living hypothesis is that individualism and egalitarianism are highly correlated with per capita income. Indeed, a number of studies find that individualism causes economic development (Gorodnichenko and Roland 2011; Davis 2016), institutional development (Licht et al. 2007; Klasing 2013), or innovation (Gorodnichenko and Roland 2017). As a result, our finding of support for the cultural foundations and standard of living hypotheses may be fragile. We address this possibility by considering specifications in which we test both hypotheses simultaneously. We use two such specifications, one for individualism and one for power distance. Because both cultural values and the level of economic development are endogenous, our results may not reflect causal effects. They are, however, informative regarding variations in the magnitude of the taste for status across countries with different income levels and cultural values.

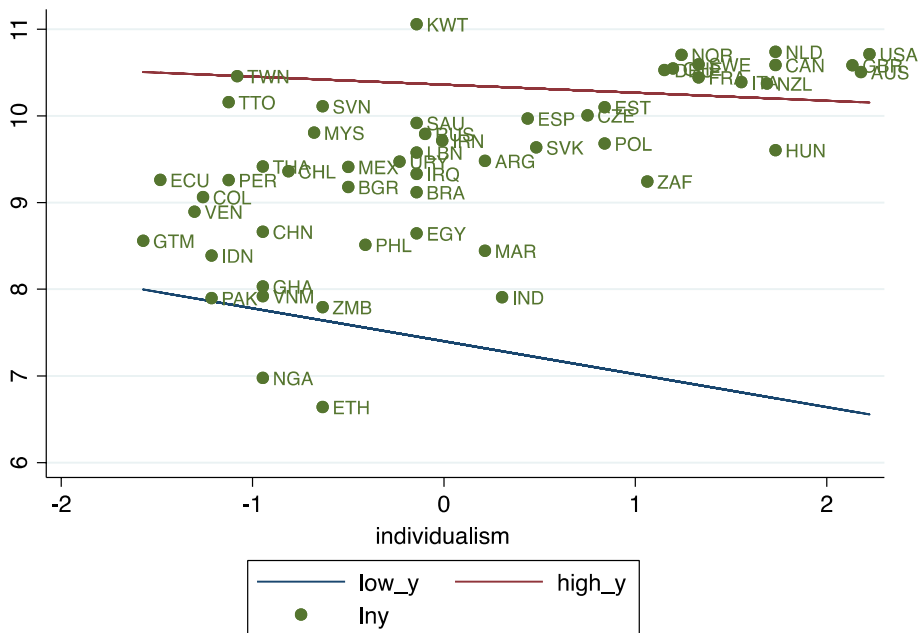
Column 2 of Table 3 presents results using both the level of development and individualism. All six coefficients involving own and comparison income levels are significant at the 5% level or better. Moreover, the signs of the interaction terms with per capita income are both negative, indicating support for the standard of living hypothesis. An increase in the level of economic development is associated with a greater role for relative income and a smaller role for absolute income in determining life satisfaction.

Our results also support the *cultural foundations hypothesis* and, in particular, the claim that individualism is positively associated with the taste for status. This is somewhat less obvious, given that the coefficient on the own-income-individualism interaction terms has switched sign, relative to our findings in Table 3, and is now positive. The effect of culture on the marginal utility of absolute income, however, is given by the sum of the coefficients on the two individualism interaction terms, which remains negative. Thus our estimates indicate that a rise in individualism is associated with a greater weight on relative, relative to absolute, income.

Using the point estimates from column 2, we may express the taste for status as a function of individualism and per capita income:

$$TFS(IDV, gdp) = \frac{-0.370 + 0.019 * IDV + 0.050 * gdp}{0.902 - 0.008 * IDV - 0.086 * gdp}.$$

Setting this expression equal to zero provides an estimate of the level of economic development at which a taste for status is expected to emerge depends negatively on individualism:  $gdp = 7.4 - 0.38 * IDV$ . The estimates in column 2 imply that relatively modest changes in cultural values can have a meaningful impact on the level of development at which a taste for status emerges. For example, at the mean level of individualism, this threshold is \$1636 per capita, while one standard deviation above and below the mean, we have levels of \$2292 and \$1119 per capita, respectively. Similarly, the income threshold for an hedonic treadmill is given by  $gdp = 10.36 - 0.093 * IDV$ . At the mean level of individualism, this



**Fig. 1** Income, individualism and the taste for status

translates to per capita income level of \$31,571. One standard deviation above and below the mean level of individualism, we have \$34,665 and \$28,780, respectively.

Figure 1 displays both of these thresholds as loci in *individualism*-*ln(gdp)* space, along with values of these variables for each country in the sample. For readability, when we have multiple waves for a given country, we plot a single point, using the average of log per capita income over the various observations. As seen in this figure, only two countries in the sample, Nigeria and Ethiopia, are sufficiently poor and collectivist to lie below the threshold for the onset of relative income preferences. Similarly, there is a small set of countries that are sufficiently wealthy and individualist to lie above the locus for an hedonic treadmill, including ten OECD countries and Kuwait.

Column 3 repeats this exercise using the power distance index as the measure of culture. In this specification, the income interaction terms are significant but the culture interaction terms are not. Moreover, the coefficient estimates on the income interaction terms in column 3 are nearly identical in magnitude to those reported in column 1. Thus, our results for this specification provide support for the standard of living hypothesis, but not the *cultural foundations hypothesis*.

Overall, our results provide strong support for both the standard of living and the cultural foundations hypotheses, particularly the dimension of cultural variation associated with individualism and collectivism. Second, they indicate significant variation in the taste for status across countries at different levels of economic development and with different cultural values. Finally, they suggest that the taste for status is positive and finite for a wide range of income levels and cultural values, relative to observed values of these measures.

In closing, we note two caveats regarding our findings that are related to the endogeneity of per capita income. One issue is that, given that several studies have found that individualism causes economic development (Gorodnichenko and Roland 2011; Davis 2016),

the specification used for column 2 may suffer from over-controlling. In particular, because we control for per capita income, our estimates of the impact of individualism exclude the indirect effects of individualism on the taste for status acting through it the level of development. Second, estimates regarding the standard of living hypothesis may reflect reverse causation. In particular, a taste for status may increase economic development, either through its impact on labor supply (Pérez-Asenjo 2011) or by impacting the rate of innovation (Gorodnichenko and Roland 2010).

## 7 Conclusion

This paper provides the first systematic investigation of international variation in the taste for status. We utilize data from broad sample of nearly 60 countries and propose a novel measure of the taste for status, based on the marginal rate of substitution of relative for absolute income. Our analysis is organized around two hypotheses, the *cultural foundations hypothesis*, which holds that one's preferences for status depend on persistent societal and cultural values of one's upbringing, and the *standard of living hypothesis*, which states that the taste for status rises in the level of economic development. Using life satisfaction as a proxy for individual utility, we find empirical support both of these hypotheses. Specifically, we find that the taste for status is greater in countries that are individualist, egalitarian and more developed. In addition, we find that the association between the taste for status and individualism and per capita income is robust when both hypotheses are considered simultaneously. Finally, we find while the taste for status varies significantly across countries, it is both positive and finite for the majority of the countries in our sample. Broadly speaking, our findings suggest that the taste for status has two components, a relatively fixed component linked to persistent cultural values and more flexible component linked to a country's level of economic development.

These findings have several important implications. First, significant variation in the taste for status across countries raises the possibility that this variation is related to differences in important economic and policy outcomes. Second, the positive relationships between the taste for status and individualism and egalitarianism may foster a reevaluation of how these cultural values are understood. In particular, individualism is not the same as egoism, and egalitarianism does not appear to be a preference for equal income levels. The relationship between egalitarianism and the taste for status also suggests gains to the investigation of non-income-based measures of social status. Finally, the relationship between the taste for status and individualism provides at least one model of what an "individualist" utility function looks like: relative to a collectivist utility function, it places a lower weight on absolute income and a greater weight on relative income. Thus our findings provide the first available evidence on which to build empirically grounded models of individualist and collectivist societies.

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