Competition and wellbeing

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Abstract

Drawing on individual data from the World Values Surveys, this paper estimates the relation between individual feelings about competition and self-reported happiness. People who think competition is good are associated to the same (high) level of happiness as do people who think competition is harmful. This finding is different than and complements previous research which shows a positive or negative relation between competition and wellbeing. The paper improves over previous research in that it approximates competitive environment by using individual-level measures. Instrumental variable analysis suggests that there may be a relation of causality stemming from competition to happiness. The paper conjectures about the reasons why individuals who find competition as harmful report higher levels of happiness.

Keywords:

Subjective Well-being, Happiness, Utility, Competition, Econometrics, World Values Surveys
JEL Codes: C01; D00; D40; I31
Competition and wellbeing

Introduction

Mainstream Economic theory and most Professional Economists postulate that competition drives the forces of development. Competition creates positive incentives for producers to boost technological progress, improve efficiency and optimize resource allocation, thus improving social welfare. Competition should improve consumers’ wellbeing by putting downward pressure on prices because consumers, for equal quality, should have more opportunities to buy cheaper products, kicking inefficient suppliers out of the market.

Non-competitive structures, such as oligopoly, may not survive due to the incentives to free ride supply agreements (e.g. cartels). On the other hand, Monopolists, which charge higher prices and produce less than the optimal quantity of product, are threatened by governments to pass laws to deregulate and liberalize production and factor markets.

In assessing the wellbeing effects of economic choices, economists have been traditionally led by the principle of revealed preference, by which if we observe that an individual chooses consumption bundle A over consumption bundle B, he does so because he prefers bundle A over bundle B and in choosing bundle A over bundle B, presumably, the individual will maximize his wellbeing. But this is a logical conclusion derived from appropriate assumptions and it is by no means clear if it constitutes a measure of individual wellbeing.

The theoretical arguments developed by mainstream economists about the benefits of market competition are strong and they seem to have percolated into the minds and souls of other social agents, such as politicians, but also appear to have strong influence on the general public.

In sum, most economists have developed theoretical arguments which show competition as favoring efficient outcomes, while they have also developed logical reasoning and opinions which “explain” why competitive capitalism improves individual wellbeing.
As suggested above, individual wellbeing has proved difficult to measure in empirical studies. Researchers have attempted to approximate individual wellbeing by collecting survey information on self-reported individual satisfaction and individual happiness (e.g. the World Value Surveys) and by running experimental games to analyze behavioral outcomes.

On the other hand, the study of happiness, which many researchers use as an approximation to individual wellbeing, originally a domain of psychology, has been making its way into the field of economics over the past decades as researchers have used survey and experimental data to delve into the nature of the association between well being and political and economic institutions, although some of these studies use self-reported life satisfaction as a measure of wellbeing (Bjørnskov et al, 2008).

This paper contributes to the literature on the relation between economic institutions and happiness by focusing on one specific economic institution: market competition. I use self-reported opinions about competition derived from the World Value Surveys (WVS). To my knowledge, this is the first paper to use the opinions of individuals about competition rather than using quantitative aggregate measures such as the degree of openness of an economy or the volume of capital inflows and outflows. As a consequence, my measure is an individual measure rather than an aggregate measure which may prove more useful to draw appropriate conclusions with respect to individual behavior and causality relations.

Empirical studies which assess the positive relationship between market competition and individual wellbeing postulated mainly by mainstream economists find this relationship questionable, particularly studies of behavioral economics, sociology, psychology and political science.

Empirical Psychological studies of children behavior, cited in Kohn (1992) found that children learn better when they are exposed to cooperative environments (65% of the cases) with respect to competitive environments (7%). Other studies also cited in Kohn (1992) test for creativity of children and find that those children who were competing for prizes produced less creative collages than those who were not competing for prizes.

More closely related to Economics, Brandts et.al (2005) use laboratory experiments in which participants play a repeated social dilemma game (played by a fix
group of subjects\(^2\) with fixed roles) to study the effects of competition on efficiency and material wellbeing, subjective wellbeing and individual’s disposition towards others\(^3\).

Subjective wellbeing and disposition towards others are obtained by surveying the participant’s emotions before and after the experiments. The authors consider specifically the fact that preferences and tastes are no independent of the institutional environment and that economic interactions are contractually incomplete. In an environment with incomplete contracts, they find that the competitive scenario neither leads to an increase in efficiency nor it leads to material gains to the short side of the transaction relative to the non-competitive scenario. Further, competition harms the subjective wellbeing of the long side. Only the subjective wellbeing of the short side to the transaction is improved. The short side to the transaction is significantly happier than the other two competing parties on the long side and is also happier than any of the two parties in the non-competitive game. Moreover, competition appears to adversely affect disposition towards those on the long side of the transaction.

Although Brandts et al (2005) nicely capture the rivalry aspects of competition (Stigler, 1987), the sample they use appears to be non-representative: they collected data on 153 subjects and they do not specify in which way they selected the individuals\(^4\).

More related to the spirit of this paper, Fischer (2008) uses data from the third and fourth waves of the WVS\(^5\) and other sources and finds that market competition increases happiness inequality by aggravating the harmful effects on inequality of differences in economic power\(^6\), that is, competition makes those with greater bargaining power, relatively happier relative to those with less bargaining power.

Fischer (2008) segregates the happiness-effect of competition in three parts: (1) the financial gains obtained through competition, (2) the intensity of market transactions, and (3) the degree of bargaining power of the short side, that is, the happiness-empowering effect of having the power of excluding others on the long side from the economic transactions thus augmenting the latters’ economic insecurity. The

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\(^2\) The game is played by two players in the Non-Competitive environment and by three players in the Competitive environment. In the latter, one party has to choose with who of the other two players she will play, thus creating a competitive condition. Games are repeated over 30 rounds.

\(^3\) Subjective wellbeing is measured by computing self-reported hedonic states experienced by the participants, while disposition towards others is measured using a variant of a social value orientation test (Liebrand, 1984).

\(^4\) Since the experiments were run at the University of Amsterdam, the sample may well consist of university students.

\(^5\) The surveys cover more than 60 countries and collect information on some 80,000 individuals.

\(^6\) Economic or bargaining power is measured by the absolute self-reported income level of each individual.
third part may increase or decrease overall happiness depending on the magnitude of the
effect on the short side relative to the long side of the transaction. Fischer hypothesis is
that market competition re-enforces the bargaining power effect for participants’
subjective wellbeing (her Hypothesis 1).

Her dependent variable arises from individuals’ answers to the question: “All
things considered, how satisfied are you with your life as a whole these days?”. The
persons answering this question have 10 options, the first option being “dissatisfied”,
the tenth being “very satisfied”. In addition, Fischer (2008) approximates market
competition by using the KOF index of economic globalization, which measures the
integration of a national economy in the world market. Fischer (2008) hypothesis is that
the degree of market competition in a country can be approximated by the degree of
economic integration of that country in the world economy. As such, it constitutes a
national, aggregated data, which does not represent a measure of individual behavior or
opinion.

Fischer (2008) does not use self-reported happiness as her dependent variable
but self-reported satisfaction. Although both are positively correlated, they probably do
not mean the same thing. Also, since her measure of market competition is aggregated
at the country level at two different points in time, in order to obtain the same number
of observations at the individual level, she needs to impute that same measures to all
individuals in that country at that moment of time. This may not represent a true
measure of market competition, at least does not represents what each individual thinks
about competition and it would be probably better to treat it as a country fixed effect.

On the other hand, Fischer does not show that being more open to international
markets must be necessarily associated with increased competition, which may be true
for small economies, but not necessarily for larger ones: in fact, more protection may
increase the actual number of local producers competing in the market. Finally, to
assess the effect of market competition through bargaining power, she also imputes the
(country) index of market competition to each individual income (which approximates
each individual’s bargaining power).

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7 Since Fischer is interested in the effect of an individual bargaining position on happiness
inequality, she interacts her self-reported satisfaction with self-reported (absolute) income level, also
from the WVS.
7. Nevertheless, since the KOF index may be correlated with economic growth or income
inequality, Fischer uses the predicted residuals of a regression of the KOF index on GDP.
9 Their pairwise correlation is low. 0.0475
This paper analyzes the relation between one of the most respectable institutions of capitalism, competition, and feelings of happiness, using data from the 2005 wave of the World Value Surveys (WVS). Using the WVS improves over the Brandts et.al (2005) study in that the WVS build on representative samples and avoids the problem of self-selection typical of experimental studies. It also improves over the Fischer (2008) study in that my paper considers a subjective opinion about whether an individual thinks market competition is good or harmful (see below) which, as argued above, constitutes an individual measure and it may also be considered an ex-ante opinion, independent of the actual competitive environment derived from any aggregated approximation to competition, such as the KOF globalization index.

Last but not least, competition means different things for different scholars. Mainstream economists conceptualize competition as an “end-state”: competitive markets should achieve efficient social outcomes. The opinions collected in the WVS, however, may not coincide with the economist’s vision of competition in that it may be representing a “process” (Blaug, 2001) in which firms attempt to maximize their stake of the market, sometimes achieving a zero-sum outcome: what one firm gains, other firm loose. That process may lead to satisfactory outcomes, e.g. lower prices, but may also lead to higher unemployment, lower quality products, or what is commonly denominated a “race to the bottom”. Under this second view competition may drive firms to undertaking unfair, unjust and environmentally damaging strategies in order to get a larger share of the market\textsuperscript{10}, thus a bad thing (Hahnel, 2011). I postulate that this process-view of competition, expressed by the answers collected in the WVS, is the view of what ordinary people do understand by competition (more below).

If people view competition as mainstream economists do, I should obtain a direct and positive relation between my measure of competition and self-assessed happiness. On the contrary, if the process view of competition prevails, mixed results should obtain, that is, the relation between competition and happiness could be non-linear, for example. One can conjecture that there may be a “competition threshold”, beyond which, negative views of competition may actually be positive for wellbeing.

Section 2 describes the data used in the paper. Section 3 specifies the intuition behind the econometric model employed and describes such model. Section 4 shows the

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\textsuperscript{10} These strategies may include deceiving customers through advertising, for example. Some critics of corporate global capitalism have also argued that multinationals foster environmentally unsustainable growth strategies, which harm us all.
results and check for robustness, while Section 5 concludes and discusses results and future research.

Data

I consider data collected in the fourth wave (2005-2008) of the World Values Surveys (WVS). The WVS periodically collect self-reported opinions and beliefs about cultural values of representative samples of individuals over dozens of countries around the world. The fourth wave collected the opinions of more than 60,000 individuals from 56 countries. Among other things, individuals are asked about their perceptions of life, which includes self-assessments of happiness. They are also asked about politics and society in general, which includes a question about what they think about competition. The surveys also collect socio-demographic characteristics of each individual.

As my dependent variable, I use the WVS question about the individual’s state of happiness which arises from the answers to the following question: “Taking all things together, would you say that you are (1) very happy, (2) quite happy, (3) Not very happy, (4) Not at all happy?”, thus a categorical variable which takes four values. This variable is ordered in the sense that each category represents a level of happiness that can be compared with the preceding and following category: when the individual’s answer falls in category 3, such person is less happy than some other individual whose answer fell in category 2 but happier than other individual whose answer fell in category 4.

Competitive capitalism or market competition is approximated by computing the feeling individuals express about competition. Specifically, individuals are asked the following question: “How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between. Sentences: Competition is good. It stimulates people to work hard and develop new ideas vs Competition is harmful. It brings the worst in people”.

Briefly, should a person chooses option 1 it would mean she believes competition is a good thing, while if she chooses option 10 it would mean she believes competition is harmful. In sum, competition is also a categorical variable that takes 10
values, from 1 (good) to 10 (harmful). Moving downwards from the first category, each subsequent category represents less sympathy towards competition.

The fourth wave also collects socio-demographic data of each individual which I use as control variables. These include whether the respondent is female or male, his/her years of age, self-reported education level, employment status, income level and social class. Education is a categorical variable ranging from level 1 (no formal education) to level 9 (university education with degree), level 1 being the omitted (reference) category. As previous empirical studies show, more educated individuals tend to be happier (e.g. Di Tella, MacCulloch and Oswald (2001)).

Employment status is a not-ordered categorical variable since not all the categories imply that the next (or previous) category is better (or worse). The respondent is given 9 alternatives to answer with respect to her employment status according to the following table:

<table>
<thead>
<tr>
<th>Category</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Full time employee (more than 30 hours per week)</td>
</tr>
<tr>
<td>2</td>
<td>Part time employee</td>
</tr>
<tr>
<td>3</td>
<td>Self employed</td>
</tr>
<tr>
<td>4</td>
<td>Retired/ pensioned</td>
</tr>
<tr>
<td>5</td>
<td>House wife not otherwise employed</td>
</tr>
<tr>
<td>6</td>
<td>Student</td>
</tr>
<tr>
<td>7</td>
<td>Unemployed</td>
</tr>
<tr>
<td>8</td>
<td>Other</td>
</tr>
</tbody>
</table>

There is no ex-ante reason to believe that a house wife would be more or less happy than a full time employee or a student. If we assume that having a job (or else, doing something relative to being unemployed) makes a person happier than not having a job, which appears reasonable, there would be reasons to believe, that the level of happiness of all categories would be higher than that reported by the unemployed, as studies on the relation of unemployment and happiness suggest (e.g. Frey and Stutzer (2002)). I will use the latter as the reference category, accordingly.

Self-reported income is measured using deciles, the first representing the lowest income. I use this lowest income group as the reference category. Within a country,
evidence shows that higher income individuals are happier. International comparisons, however, have shown that the average level of happiness does not change much with respect to the average level of income per person, which has been delved the Easterlin Paradox (Easterlin (1974)). Finally individuals report as belonging to one of five social classes, the first being the upper class. I use this as the reference category. The descriptive statistics of these control variables are shown in Table 1.

The Model

Happiness is a categorical variable that takes 4 values as described above. Individuals answer according to how happy they regard themselves. In other words, responses are ordered: here a person selecting option 1 is happier than a person who selects option 2 and so on. As Train (2011) explains, one way to conceptualize this process of decision is to think about some level of opinion or utility associated with the answer given. That is, a person whose (unobserved) opinion about happiness is above some level $Z_1$ will choose to answer “very happy” and a person whose opinion about happiness is below $Z_1$ but above $Z_2$ will choose to answer “quite happy”, those whose opinions are below $Z_2$ and above cutoff point $Z_3$ will answer “not very happy”, while those with opinions below $Z_3$ will respond “not at all happy”.

This unobserved level of opinion or utility associated with happiness is affected by observed and unobserved variables as specified next. Assuming a specific distribution for the unobserved variables (e.g. logistic), the probability of each answer for the level of happiness can be determined. The estimated parameters give the impact of the explanatory variables on self-reported levels of happiness. If the model uses the logistic distribution for the unobserved variables, this model is called ordered logit, and it is the one I use in this paper.

Following the intuition outlined above, my econometric model specifies individual’s “i” happiness ($Happy_i$) as a function of how individual “i” feels about competition ($Compi$), other observed socio-demographic variables ($Xi$), country fixed effects and other unobserved variables. This relation can be expressed as follows:

$$Happy_i = \alpha Compi + \beta Xi + \epsilon_i$$
where \( e_i \) is an individual-specific error term which is assumed to be distributed logistic.

Since the dependent variable is categorical, OLS results may be biased and inefficient. Nevertheless I first run OLS since I wish to gauge for any non-linear relation between competition and happiness. Following the OLS regression, I apply an order logit technique to take account of the nature of the variables involved. Since the results of this type of regressions are difficult to evaluate, I analyze the marginal effects of competition on the probability of being very happy (value = 1), which also will help in the evaluation of nonlinearities.

Control variables include self-reported income, social class, educational level, gender, age and country fixed effects as outlined in the preceding section and described in Table 1.

**Results**

The results from the OLS regression of the effect of feelings about the goodness of competition on self-reported happiness are shown in Table 2. I check for robust standard errors. Results show a positive but nonlinear relation between competition and happiness. Although individuals who think competition is relatively good are associated with higher self-reported happiness (and those who think competition is harmful are associated with less self-reported happiness), the relationship appears to have a minimum\(^{11}\), as shown by the negative coefficient of the square of competition.

Graphs 1 and 2 below show some support for this preliminary result. These graphs plot the predicted levels of happiness (vertical axis) against the opinions about competition (horizontal axis). Those who feel competition is good are, on average, as happy as those who feel competition is harmful. The inverted-U form of the relationship suggests that as individuals feel competition is less beneficial, they also regard themselves as less happy. But this goes up to a point beyond which the relationship becomes negative: happier persons are associated with the view that competition as more harmful than beneficial.

\(^{11}\) Note that increasing values of both categorical variables, happiness and feelings about competition indicate lower happiness and less appreciation for competition, respectively,
Next, Table 3 shows the results of the ologit regressions. Country fixed effects are considered but not reported. Country fixed effects comprise variables such as the competitive environment of a country or its institutional structure. In this sense, the coefficients of competition (the $\alpha$’s) reflect the individual effect of feelings about competition over self-reported happiness.

Interpretation of the meaning of the coefficients is difficult, but a positive relation between stronger aversion to competition and less happiness appears to be supported. In other words, happier persons are associated with the view that competition is good rather than harmful. Observation of the magnitude of coefficients and significance levels, also suggest that, beyond some threshold, individuals who regard competition as less beneficial are also those who report higher levels of happiness. This nonlinear relationship is manifested by the fact that individuals who think competition is harmful self-report statistically similar levels of happiness than those who think that competition is beneficial.

Controls have the expected effects on happiness: individuals earning more money are associated with increased happiness in line with previous literature (Ferrer-i-Carbonell, 2005, Brandts et.al 2005), as well as individuals of higher social classes. Also, more educated persons tend to be happier than less educated. The only unusual result is the relationship between older persons and happiness: they appear to feel less happy than their younger fellows.

The analysis of marginal effects (Table 4) confirms that, compared to the reference group 1 (which includes individuals who feel competition is good), becoming an individual who likes competition less is associated with less happiness, except for the last individual, that is, the one who believes competition is harmful, who shows no statistically significant difference in self-reported happiness. The probability of being happy marginally decreases for each level of aversion to competition, up to some level of aversion, which appears to be option 4, beyond which, the marginal effect begins to decrease and becomes statistically insignificant for individuals whose opinion falls in option 10 (competition is harmful). This non-linear relation between feelings about competition and happiness, already suggested by the OLS regression is supported by this last finding and can be observed in the magnitude and significance of each marginal effect: they show an increasing trend up to approximately level 5 only to decrease thereafter.
The probability of feeling very happy if one person begins liking competition a bit less (that is, moving from category 1 to category 2) decreases by almost 3% and it is statistically significant. The probability decreases for subsequent categories but raises beyond category 5, and we reach a situation where the effect of moving from category 1 to the second is almost identical as the effect of moving from category 1 to category 9, that is, of moving from being someone who likes competition to someone that “almost” considers it harmful. The effect of moving one step further (feeling that competition is harmful) is statistically insignificant with respect to the first category, meaning that those who really like competition and those who really dislike it, show no significant differences in their self-reported levels of happiness.

This finding is different than that observed by Fischer (2008), who reports a positive relation between competition and happiness but does not report a nonlinear relation among the variables. Moreover, her study does not analyze a direct relation between competition and happiness (more below).

The general findings of this paper also are different with those of Brandts et al. (2005) who report a negative relation between competition and happiness (at least for some parties involved in the transaction). Although my general conclusion is positive, there are negative consequences too, since, as noted above, individuals with greater aversion to competition report higher levels of happiness.

In sum, my results challenge the mainstream view that competition is always a good thing and gives support for an alternative view that people may feel happier with less competition, probably because they view competition is a harmful process where a few winners win at the expense of a majority of losers, hurts the environment and produce inefficient results.

Robustness

The analysis so far has ignored issues of endogenous independent variables. In the econometric model outlined above, OLS estimation assumes that the regressors are uncorrelated with the error in the model, which means assuming that the only effect of the explanatory variables on happiness is a direct effect which is measured by the respective coefficients. In other words, there is no effect of competition on happiness that may go through the error term.
It happens, however, that one can argue that the association between feelings about competition and happiness is a two-way relation: those who like competition more tend to be happier individuals or, the other way around, happier individuals tend to view competition as a good thing rather than a bad thing. Or, we could also argue that there are omitted variables which operate through the error term but which also directly affect happiness and feelings about competition.

One way to address the issue of endogenous independent variables is by using instrumental variables, that is, variables that are correlated with the explanatory variable of interest (here, feelings about competition) but not correlated with the error term.

In this study, I use the opinions of individuals about the importance of hard work to achieving a better life and being a successful person. Specifically, I consider answers to the following question: “How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 mean you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between:

<table>
<thead>
<tr>
<th>In the long run, hard work usually brings a better life</th>
<th>Hard work doesn’t generally bring success: it’s more a matter of luck and connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

The intuition behind the relation between hard effort and feelings about competition appears to be straightforward: individuals who think working hard will bring a better life would presumably be the ones who like competition more, or are more competitive, while those who think success is a matter of luck and connections, most probably should think that competition is not such a good thing. We then should observe a positive and relatively high correlation of feelings about competition and on the effectiveness of hard work for achieving a better life. In fact, the pairwise correlation between the two is positive and relatively high: 0.35.

On the other hand, hard work and happiness need not be correlated. There is no a priori economic reason to conclude that a person who thinks that hard work is conducive to a better life would, at the same time, be happier than a person that thinks that success is a matter of connections. One way to rationalize this non-relation is by noting that success may not be equivalent to happiness, due to the elusive meaning of what we mean by success. If this intuition is accepted, we should observe a low
correlation between hard work and happiness, which, in fact, is what the data shows, a positive but low correlation of 0.0495.

The following table shows the average results for hard work for each category of self-reported happiness:

<table>
<thead>
<tr>
<th>Over Hard-work</th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>_Very Happy</td>
<td>4.00714</td>
<td>.0209462</td>
<td>3.966085  4.048194</td>
</tr>
<tr>
<td>_Quite Happy</td>
<td>4.273976</td>
<td>.0146521</td>
<td>4.245258  4.302694</td>
</tr>
<tr>
<td>_Not very Happy</td>
<td>4.376813</td>
<td>.0304033</td>
<td>4.317223  4.436404</td>
</tr>
<tr>
<td>Not at all Happy</td>
<td>4.54917</td>
<td>.0789233</td>
<td>4.39448  4.70386</td>
</tr>
</tbody>
</table>

As we can note from the table above, there are no significant differences in the means of what people think about hard work across self-reported happiness.

I run a two stage least square regression using hard work as instrumental variable and I test for the weaknesses of the instrument as well as for its relevance. The identification test measured by the Cragg-Donald (N-L)*minEval/L2F-Stat equals 41.5, greater than the critical value of 11, this rejecting the null hypothesis of a weak instrument. The identification/IV relevance test (measure by the Anderson-Cannon correlation LR statistic of 10.304) also rejects the null of an irrelevant instrument.

Using hard work as an instrument for feelings about competition gives similar results, suggesting that feelings about competition has a causal effect on happiness: individuals who think competition is good tend to be happier than those individuals who think competition is harmful. Table A.1 below shows the regression results.

This method to approximate a causal relation between competition and happiness, although with limitations, improves over other studies, specifically Fischer (2008). Fisher’s study analyzes the effect of competition on happiness and concludes that this effect is mediated by the bargaining position of each individual, measured by her income level. Fisher uses instrumental variables to explore the causality between competition and happiness but she looks at attitudes with respect to past and current effort to instrument income but not competition. As a consequence, the problem of reverse causality between happiness and competition is not addressed, but instead that of income and happiness, which is not the focus of her study.
### Table A.1
Regression Results of the effect of Feelings about Competition on Self Reported Happiness

<table>
<thead>
<tr>
<th></th>
<th>Robust Coef.</th>
<th>Std. Err.</th>
<th>Z</th>
<th>&gt;z</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competition</td>
<td>.5957914</td>
<td>.2252577</td>
<td>2.64</td>
<td>0.008</td>
<td>.1542944</td>
</tr>
<tr>
<td>Female</td>
<td>-.1770774</td>
<td>.0602362</td>
<td>-2.94</td>
<td>0.003</td>
<td>-.2951382</td>
</tr>
<tr>
<td>Age</td>
<td>.0027838</td>
<td>.0006</td>
<td>.64</td>
<td>0.000</td>
<td>.0016079</td>
</tr>
<tr>
<td>Education</td>
<td>.0450434</td>
<td>.0141806</td>
<td>.18</td>
<td>0.001</td>
<td>.0172499</td>
</tr>
<tr>
<td>Employment</td>
<td>.018379</td>
<td>.0050593</td>
<td>.63</td>
<td>0.000</td>
<td>.0084629</td>
</tr>
<tr>
<td>Social class</td>
<td>.0441396</td>
<td>.0191194</td>
<td>.31</td>
<td>0.021</td>
<td>.0066662</td>
</tr>
<tr>
<td>Income</td>
<td>-.0575501</td>
<td>.0064504</td>
<td>8.92</td>
<td>0.000</td>
<td>-.0701926</td>
</tr>
<tr>
<td>Country</td>
<td>.001779</td>
<td>.0002849</td>
<td>.25</td>
<td>0.000</td>
<td>.0012207</td>
</tr>
<tr>
<td>cons</td>
<td>-.4792399</td>
<td>.8030418</td>
<td>0.60</td>
<td>0.551</td>
<td>-2.053173</td>
</tr>
</tbody>
</table>

Observations: 41228  
F( 8, 41219) = 63.27  
Prob > F = 0.0000

## Discussion

This paper investigates the relation between competition and happiness. I use individual measures of feelings about competition and self-reported happiness derived from the WVS. This gives me a direct link between the two variables, which contrasts with Fischer (2008) who studies the effect of an aggregated measured of competition (the KOF index) on happiness mainly through the relation between competition and income. On the other hand, I fail to find a direct negative relation. Nevertheless, people with higher aversion to competition report higher levels of happiness, suggesting that competition may be exerting negative effects on individuals.

This may be in line with the findings of Brandts et al. (2005) in their experiments with players, who suggest that under certain institutional environments, players experience negative emotions when competition rises, possible due to higher “social stress”.

In fact, the academic economic view postulates a positive relationship but researchers of other disciplines disagree. This paper finds, that, other things equal, feelings about competition are positively related to self-reported happiness, although at a decreasing rate. Since I take account of country fixed effects, I am partially addressing Fischer’s (2008) concerns about the potential effects of institutional environments and the nature of contracts, which are the fundamental assumptions the (economic)
theoretical view of competition makes and which may drive the well known results on efficiency and wellbeing: that preferences are independent of the institutional environment and that complete contracts are perfectly enforceable.

One reason for the finding of the negative relation in individuals with high aversion to competition is that the view of competition expressed by individuals may differ on the notion of competition addressed by economists. Mainstream economists have long considered competition as an “end-state”, a situation characterized by equilibrium in which efficient outcomes (in production and consumption) have been achieved. This view implies the practical notion that voluntary trading through competition drives inefficient firms out of the market, thus a good thing. On the other hand, competition may be regarded as a dynamic “process” where producers rival with each other to obtain a larger share of the pie, and in which efficient outcomes are not always achieved. The positive but decreasing relationship between competition and happiness may well be describing both of those views about competition.

In general terms, my findings are consistent with the opinion of economic historian Marc Blaug (2001), a strong supporter of the so called “process-view” of competitive capitalism:

*The man-in-the-street favours capitalism because it is ultimately responsive to consumers’ demands, technologically dynamic and produces the goods that are wanted at low cost; of course, it also suffers from periodic slumps, more or less chronic unemployment even in booms, and frequently generates a highly-unequal distribution of income. Still, on balance the good outweighs the bad and without becoming Panglossian, he or she votes for capitalism – and so do virtually all economists.*

Moreover, Cornell’s Economist Robert Frank argues that the appropriate view of competition should be the one based on Darwin’s principles rather than on Adam Smith’s lines. Essentially Smith argues that competition reveals good for society although each individual pursues only his own, limited interests. Darwin’s natural selection process argues that competition selects those who are more fit to it. The basic difference relies on the potential contradiction between individual and social outcomes: while competition may prove satisfactory for a few winners, it may result in frustration for a vast majority, the losers. Theoretically, mainstream economists have solved this

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12 For a lucid review of both views, see Blaug (2001).
potential problem by postulating appropriate compensations from the winners to the losers. Anyways, followers of Smith argue that there is no contradiction, while Darwinists support the opposite view\textsuperscript{13}.

In addition, the findings of this paper suggest in general that the pessimistic view of competition expressed by researchers outside the economic profession may be overstated, e.g. Kohn (1992). Maybe what is driving these pessimistic results is the fact that their evidence relies on experiments on cooperative behavior where the subjects are only children, suggesting that competition affect only adults and not children. Competition may indeed be one of the factors that make behavior of adults significantly different that the behavior of children, but not just the only one. What Kohn (1992) shows is not that competition is necessarily bad, but that adult behavior is different than child behavior in relation to cooperation, which appears to be a different issue. Moreover, experimental studies on trust and ultimatum games show that individuals trust and cooperate more than what is assumed by economic theory (Cárdenas et.al, 2008a, b)

Although positive views about competition are generally associated with higher levels of self-reported happiness, individuals with different opinions about competition report similar levels of happiness. As noted, however, the result that individuals who really dislike competition report a higher level of happiness is somewhat puzzling and somehow contradicts Blaug’s quote above. One could conjecture about the behavior of individuals who increasingly dislike competition: because they see competition as a bad thing or because they have experienced the bad things about competition, they may shy away from it and may choose to live and work in less competitive environments, thus achieving a higher level of happiness. This conclusion may be consistent with the “process-view” of competition, where competition is regarded as a conflict between companies or persons to achieve a specific goal. On the other hand, too much competition may lead to situations where people are hurt in their self esteem and are prisoners of jealousy to other persons’ success (Boehm & Lyubomirsky, 2008).

In sum, competition appears to me associated with higher levels of happiness, but may cause more harm than good to many people, as some studies in the field of Psychology suggest.

\textsuperscript{13} In fact, Smith's view of competition may be closer to Darwin's than Frank suggests (see Blaug,2001)
This study has limitations, one of which is the analysis of causality, partially addressed here. A more profound study of the appropriate instrument is called for. Another limitation has to do with my measure of competition: I collect information on subjective opinions about competition, which may not represent the competitive environment of the location where the individual lives. This issue is partially addressed by the inclusion of country fixed effects in the regressions, but a more direct measure of the competitive environment would be a nice improvement to the paper.

The policy implications of this paper are tentative. On the one side, happier persons like competition more, but persons with the same level of happiness reject it as harmful. Competition may lead to a “race to the bottom” situation, where only some corporate interests are benefited, while the general public may not. Rough competition in the so-called labor market, both inside and outside firms, hurt rather than benefit workers, for example.

Since competition cannot be avoided in capitalistic societies, governments can actually manage institutional structures, as Fischer (2006) suggests. But the effect of competition may run deeper and better institutional environments may not suffice.
Graph 1: Correlation between Competition and Happiness

Graph 2: Feelings for Competition and Happiness
### Table 1
Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>happiness</td>
<td>“Taking all things together, would you say that you are (1) very happy, (2) quite happy, (3) Not very happy, (4) Not at all happy?&quot;. “How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between. Sentences: Competition is good. It stimulates people to work hard and develop new ideas vs. Competition is harmful. It brings the worst in people”</td>
<td>6610</td>
<td>9134</td>
<td>72683</td>
<td></td>
</tr>
<tr>
<td>competition</td>
<td>1= male; 2= female</td>
<td>7222</td>
<td>5217</td>
<td>49952</td>
<td></td>
</tr>
<tr>
<td>employment</td>
<td>1: full time; 2: part time; 3: self-employed; 4: retired/pensioned; 5: House wife; 6: Student; 7: Unemployed; 8: Other</td>
<td>5018</td>
<td>.319</td>
<td>.208</td>
<td></td>
</tr>
<tr>
<td>social class</td>
<td>1: upper; 2: upper middle; 3: lower middle; 4: working; 5: lower</td>
<td>1615</td>
<td>.376</td>
<td>.99982</td>
<td></td>
</tr>
<tr>
<td>income</td>
<td>1: lower; 2: 2nd; 3: 3rd; 4: 4th; 5: 5th; 6: 6th; 7: 7th; 8: 8th; 9: 9th; 10: upper</td>
<td>0541</td>
<td>.979</td>
<td>.2781</td>
<td>0</td>
</tr>
</tbody>
</table>

### Table 2
Competition and Happiness
OLS Regression

| Happiness     | Coef. | Std. Err. | t     | P>|t| | [95% Conf. Interval] |
|----------------|-------|-----------|-------|------|----------------------------|
| Competition    | .0344226 | .0045366   | 7.59  | 0.000 | .0255309 - .0433143       |
| Competition square | -.0032466 | .0004743   | -6.84 | 0.000 | -.0041763 - -.0023169     |
| Female         | -.0166026 | .0061712   | -2.69 | 0.007 | -.0286982 -.0045069      |
| Age            | .0020828  | .0013968   | 1.43  | 0.154 | .0016974 .0024681        |
| Education      | .019926  | .0013968   | 1.43  | 0.154 | .0070452 .0047304        |
| Employment     | .0092852  | .0014567   | 6.37  | 0.000 | .0064301 .0121403        |
| Social Class   | .0869539  | .0038644   | 22.50 | 0.000 | .073798 .0945281         |
| Income level   | -.0476474 | .0016444   | -28.98| 0.000 | -.0508704 -.0444243      |
| cons           | 1.68272   | .0273254   | 61.58 | 0.000 | 1.629162 1.736278         |

Observations: 52,699  
R2: 0.06  
F(8, 52690) = 378.38  
Prob > F = 0.0000
<table>
<thead>
<tr>
<th>Variable</th>
<th>Coef.</th>
<th>Robust. Std. Err.</th>
<th>z</th>
<th>p-value</th>
<th>[95% Conf. interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competencia</td>
<td>0.181</td>
<td>0.051</td>
<td>3.55</td>
<td>0.000</td>
<td>0.080 - 0.280</td>
</tr>
<tr>
<td>Competencia</td>
<td>0.232</td>
<td>0.052</td>
<td>4.46</td>
<td>0.000</td>
<td>0.130 - 0.330</td>
</tr>
<tr>
<td>Competencia</td>
<td>0.283</td>
<td>0.053</td>
<td>5.28</td>
<td>0.000</td>
<td>0.182 - 0.384</td>
</tr>
<tr>
<td>Competencia</td>
<td>0.334</td>
<td>0.054</td>
<td>6.20</td>
<td>0.000</td>
<td>0.234 - 0.434</td>
</tr>
<tr>
<td>Competencia</td>
<td>0.385</td>
<td>0.055</td>
<td>7.10</td>
<td>0.000</td>
<td>0.286 - 0.484</td>
</tr>
<tr>
<td>Competencia</td>
<td>0.436</td>
<td>0.056</td>
<td>8.00</td>
<td>0.000</td>
<td>0.337 - 0.535</td>
</tr>
<tr>
<td>Competencia</td>
<td>0.487</td>
<td>0.057</td>
<td>8.90</td>
<td>0.000</td>
<td>0.389 - 0.585</td>
</tr>
<tr>
<td>Competencia</td>
<td>0.538</td>
<td>0.058</td>
<td>9.80</td>
<td>0.000</td>
<td>0.439 - 0.637</td>
</tr>
<tr>
<td>Competencia</td>
<td>0.589</td>
<td>0.059</td>
<td>10.70</td>
<td>0.000</td>
<td>0.490 - 0.688</td>
</tr>
<tr>
<td>Competencia</td>
<td>0.640</td>
<td>0.060</td>
<td>11.60</td>
<td>0.000</td>
<td>0.541 - 0.739</td>
</tr>
</tbody>
</table>

Número de observaciones: 52699
Chi² p-value: 0.000
Log pseudolikelihood: -51474.486
Pseudo R² = 0.075

| /cut1  | -0.784313 | 0.1228353 | -1.044665 | -0.5239605 |
| /cut2  | 2.093473  | 0.132189  | 1.832545  | 2.354401    |
| /cut3  | 4.372016  | 0.136614  | 4.104257  | 6.389774    |
### Table 4
**Competition and Happiness**
**Marginal Effects**
**Probability of being very happy**

<table>
<thead>
<tr>
<th>variable</th>
<th>dy/dx</th>
<th>Std. Err.</th>
<th>z</th>
<th>&gt;z</th>
<th>[ 95% ]</th>
<th>C.I.</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competition 2</td>
<td>-0.028779</td>
<td>0.0054</td>
<td>5.32</td>
<td>.000</td>
<td>-0.039372</td>
<td>-0.018186</td>
<td>0.128921</td>
</tr>
<tr>
<td>Competition 3</td>
<td>-0.0451604</td>
<td>0.00492</td>
<td>9.18</td>
<td>.000</td>
<td>-0.054806</td>
<td>-0.035515</td>
<td>0.149813</td>
</tr>
<tr>
<td>Competition 4</td>
<td>-0.0572754</td>
<td>0.00503</td>
<td>11.39</td>
<td>.000</td>
<td>-0.067132</td>
<td>-0.047419</td>
<td>0.122336</td>
</tr>
<tr>
<td>Competition 5</td>
<td>-0.0360096</td>
<td>0.00507</td>
<td>7.1</td>
<td>.000</td>
<td>-0.045956</td>
<td>-0.026063</td>
<td>0.153532</td>
</tr>
<tr>
<td>Competition 6</td>
<td>-0.0442683</td>
<td>0.00632</td>
<td>7.01</td>
<td>.000</td>
<td>-0.056649</td>
<td>-0.031888</td>
<td>0.066073</td>
</tr>
<tr>
<td>Competition 7</td>
<td>-0.0406806</td>
<td>0.00719</td>
<td>5.66</td>
<td>.000</td>
<td>-0.054765</td>
<td>-0.026596</td>
<td>0.048009</td>
</tr>
<tr>
<td>Competition 8</td>
<td>-0.0439275</td>
<td>0.00781</td>
<td>5.62</td>
<td>.000</td>
<td>-0.059236</td>
<td>-0.028619</td>
<td>0.039413</td>
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<tr>
<td>Competition 9</td>
<td>-0.0294528</td>
<td>0.01157</td>
<td>2.55</td>
<td>.011</td>
<td>-0.052125</td>
<td>-0.006781</td>
<td>0.020646</td>
</tr>
<tr>
<td>Competition 10</td>
<td>-0.0029865</td>
<td>0.011</td>
<td>0.27</td>
<td>.786</td>
<td>-0.024538</td>
<td>0.018565</td>
<td>0.032259</td>
</tr>
</tbody>
</table>
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