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Perceived Happiness and Economic Development : Easterlin Paradox in Latin American Case

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Abstract.

The aim of this study is to explore the link between subjective wellbeing and economic development. Our theoretical framework builds on the well mentioned Easterlin Paradox which suggests that there is no link between life satisfaction and economic growth. Using data from World Values Survey and World Bank we ran a number of econometric regressions. Our results showed that there is positive link between income and happiness across the globe, while for Latin America economic development is not a predictor of life satisfaction

Keywords: Income; Happiness; Life Satisfaction; Latin America; China.

Introduction

In his well cited paper 'Does economic growth improve the human lot?', Easterlin (1974) attempted to explore the link between economic growth and happiness. However, his research findings grounded on the survey data with happiness scores, have found that there is no meaningful link. While the correlation between income and happiness was strong and positive across individuals, the cross national correlation was weak and insignificant. Moreover, he documented that there was no increase in the life satisfaction in the USA from 1944 to 1970, while economic performance at this period was brisk. This was later coined into Easterlin paradox and created a foundation for happiness economics. According to Google Scholar there are more than 4500 papers that mention this phenomena and largest share of these studies attempts to explain this phenomenon.

Indeed, there is ample research papers that explore the relationship between economic development and subjective wellbeing. For example, Easterlin and Angelescu (2009) explored the relationship between happiness and GDP per capita on a sample of three groups of nations. The authors separately explored this association for 17 developed, 9 developing, and 11 transition economies. Their results have shown no meaningful link between economic development and happiness.

Kenny (1999) explored the direction of causality between happiness and economic growth. The study proxied economic growth with GNP per capita and happiness variable from Veenhoven dataset. The empirical exercise in this study shows that economic growth is causal to happiness.

In a different study, Clark et al. (2016) explored the link between economic growth and life satisfaction using data from 1981 to 2008. The dataset covered 70 countries and nearly 200,000 individuals. The study reports that GDP per capita losses its significance once the authors control for quality of health, corruption levels, trust and religious diversity. On the other hand, higher income inequality has positive effect on happiness inequality. Thus, the authors report that more equal distribution of income evens out life satisfaction.

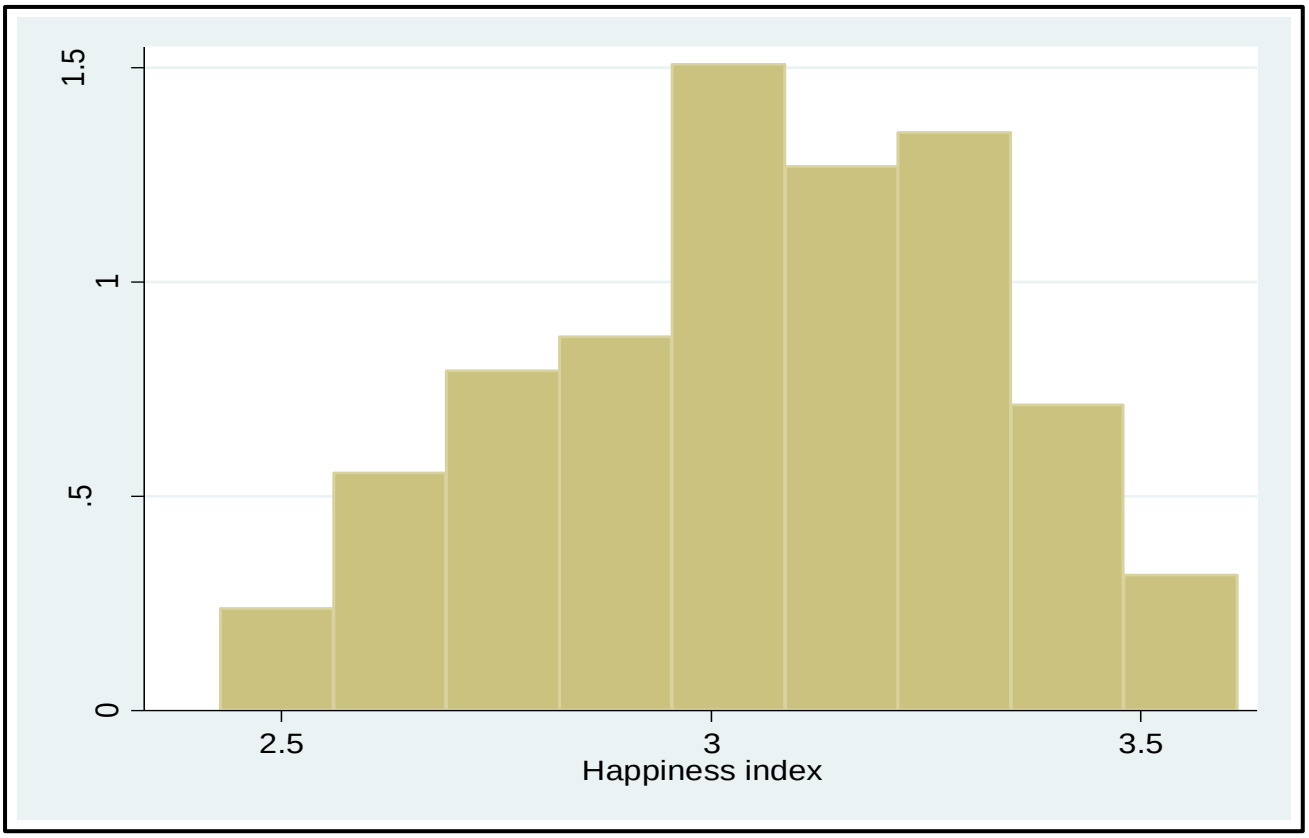
Wu & Li (2017) explore the link between economic growth, income inequality and subjective wellbeing in China. Using, Chinese General Social Survey (CGSS) data, the authors find that at the prefectural level, economic growth has positive effect on life satisfaction, while income inequality reduces life satisfaction.

In this study we attempt to explore the link between economic development and life satisfaction across the nations with the focus on Latin America. For this purpose, we use life satisfaction index from World Values Survey and GDP per capita from World Bank. Our econometric results showed that economic development across the world has positive link with subjective wellbeing. However, the evidence for Latin America revealed that GDP per capita is insignificant predictor of life satisfaction. Moreover, the bivariate correlation was negative.

Data

The dependent variable in this study is happiness index from World Values Survey. The index was measured from the data related to the question V10 'Taking all things together, would you say you are (read out and code one answer): 1 Very happy 2 Rather happy 3 Not very happy 4 Not at all happy'. To estimate national happiness index, we averaged the data at a country level and **rescaled the index so higher values indicate greater levels of happiness**. In our sample the happiness index ranges from 2.4 in Albania to 3.6 in Uzbekistan. The average international level of happiness is 3.06 which is nearly equal to the levels of Poland.

Fig 1: Histogram of the Happiness Index

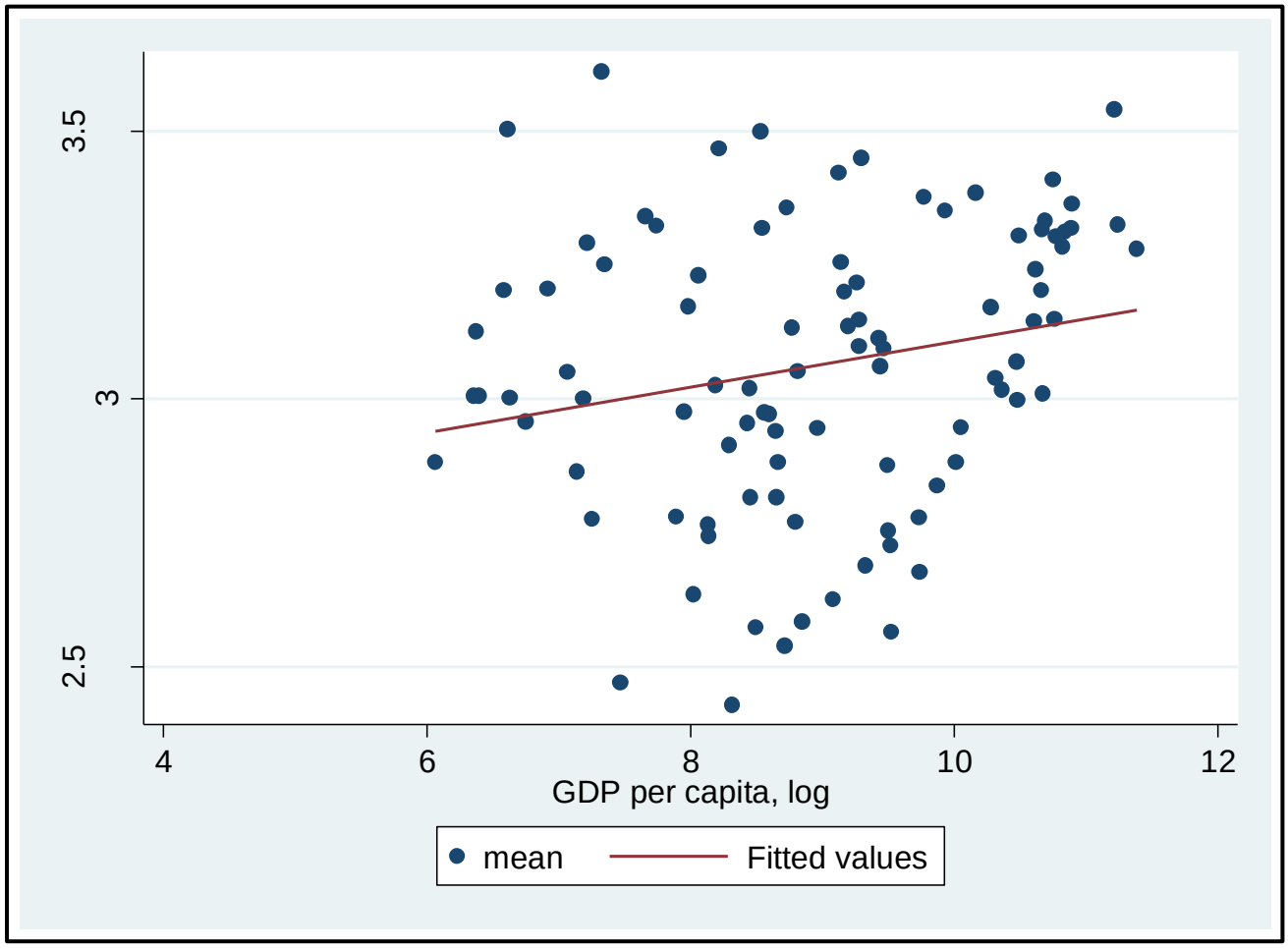


Source: WVS

Independent Variable

The main independent variable is economic development, measured by GDP per capita. This variable was taken from World Bank. GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars. To exclude the effects of macroeconomic volatility we averaged the data from 2006 to 2016. In our sample the GDP per capita ranges from 243 in Burundi to 159508 in Lichtenstein. Figure 2 presents the visual association between GDP per capita (log) and happiness index. The scatterplot suggests positive link between economic development and happiness.

Figure 2: Happiness Vs. GDP Per Capita



Source: WVS and World Bank

Control Variables

Our first control variable is a binary variable for Latin America countries. In our sample there are 22 Latin American countries. As Loayza et al. (2004) suggest that Latin America has experienced periods of large drops in GDP growth and recoveries in 1990's. Moreover, Gruss (2014 p. 3) reported that 'average output growth [in Latin America] fell from 4.6 percent in 2011, to 3.1 percent in 2012 and 2.7 percent in 2013. Some observers claim that the recent economic slowdown across the region is primarily linked to the end of the upswing in commodity prices, raising obvious concerns for the future.'

We also controlled for the level of democracy. For example, Owen et al. (2008) utilized individual data for subjective wellbeing from 46 nations. The authors ran a number of probit models controlling for a large set of variables. The results imply that democracy has positive link with life satisfaction. In a different study, Keane et al. (2012) showed that democracy strengthen the effect of labor union membership on life satisfaction. Dorn et al. (2008) revisits the relationship between democracy and life satisfaction using Swiss Household Panel data. The authors surprisingly found that the effect of democracy on life satisfaction disappeared once they controlled for culture variable. Therefore, it was important to control for democracy index in our study. The democracy index from Freedom House ranges from 1 (absolute autocracy) to 7 (absolute democracy).

Finally, we controlled for ethnic diversity index from Alesina et al. (2003). It is important to control for this variable as ethnic diversity is linked to income inequality (Alesina et al., 2016; Dincer & Hotard, 2011), economic growth (Campos et al., 2011; Papyrakis & Mo, 2014).

Methodology

To assess the link between income and happiness we estimate the following regression model:

$$Happy = \alpha_0 + \alpha_1 GDPpc + \alpha_2 Latin + \alpha_3 Democracy + \alpha_4 Ethno + \varepsilon$$

Where happy is average national happiness index, *GDPpc* is GDP per capita, *Latin* is a dummy variable for Latin America countries, Democracy is democracy index, Ethno is ethnic diversity index and e is an error term satisfying normality assumptions. The descriptive statistics are presented in Table 1.

Table 1. Descriptive Statistics

Variable	Description	Mean	Std. dev.	Min	Max
Happy	Happiness index	3.06	0.27	2.43	3.61
GDPpc	GDP per capita, log	8.65	1.56	5.50	11.98
Latin	Latin America Dummy	0.10	0.30	0	1
Democracy	Democracy index	4.66	1.98	1	7
Ethno	Ethnic diversity index	0.44	0.26	0	0.93

Results

The main results are reported in Table 2. In column 1 we present the bivariate regression between happiness and GDP per capita. We found that **GDP per capita is positively and significantly, at the 5% level linked to happiness**. For example, 10 percent increase in GDP per capita is associated with nearly 0.4 points increase in happiness index. However, this simple specification explains only 4% of cross national variations in happiness. Therefore, in column 2 we introduced the Latin America dummy. We found that Latin America dummy has a positive sign and statistically significant. This implies that on average respondents in this region reported 0.2 points greater happiness. After controlling for this region, we can now explain nearly, 10 percent of global happiness.

In column 3, we added democracy index. While democracy is insignificantly linked to happiness, the GDP per capita is unaffected. In column 4, we now added ethnic diversity index. We found that ethnic diversity can be associated with higher levels of happiness. Moreover, this is also evident from the correlation between ethnic diversity and happiness r = .16. GDP per capita is again significantly linked to happiness.

In model 5, we regress our main econometric model only for the sample of Latin American countries. We found that economic development does not increase happiness in this region. Moreover, we found that the correlation between GDP per capita and happiness is negative for this region (r = -.10).

Finally, in model 7 we offer a comparison between the Latin America and China, by controlling for a dummy variable for China. The estimates suggest that overall the dummy variable is negative, albeit insignificant. While the dummy variable for Latin America is positive and significant. **This implies the people in Latin America experience greater levels of subjective wellbeing while Chinese people exhibit lower levels of happiness**. One of the reasons is economic growth that is followed by income inequality and air pollution. Therefore, we confirm existence of Easterlin Paradox in China. Moreover, the data suggests that average level of happiness in China is 2.97 (below global average levels) while in Latin America it is 3.23 (above global average levels).

We also tested whether the prediction for the Easterlin Paradox holds for China in this study. To do so we have predicted the fitted values from Model 3. The predicted value for the happiness level in China is 3.1 while observed is 2.97. This also indicate that there is evidence for Easterlin Paradox as predicted value exceeds the observed value.

Overall the results reported in Table 2 suggest that economic development does not yield greater happiness in Latin America.

Table 2. Main Results

	Model 1	Model 2	Model 3	Model 3	Model 5	Model 6
	b/se	b/se	b/se	b/se	b/se	b/se
GDP per capita	0.043*	0.042*	0.061*	0.074**	-0.063	0.074**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.10)	(0.02)

Latin America		0.203**	0.213**	0.203*		0.203*
		(0.08)	(0.08)	(0.08)		(0.08)
Democracy			-0.024	-0.021	-0.121*	-0.022
			(0.02)	(0.02)	(0.05)	(0.02)
Ethnic Diversity				0.278*	-0.296	0.275*
				(0.12)	(0.30)	(0.12)
China						-0.044
						(0.26)
Constant	2.682***	2.659***	2.607***	2.362***	4.581***	2.365***
	(0.18)	(0.18)	(0.18)	(0.21)	(0.90)	(0.21)
R-sqr	0.046	0.116	0.124	0.171	0.525	0.222
dfres	93	92	89	86	8	86
BIC	21.8	19.3	23.1	22.7	-7.4	21.1

Notes: * p<0.05, ** p<0.01, *** p<0.001

Conclusion

After exploring the link between economic development and happiness, giving special focus on Latin American countries. To this end we used data from World Values Survey and World Bank to test this relationship. Our baseline results showed that overall economic development is positively linked to happiness in a sample of more than 90 countries.

However, when we estimating this relationship for a sample of Latin American countries we found that economic development does not foster happiness there, thus we confirm Easterlin Paradox. Moreover, when we check the bivariate correlation, we discovered that the correlation coefficient is even negative. This may imply that the economic development in Latin America may be non-inclusive in its nature. For example, this region reports one of the highest levels of income inequality[1]. Moreover, unemployment rate in this region exceeds 6% which is above global average levels.

Therefore, the prospective studies should use the sub-national data to explore the link between economic growth and happiness in this region. In addition, it is important to explore the potential transmission channels that produce negative link between economic development and happiness in this region.

Finally, the main limitation of this study is the issue of simultaneity and endogeneity that does not allow us to draw causal evidence. Considering that happiness index is not available on annual basis we could not apply more complex estimation techniques such as general methods of moments in our study.

[1] https://www.weforum.org/agenda/2016/01/inequality-is-getting-worse-in-latin-america-here-s-how-to-fix-it/

Appendix 1

Table A1. Data			
Economy	**WB code**	**Happiness**	**GDP per capita**
Albania	ALB	2.42959	4087.57
Algeria	DZA	2.95487	4595.78
Andorra	AND	3.20261	42754.4
Argentina	ARG	3.09818	10663.5
Armenia	ARM	2.74512	3435
Australia	AUS	3.31976	53436.7
Azerbaijan	AZE	2.94032	5683.87
Bahrain	BHR	2.88211	22266.1
Bangladesh	BGD	2.95857	853.383
Belarus	BLR	2.53919	6078.37
Bosnia and Herzegovina	BIH	3.02017	4658.97
Brazil	BRA	3.13598	9895.32
Bulgaria	BGR	2.584	6964.16
Burkina Faso	BFA	3.00591	600.534
Canada	CAN	3.40935	46605
Chile	CHL	3.09347	12930.8
China	CHN	2.97172	5417.29
Colombia	COL	3.35686	6192.99
Croatia	HRV	2.75401	13359.5
Cyprus	CYP	3.17147	29064.1
Czech Republic	CZE	2.83819	19321.5
Dominica	DMA	3.05122	6718.34
Ecuador	ECU	3.5	5066.83
Egypt, Arab Rep.	EGY	2.7793	2677.58
El Salvador	SLV	3.46725	3683.23
Estonia	EST	2.77866	16830.8

Ethiopia	ETH	2.88153	430.222
Finland	FIN	3.14975	47215.9
France	FRA	3.24249	40857.4
Georgia	GEO	2.76603	3400.1
Germany	DEU	3.01028	43263.8
Ghana	GHA	3.29271	1360.32
Guatemala	GTM	3.23123	3154.58
Hungary	HUN	2.87658	13322.6
India	IND	3.001	1317.66
Indonesia	IDN	3.17365	2937.33
Iran, Islamic Rep.	IRN	2.88177	5796.87
Iraq	IRQ	2.57332	4905.24
Israel	ISR	3.01777	31659.5
Italy	ITA	3.07058	35369.8
Japan	JPN	3.14537	40372.9
Jordan	JOR	3.02571	3616.27
Kazakhstan	KAZ	3.20067	9595.6
Kuwait	KWT	3.33333	44005.3
Kyrgyz Republic	KGZ	3.20529	1004.07
Latvia	LVA	2.72578	13606.7
Lebanon	LBN	2.94556	7783.13
Libya	LBY	3.21743	10511.6
Lithuania	LTU	2.56432	13674.6
Macedonia, FYR	MKD	2.81724	4705.14
Malaysia	MYS	3.42263	9163.72
Mali	MLI	3.20251	721.653
Mexico	MEX	3.25492	9295.05
Moldova	MDA	2.4695	1752.06

Morocco	MAR	2.97668	2832.47
Netherlands	NLD	3.28557	50108.9
New Zealand	NZL	3.30447	35979.9
Nigeria	NGA	3.34181	2118.22
Norway	NOR	3.28119	88287.3
Pakistan	PAK	3.0507	1171.5
Peru	PER	2.97516	5226.33
Philippines	PHL	3.3236	2300.52
Poland	POL	3.06167	12593.5
Qatar	QAT	3.54151	74305.6
Romania	ROU	2.62542	8772.19
Russian Federation	RUS	2.68984	11273.5
Rwanda	RWA	3.12673	586.778
Saudi Arabia	SAU	3.35224	20594.9
Serbia	SRB	2.81703	5704.1
Singapore	SGP	3.30411	47656.8
Slovak Republic	SVK	2.67611	16890.5
Slovenia	SVN	2.94677	23256.2
South Africa	ZAF	3.13369	6435.71
Spain	ESP	3.03908	30114.5
Sweden	SWE	3.36395	53817
Switzerland	CHE	3.32567	76189
Tanzania	TZA	3.5039	742.58
Thailand	THA	3.31905	5108.56
Trinidad and Tobago	TTO	3.37681	17531.4
Tunisia	TUN	2.91431	4010.23
Turkey	TUR	3.14805	10709.3
Uganda	UGA	3.00599	577.544

Ukraine	UKR	2.63593	3058.48
United Kingdom	GBR	3.31596	42966.9
United States	USA	3.31214	50961.4
Uruguay	URY	3.11338	12447.8
Uzbekistan	UZB	3.61152	1515.36
Venezuela, RB	VEN	3.45021	10887.1
Vietnam	VNM	3.25182	1545.11
Zambia	ZMB	2.77554	1415.17
Zimbabwe	ZWE	3.0024	756.142

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