

RELATIVE DEPRIVATION AND RELIGIOSITY

A CROSS-NATIONAL STUDY ON INCOME INEQUALITY, FINANCIAL
SATISFACTION, AND RELIGIOSITY

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By,

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Abstract

The principal gauge of human, economic, and social advance among nations today is based largely on absolute measures of wealth such as Gross Domestic Product. Increasingly however, the wealth and incomes of nations and individuals are becoming less thought of in absolute terms as they are in relative terms. The current study empirically tests the relationship between inequality and financial satisfaction while concurrently examining the role of religiosity in propagating or being propagated by inequality. OLS regression analysis with individual year and country fixed effects examining 77 nations from 1981 to 2008 indicate that financial satisfaction decreases while religiosity increases as inequality within a given nation rises.

“A house may be large or small; as long as the neighboring houses are likewise small, it satisfies all social requirement for a residence. But let there arise next to the little house a palace, and the little house shrinks to a hut. The little house now makes it clear that its inmate has no social position at all to maintain, or but a very insignificant one; and however high it may shoot up in the course of civilization, if the neighboring palace rises in equal or even in greater measure, the occupant of the relatively little house will always find himself more uncomfortable, more dissatisfied, more cramped within his four walls.”

*

“Religious suffering is, at one and the same time, the expression of real suffering and a protest against real suffering. Religion is the sigh of the oppressed creature, the heart of a heartless world, and the soul of soulless conditions. It is the opium of the people. The abolition of religion as the illusory happiness of the people is the demand for their real happiness. To call on them to give up their illusions about their condition is to call on them to give up a condition that requires illusions.”

-Karl Marx

Special thanks to William Encinosa

ROB NICHOLAS STONE

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INTRODUCTION

In 1843 Karl Marx wrote the *Critique of Hegel's Philosophy of Right* and within it touched upon the key tenets of historical materialism that would be fully developed within *The German Ideology* and *Capital*. The implications of his conception of social progress remain relevant today in understanding economic inequality and the role (or lack thereof) attributed to religious belief in perpetuating or being perpetuated by such conditions. The 1843 work essentially called for the “un-alienated” well being of man as a “social being.” Thus, for Marx, personal well-being could never be extricated from the (changing) material relations of society. The current paper seeks to empirically focus upon two of the three central assertions often associated with the Marxist tradition:

- 1. Individuals largely measure their material conditions in relative terms (figure 1)**
- 2. The *relatively* worse off turn to religion as a means of solace and consolation which subsequently discourages political action/involvement (figure 2)**
3. Capital over time tends to become more concentrated while the labor share of income tends to diminish

Figure 1

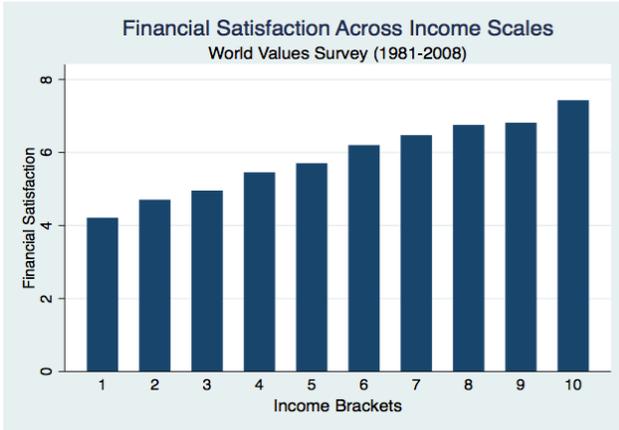
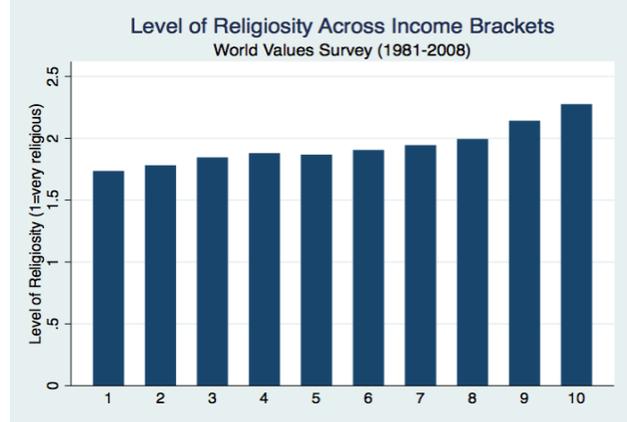


Figure 2



Amartya Sen states in *Mis-measuring our Lives* that, “in an increasingly performance-oriented society, metrics matter. What we measure affects what we do. If we have the wrong metrics, we will strive for the wrong things. In the quest to increase GDP, we may end up with a society in which citizens are worse off.” It is critical therefore that we measure as fastidiously the aspects of human life that are most directly relevant to the well being of individuals as we do other more conventional indicators. It may be necessary for policymakers to begin to focus on wealth and income in their social and therefore relative measures.

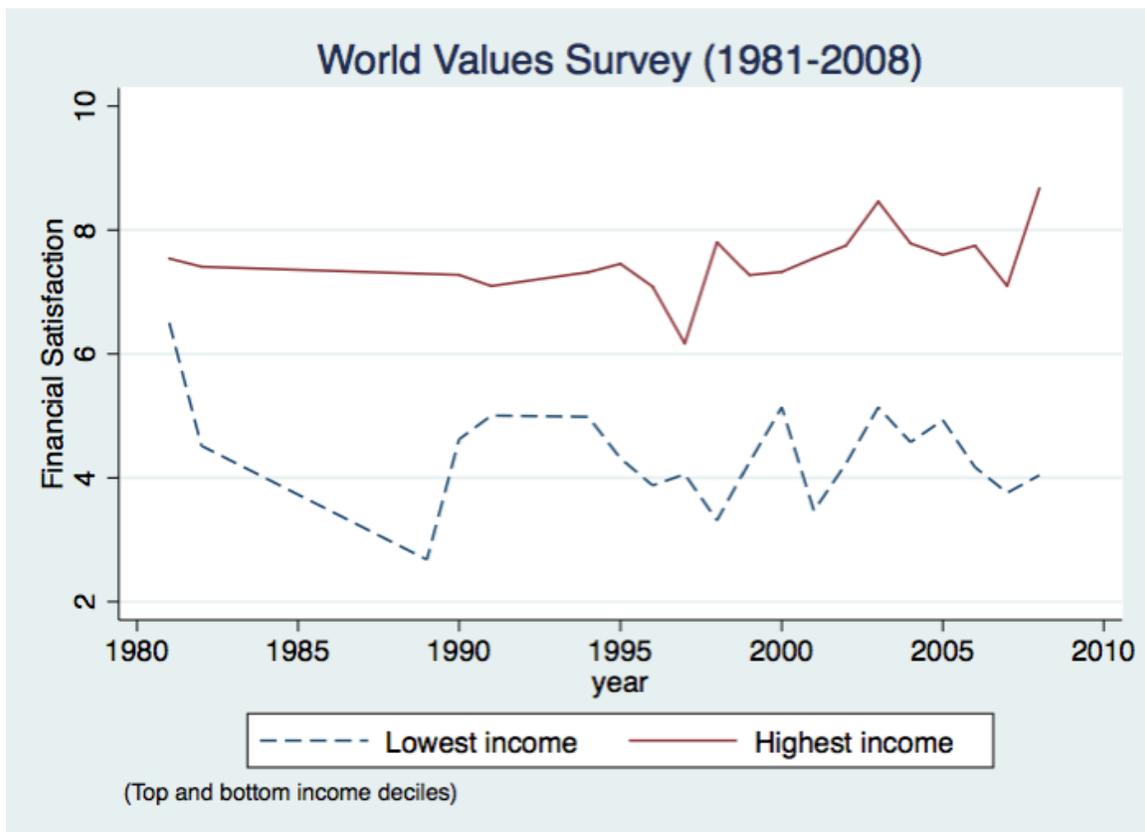
The impetus behind the current study is to examine and build upon more contemporary quantitative analyses performed on subjective well-being (SWB) but through the lens of historical materialism and relative deprivation theory. Past research has given precedence to examining proxy variables for subjective happiness and/or life satisfaction (Schimmel). This paper breaks this trend by centering its nexus of analysis on subjective *financial* satisfaction. The rationale behind this decision is to (a) compare

¹ Note: Increasing values in Table 2 represent a decline in religiosity and increase in secularism

similar indicators i.e., financial inequality with financial satisfaction (b) preemptively separate out numerous non-observables unique to happiness, and (c) to view results that explicitly call upon respondents to gauge and reflect upon their material well being.

The relevance of correctly gauging subjective financial satisfaction is becoming even more magnified as within-country inequality during the past three decades has proceeded to rise. For example, viewing the raw data from the World Values Survey it is evident that despite substantial gains in GDP throughout the 1980's, on average the bottom decile of income earners has experienced a precipitous fall in their financial satisfaction vis-à-vis the top income decile.

Figure 3



The literature examining subjective well-being (SWB) largely validates the hypothesis that the perception of wealth at an individual level is less determined by the aggregate amount than by the relative amount of wealth one possesses as compared to others. Research into SWB spreads across several disciplines, from philosophy and psychology to politics and economics. The research inevitably leads to normative questions about the nature of progress and advance within civilizations. Researchers who attempt strictly narrow quantitative analysis on GDP often ignore the larger impetus that informs their research. In full acknowledgement of varying definitions of progress it seems reasonable however to assert that the “pursuit of happiness” and satisfaction is among the most salient motivators within the human condition

Furthermore, if inequality is shown to be negatively correlated with financial satisfaction it may be necessary for policy makers to address and remedy the origins and drivers of inequality. To adequately approach the inequality dynamic, we examine both the society-level inequality (the spread) and the distinct position that individuals fall within this spectrum. Taking both factors of inequality into account, this paper seeks to comment upon the viability of historical materialism as a means of understanding inequality’s impact upon financial satisfaction and religiosity. Towards this end, we perform a cross-national study of 77 nations using national-level inequality data from the University of Texas Inequality Project and individual level data from the World Values Survey.

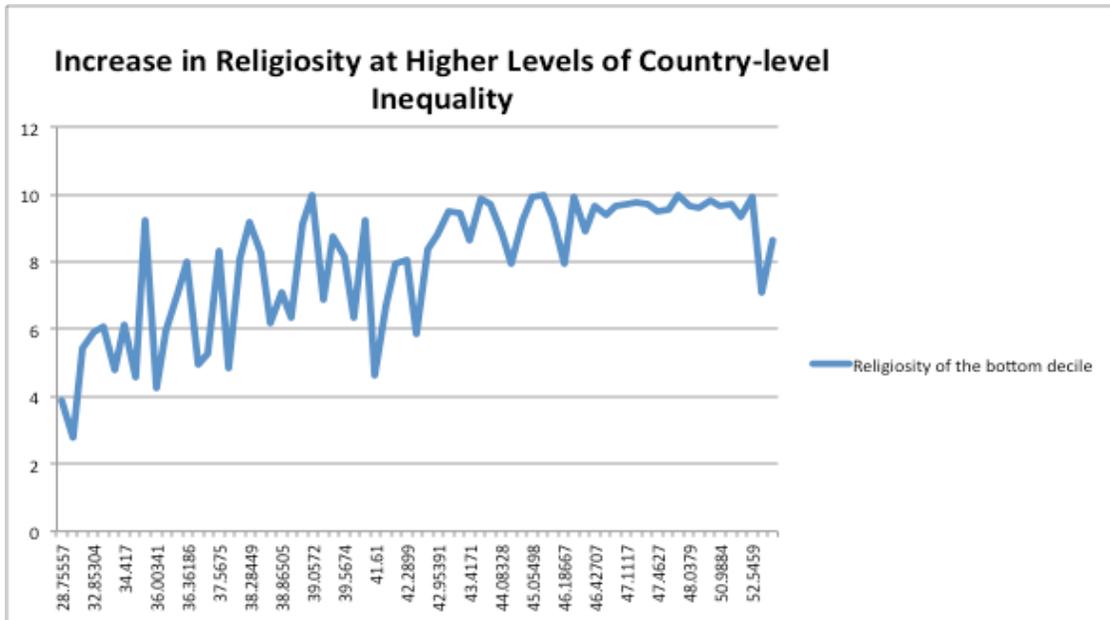
THEORETICAL JUSTIFICATION

The materialist conception of history essentially states that to understand society, we must first understand the material/economic relations of individuals within society. Critics have often focused on the unfulfilled teleological elements of historical materialism, e.g., proletariat expropriation of the means of production while losing sight of the proposed causes and assumptions motivating these predictions. The current study however deals with the proposed causes and assumptions and their greater or lesser degree of validity. The ontology and dialectics involved are beyond the scope of this text and instead we choose to focus on the foundational premises of historical materialism in which myriad and often-disparate conclusions have subsequently emanated.

Marx posited that the relatively worse off (economically) in society would turn to religion as a means of satisfaction and solace (see figure 4 derived from the raw WVS data). However, he thought it critical to break the “illusory happiness” that religion provided so that man might “cull the living flower” of satisfaction based on real material circumstances (Lofton, 2012). This conceptualization of course has its empirical difficulties, when seen through the framework of subjective well-being in that it remains, as it were, purely subjective. To empirically separate the illusory solace gained from religion is not immediately straightforward. The impetus therefore of the present paper, takes on this challenge by proposing that the illusory aspect can in fact (in part) be accounted for in a respondents change in happiness as religiosity increases while controlling for their financial situation and other key covariates. These subjective feelings of life and financial well-being are necessarily driven in part by the relative and therefore social relations of individuals. This paper predicts, the impact of inequality upon financial

satisfaction and religiosity are opposite, and the magnitudes of the result will convey the real-world and practical policy implications.

Figure 4



LITERATURE REVIEW

Religiosity

The past literature explaining the rise of religiosity that results from increased economic inequality within a society focuses on two fundamental questions.

- i. What is the perceived benefit to the relatively poor of adopting religious beliefs?
- ii. What utility does religious belief bestow upon the relatively rich?

The rationale in answering the first question is straightforward, and underlies Marx's central argument in the aforementioned *Critique of Hegel's Philosophy of Right*, that those facing dismal economic standing (the relatively deprived) find comfort in their otherworldly belief(s) i.e., individuals trade in their hope and expectations in this life for a distant celestial potentiality. Marx readily recognized that this future expectation, could translate into present satisfaction/happiness. In essence, it was thought that the illusory happiness gained would anaesthetize to a degree, an individual against taking steps and actions to remedy his or her material circumstances. It was therefore thought necessary to decrease the "illusory" satisfaction with an increase in "real" satisfaction. More poetically put my Marx "Criticism has plucked the imaginary flowers on the chain not in order that man shall continue to bear that chain without fantasy or consolation, but so that he shall throw off the chain and pluck the living flower." Extrapolating from this, and applying this to the data available, it would be necessary to increase life satisfaction and financial satisfaction by changing the real material standing of individuals. In other words, the goal within this framework would be to increase the subjective well-being of individuals within a society not through an increase in religiosity but by an increase in the relative material standing of the majority of its citizens. In Marxian verbiage: shifting from abstract and "alienated" or "estranged" well-being to true well-being occurs only by foregoing the satisfaction associated with illusions in exchange for real increases in relative material standing. With this in mind, the decision to focus on the variable financial satisfaction is employed in the expectation that respondents are explicitly forced to comment upon their "financial" and therefore material well-being setting the present research apart from any previous work done in the area of subjective-well being.

Recent research done on religiosity and inequality, while validating the aforementioned mechanism, has found a rather large trend not addressed in the materialist/post materialist literary tradition. Frederick Solt, et al, in *Economic Inequality, Relative Power, and Religiosity*, using the same WVS data, found that increasing inequality does in fact increase religiosity, *however* the increase is seen most conspicuously and consistently among the wealthier within a given society. That is, it seems that more than the relatively poor turning to religion for solace, the relatively rich/powerful turn to religion for utility. Solt regresses religiosity on several political indicators and finds that religion tends to serve as conservative force, both economically and socially within a given country. It is therefore posited that, religion provides a tool by which their relative privilege is maintained (Solt, 2011).

Additionally, related research has found that (a) religious individuals on average give more on average to charity and (b) religious individual on average are less likely to support social welfare programs that support the poor. Societies in which religion is relatively more pre-potent among the wealthy, support less public spending than their less religious counterparts. Furthermore, as a method of financial redistribution, there is substantial empirical evidence that public programs provide more consistent and long-term income redistribution than private charities. In times, of financial hardship and crisis the effects are even more pronounced as charitable giving declines a greater rate than public provision.

Financial and life satisfaction

For nearly three decades China's economy has been growing at an annual rate of 8 percent. Since this time, rural poverty has declined by 67% while the overall populace living in poverty went from 323-47 million in 2000. Nearly every social indicator has experienced a degree and pace of improvement unmatched anywhere. Meanwhile the level of subjective financial, life satisfaction and reported happiness have decreased markedly. In 1990 those claiming to be "very happy" was 20 percent and in just one decade decreased to just 12 percent, despite record number in GDP growth. During the 90's the increase in inequality can be seen numerically to have increased from a Gini of .23 to .43. China therefore provides a case study in the phenomenon of relative deprivation. Though aggregate levels of wealth increased tremendously, relative financial standing of the majority of Chinese citizens was actually decreasing, resulting in a substantial decrease in subjective well-being.

The phenomenon in China is unique in its degree but not in the general trend. Previous studies have viewed such trends through the lens and approach termed "reference group theory." Encapsulated in this theory is the more specific and in this case more relevant role of relative deprivation. The core concept is that individuals seek to locate themselves on a social spectrum, usually focusing on a specific reference group in which they identify. Within this relational context, an individual will put more weight upon his or her financial standing as compared to others around them. For example, an individual's satisfaction can be expected to increase if those around them become relatively worse off. Alternatively if hypothetically every individual within a society doubled their incomes at an equal rate, satisfaction among those individuals can be expected not to have doubled but to have remained stagnant (Brockmann et al, 2008).

Relative & absolute income

Reservations about applying reference group and relative deprivation theory have centered on the psychological presentiments regarding subjective individual satisfaction. Most notably, satisfaction and corollary sentiments such as optimism have been thought of as highly stable over an individual's lifetime, with high predictive value of future satisfaction being decided in early childhood. Because of the seeming immunity that personal satisfaction was perceived to have vis-à-vis external conditions it was thought unimportant to compare with more dynamic and changing conditions related to economic growth, political institutions, etc. These concerns were corroborated in a cross sectional study of aggregated measures of subjective well-being across *developed* countries.

The small range of variation between developed countries reflects not on the unimportance of economic conditions on well-being but *rather the nature* of this relationship. In studies looking at a sample of only highly developed societies, selection bias skewed the conclusion by means of observing only societies where the majority of citizens have met to a considerable degree basic human needs such as housing, food, and health. That is, the aggregate determinant of satisfaction was minimized. Therefore, in summary aggregate wealth matters comparatively more with relative measure when basic needs are *not* met but relative measures generally take precedence beyond this point. This reality underscores the broader movement worldwide; as basic needs are without a doubt increasingly being met, relative measures will concurrently grow in relevance.

The countries, since 1990 that have reported the highest level of life satisfaction were Puerto Rico and Mexico. Both countries are not generally thought of as wealthy however they both are considered middle-income nations, where the majority of the population has met “basic needs.” This being the case, aggregate wealth as we have seen becomes less a factor and non-monetary factors begin to play a larger role.

The Easterlin paradox

Easterlin most prominently performed the application of relative deprivation theory to inequality in 1974. In his research he concluded controversially that absolute wealth does not matter *at all* once relative wealth is controlled for (Macunovich, 1997). Since this time however Easterlin’s hypothesis has been replicated with his results only being partially validated. Subsequent studies show that Easterlin was right to acknowledge the large role that relative income has but wrong to have understated the importance of aggregate income. More recent research confirms that aggregate income is positively correlated with satisfaction yet is most often less a determinant than its relative counterpart. Furthermore in determining life satisfaction in general both measures are of tertiary importance to non-financial indicators (Ball & Cernova, 2008).

Relative deprivation does not apply exclusively to financial satisfaction but rather to a wide range of reference group comparisons. Hegel, in examining the role of the particular (individual) towards the collective tacitly recognized the near total role others have in the formulation of the “self” (Kain, 1998). Marx, building off of Hegel applied this reasoning to the concrete and fluid movements in material conditions of societies.

The most important “reference” or “comparison” criteria therefore for Marx was economic in nature. Not only were economic conditions amendable to human action, but they also have a direct role in the social welfare of individuals by means of influencing their relative status and well-being (Imedio, 2012).

Revolutionary tipping points

Alexis de Tocqueville similarly stressed relative measures of wealth in his study of revolutionary tipping points throughout history. Principally, he was initially perplexed that the French Revolution took place not in the 17th century, in a time of sharp decline in living standards in France but in the 18th, an era of rapid economic advance (Roney, 2004). In the context however, of relative deprivation this makes sense, as the great majority would have been becoming more dissatisfied with their comparative lot. The Zapatista, rebellion is another example of a revolutionary movement ignited during a time of economic expansion and growth.

Critics, however, are quick to point out the relative paucity of such aforementioned moments in history. Indeed, within-country inequality is arguably greater today than ever before, but most individuals aren’t lining up for social movements that could remedy this (Saxton, 2006). This itself serves to reiterate the fact that satisfaction is not predominantly decided by pecuniary factors.

Anticipation of future income is also a strong predictor of feelings of relative deprivation (Bruni, 2006). With a rising tide of prosperity there is a likewise rise in

expectation. If objective conditions don't conform to expectations, relative financial satisfaction will decline. Economists focused on economic metrics have often even proposed inequality for these reasons are good for growth. That as individuals see greater horizons of wealth, they will work even harder to achieve what higher reference groups life styles are enjoying (Rosati, 2012). Even more substantially, *ceteris paribus*, individuals who believe they can and will be "rich" will be more satisfied than those who don't believe they will ever advance. This rationale has been used frequently to explain views of the bottom deciles of the income scale in the United States. Many citizens are said to accept high levels of inequality based on their anticipation of the "American dream." Though upward mobility is actually seen less in the U.S than in Europe, the belief or myth if you'd prefer still resonates with Americans and therefore has a substantial effect on subjective well-being (Starobin, 2006).

Other Determinants of Subjective Well-Being

Corollary research has been done on the non-monetary aspects of what drives satisfaction whether financially or generally. Because these could be driving our dependent variable (financial satisfaction) they are controlled for in our independent variables. These indicators include age, sex, marital status, political institutions, the level of perceived liberty, and health and are all included in the World Values Survey and therefore can be properly incorporated into the model.

The policy implications of rising inequality and the impact it has upon relative deprivation as measured by financial satisfaction have therefore (understandably) dealt

with those aspects of subjective well-being that are amendable to human agency. A large percentage of the variation in satisfaction can be explained by such factors as gender, age, attractiveness, and genetic makeup yet these indicators are little if at all open to manipulation. This is why the rule of law, economic prosperity, and political power are the focus of past research. The current essay, building upon the *materialist conception of history* propounded in a rich history of academic thought identifies the economic as the driver behind the political and the legal. The critical assumption is that economic wealth will drive political and legal influence, not vice-versa. This is why the present paper puts its focus on relative deprivation in its *economic* conceptualization.

DATA AND PRELIMINARY ANALYSIS

The data used is from the World Values Survey (WVS) from 1981-2008. The WVS is the only source of empirical data that has been gathered on majority of the world's population (90%) and their views on a broad range of social and value based issues. Due to the large time period in which the survey was conducted, it has been possible to measure the movement of beliefs and values over time and the degree in which they have changed. The data was collected through face-to-face interviews in which individuals were asked their opinions on such issues as democracy, gender equality, religion, globalization and subjective well-being in which we will focus.

The analysis used in the current paper will focus on perceived household financial satisfaction and religiosity and how/if this correlates with the level of inequality within a society (country). It is evident that many factors related to culture, history, religious

beliefs, etc., all influence general happiness. Crediting that happiness is not always a question of financial well being whether relative or absolute, we focus on how financial inequality influences financial satisfaction as opposed to the more general indicators of total life satisfaction (Ladin, 2010). However it is worth noting that life satisfaction is highly correlated with financial satisfaction (see figure 5). In the graph below the variable for financial satisfaction is c003 and the variable for life satisfaction is a170.

Figure 5

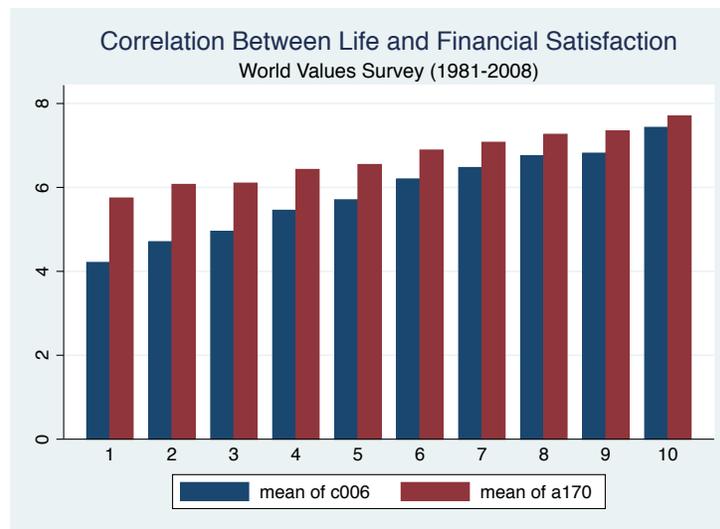


Exhibit 1: Variable Descriptions and Summary Statistics

Variable	Source	Obs	Mean	Std. Dev.	Min	Max
Financial Satisfaction (c006)	WVS	173383	5.544234	2.596289	1	10
Estimated Household Income Inequality	UTIP	173383	43.12264	6.392323	24.456	62.315
Income Inequality squared	UTIP	173383	1900.423	550.3343	598.0959	3883.159

Income Scale	WVS	173383	4.503913	2.36413	1	10
Religiosity	WVS	173383	7.883478	2.954343	1	10
Life Satisfaction	WVS	173383	6.431357	2.49999	1	10
Health	WVS	173383	2.194852	0.886309	1	5
Female	WVS	173383	0.5088907	0.4999224	0	1
Married	WVS	173383	0.6481431	0.477551	0	1
Age	WVS	173383	1.961686	0.7601633	1	3

Principal Independent Variable: Estimated Household Income Inequality

The principal independent variable of interest in the current analysis is the level of national inequality as measured by the University of Texas Inequality Project's Estimated Household Inequality Data Set (EHII). The data includes 3,513 observations and reports inequality annually for every country included in the study. EHII is used due to the abundance of data available and includes elements of the more common Gini coefficient and less common Theil statistic. The range of possible values is from 0 (completely equal) to 100 (all wealth in one individual's hands) though observed values range from 23.12 to 62.31 with a mean of 42.34.

Dependent Variables Employed: Financial Satisfaction & Religiosity

The dependent variables of interest within this study include financial satisfaction (1-10) and religiosity (1-10) with the main independent variable being the level of national

inequality (on a 100 point scale but country values ranging from only 23-62). The control variables used include financial satisfaction, life satisfaction, religiosity, income deciles, subjective health, gender, marital status, and age. Depending on the regression however, religiosity, financial satisfaction, and life satisfaction switch from being an explanatory variable to a dependent variable.

Variable Definitions

- **Financial Satisfaction:** Individuals are asked the following question: “How satisfied are you with the financial situation of your household?” Answers are ordinal and range from 1 being “dissatisfied” and 10 being “satisfied” while there is also an option for “don’t know” that is infrequently reported. The mean across all individuals is 5.59 with a standard deviation of approximately 2.6. Observed responses include the entire spectrum from 1 to 10.
- **Life Satisfaction:** Individuals are asked “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?”
- **Income Scale:** Respondents are asked what income decile they are in based on all sources of income.²
- **Religiosity:** Ratings of the importance of God in their lives on a scale of 1 (not important) to 10 (very important)

² Survey question giving ranges of income have proven to be more accurate than questions that ask for a specific level of income.

- Marital status: I created a dummy variable for *married* that includes both married individuals and individuals who are “living together as if married.” We assign a value of one if married and zero otherwise.
- Sex: A dummy is created called female, which equals one if the individual is female and zero if the respondent is male
- Age: Age recorded during interview divided into three age brackets
- Health: Respondents’ ratings of their physical health on an integer scale of 1 (least healthy) to 5 (most healthy) are recorded.

METHODOLOGICAL APPROACH: FIXED EFFECTS REGRESSION

MODEL

Hypothesis

Based on the abundant previous research on general life satisfaction and happiness (subjective well-being) it is expected that financial satisfaction will be negatively correlated with the level of inequality within a nation when controlling for other factors. Furthermore it is anticipated that financial satisfaction will be impacted greater by inequality than life satisfaction or happiness taking into consideration the fact that life satisfaction includes a wider range of determining factors. What remains to be validated is whether increases in aggregate wealth are in fact more important to financial satisfaction than the relative measure.

A fixed effect model is used to account for time constant factors such as culture, language, geographical location, weather, and anything else that could potentially influence the variables of interest within this study. Year fixed effects are used as well to in part account for any autocorrelation occurring within the model.

RESULTS & ANALYSIS

Estimated Impact of National Income Inequality on Religiosity

Table 1: OLS Regression Coefficients, with country and year fixed effects		
Dependent variable: Level of Religiosity (1-10)		
Explanatory Variables	Coefficient	T
Level of Inequality	0.2637643	13.48
Level of Inequality Squared	-0.0029118	-11.79
Income Deciles		
First Decile (Lowest Income)	Omitted	
Second Decile	-0.1201365***	-5.24
Third Decile	-0.2149654***	-9.49
Fourth Decile	-0.3265481***	-14.21
Fifth Decile	-0.346284***	-14.92
Sixth Decile	-0.4298383***	-17.24
Seventh Decile	-0.4915317***	-18.4
Eighth Decile	-0.5459885***	-18.63
Ninth Decile	-0.7149096***	-20.1
Tenth Decile (Highest Income)	-0.8032727***	-21.41
Financial Satisfaction	0.0257465***	9.42
Life Satisfaction	0.0662314***	23.26
Subjective Health	0.0545318***	7.81
<i>Female</i>	0.5555358**	50.82
Married/Living together	0.0239895***	1.97
<i>Age</i>	0.2497175***	30.9
Observations	173383	173383
F-stat	1149.44	
R-squared	0.4151	0.4151
*** p<0.01, ** p<0.05, * p<0.1		
Performed with Country (77) and year (19) fixed effects		
Data for ehii: University of Texas Inequality Project		
Data for all other variables: World Values Survey		

Estimated Impact of National Income Inequality on Financial Satisfaction

Table 2: OLS Regression Coefficients, with country and year fixed effects		
Dependent variable: Financial Satisfaction (1-10)		
Explanatory Variables	Coefficient	t
Level of Inequality	-0.184***	-10.67
Level of Inequality Squared	0.0017011***	7.84
Income Deciles		
First Decile (lowest Income)	Omitted	
Second Decile	0.2826483***	14.04
Third Decile	0.5205881***	26.21
Fourth Decile	0.7868081***	39.14
Fifth Decile	1.024118***	50.57
Sixth Decile	1.313425***	60.56
Seventh Decile	1.533805***	66.14
Eighth	1.723296***	67.76
Ninth Decile	1.787919***	57.7
Tenth Decile (Highest Income)	2.08513***	63.94
Religiosity	0.0199***	9.42
Life Satisfaction	0.488***	220.47
Subjective Health	-0.149***	-24.4
Female	-0.0216**	-2.24
Married/Living together	-0.102***	-9.57
<i>Age</i>	0.0924322***	12.99
Observations	173383	
F-stat	1152.4	
R-squared	0.4158	
*** p<0.01, ** p<0.05, * p<0.1		
Performed with Country (77) and year (19) fixed effects		
Data for ehii: University of Texas Inequality Project		
Data for all other variables: World Values Survey		

Estimated Impact of National Income Inequality on Life Satisfaction

Table 3: OLS Regression Coefficients, with country and year fixed effects		
Dependent Variable: Level of Life Satisfaction (1-10)		
Explanatory Variables	Coef.	t
Level of Inequality	0.0410693**	2.49
Level of Inequality Squared	-0.000524**	-2.52
Income Deciles (x047)		
First Decile (Lowest Income)		
Second Decile	0.0420722**	2.18
Third Decile	0.063008***	3.3
Fourth Decile	0.1215036***	6.27
Fifth Decile	0.1648456***	8.43
Sixth Decile	0.1825136***	8.68
Seventh Decile	0.2288248***	10.16
Eighth Decile	0.2277607***	9.22
Ninth Decile	0.2272403***	7.57
Tenth Decile (Highest Income)	0.1060784***	3.35
Financial Satisfaction	0.448937***	220.47
Religiosity	0.0470095***	23.26
Subjective Health	-	
	0.4400541***	-76.07
female	0.1060926***	11.44
Married/Living together	0.2139771***	20.88
Age	0.0019575	0.29
Observations	173383	
F-stat	1173.99	
R-squared	0.4203	
***p<0.01, **p<0.05, *p<0.1		
Performed with Country (77) and year (19) fixed effects		
Data for ehii: University of Texas Inequality Project		
Data for all other variables: World Values Survey		

OLS regression analysis with year and country fixed effects within the sample of 77 countries show that, *ceteris paribus*, macro-level income inequality has a positive impact upon levels of individual religiosity. The regression coefficient for inequality is significant at conventional levels with a *t* statistic of 13.48 and signifies that a one-unit increase in inequality results in a .264-point increase in level of religiosity. Given the relatively large range in which we measure inequality(0-100) and small range by which religiosity is interpreted(1-10) the magnitude of the coefficient is both statistically significant and practically relevant. Furthermore, adding an additional variable with inequality in quadratic proves pragmatic in that inequality's effect upon religiosity is concave and therefore subject to diminishing effects at higher levels. Inequality in its quadratic form is associated with a *t* value of -11.79.

Additionally, as expected from the raw data, individual income deciles are also significant, with decreasing levels of religiosity associated with higher income deciles/brackets. In other words, as we move up the income ladder, the importance individual's attribute to religion decreases compared to the lowest (omitted) decile. This lends support to the hypothesis that it is the *relatively* poor who attach more importance to religion. All income deciles are significant at conventional levels.

Furthermore life satisfaction, exhibits a positive correlation with religiosity. A one-unit increase in life satisfaction results in an increase in religiosity of .066 with a *t* statistic of 23.26. This could serve as an indication that religion does in fact increase general satisfaction whether "illusory" or not, however caution is required with regard to

the causal direction. It cannot, using the current model, be established definitively whether happier people turn to religion or that religion makes people happier.

Examining the results from table 2, it is evident that both country-level inequality and ones individual-level income decile are highly correlated with subjective financial satisfaction. A one-unit increase in estimated household income inequality results in a decrease in financial satisfaction of .184 with results being significant at conventional levels. These results corroborate the stated hypothesis that both the spread of country-level income inequality and an individual's position within the spread (income decile) both possess a substantive relationship with regard to an individual's level of financial satisfaction. Consistent with the review of the previous literature, these results largely concur with the conclusion that relative measures of income must be incorporated into any discussion of subjective financial well-being.

With regard to table 3, the dependent variable is subjective life satisfaction. Principally, this regression is included in order to comment upon the comparative magnitude and effect on life satisfaction of (a) financial satisfaction and (b) religiosity. It is evident that a one unit increase in financial satisfaction vis-à-vis a one unit increase in religiosity results in much higher life satisfaction dividends. This is to say, increasing ones subjective financial satisfaction is empirically more significant than increasing ones level of religiosity. A one-unit increase in religiosity, *ceteris paribus*, results in an increase in life satisfaction of .047 while a one-unit increase in financial satisfaction

results in an increase in life satisfaction of .448. This is more than a nine-fold “happiness” or “life satisfaction” dividend.

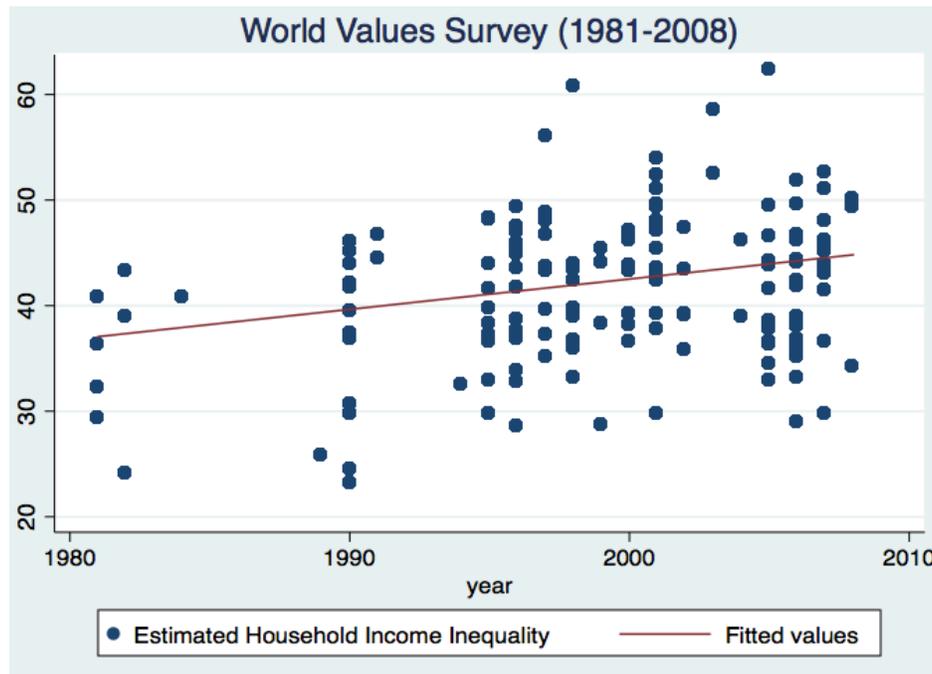
POLICY IMPLICATIONS AND CONCLUSION

Policy makers have been interested in surveys such as the WVS in order to gauge and understand how perceptions influence economics and politics. The data used corresponds well with the general trend of increasing globalization seen in capital and labor markets worldwide. There is considerable consensus that the majority of nations in the last 3 decades have experienced considerable economic growth. With this growth, however, societies have become less egalitarian and growth has been allocated most abundantly to the upper ranges of the income scale. While those at the highest income brackets have increased their perceived well being the great majority have not seen similar increases.

Furthermore with greater inequality and concurrent decreasing financial satisfaction the prospects of political instability have increased. William Panning concisely concurs when stating “reducing inequality reduces the level of relative deprivation, thereby enhancing the prospect for political stability.” It has been shown that more equal societies possess greater stability and it is important that policy makers are aware of this trend. Below (figure 6) depicts the general increase in inequality that has been seen across all years in all countries in this study. Not surprisingly, there is strong and statistically significant increase in inequality across the pooled model. This is consistent with other research that has looked into the growing income gap since the early

1980's- a time period marked by widespread privatization and neoliberal policies among many developed as well as emerging nations.

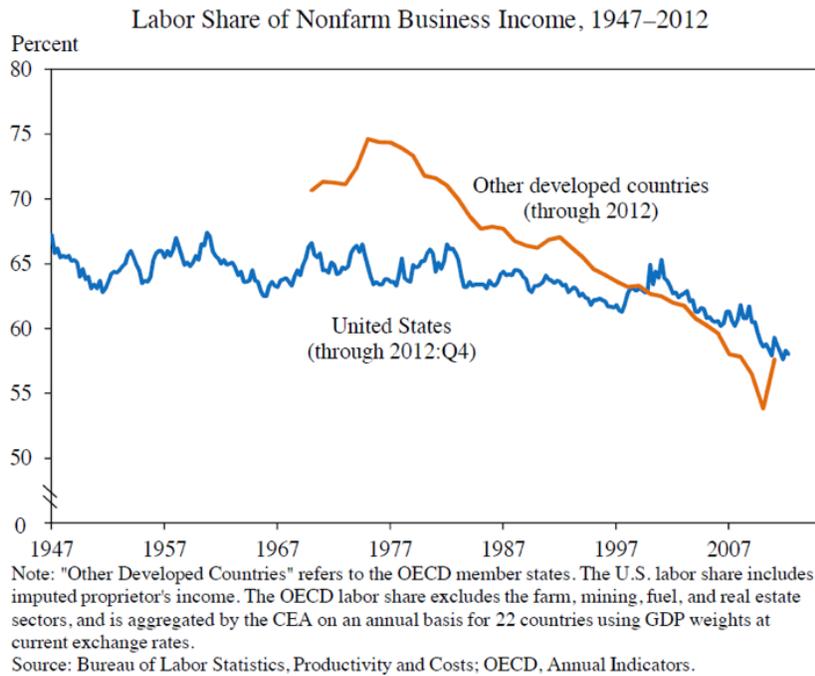
Figure 6



Limitations

This study has not addressed the third assumption that the labor share of income has been decreasing and whether is in fact becoming increasingly concentrated (Geradi, 2012). If meaningful progress is to be made in decreasing inequality, increasing financial satisfaction and therefore life satisfaction steps must be taken to address the economic origins of this trend. If wages do not increase commensurate with productivity we can expect inequality to continue to increase. Further research is needed to comment on and supply policymakers with the tools to address and remedy this process.

Figure 7



Conclusion

The current study has examined and empirically tested past research on SWB through the lens of historical materialism and the foundational Marxian premises mentioned within the introduction. The results have largely corroborated the first two assumptions, by empirically showing that as inequality increases, subjective financial satisfaction decreases while religiosity increases. Furthermore, we have shown that the impact of increasing an individual's subjective financial satisfaction (by means of a decrease in inequality) has a larger impact upon an individual's total life satisfaction/happiness than does an increase in one's religiosity. This is to say, while individuals, on average, necessarily increase their subjective satisfaction while increasing their level or religiosity, this increase is dwarfed by the much larger impact on life satisfaction resulting from an increase in subjective financial satisfaction.

APPENDIX

COUNTRY	LEVEL OF INEQUALITY	RELIGIOSITY
ROMANIA	61.66825	8.705863
KYRGYZSTAN	58.4822	7.801344
ARMENIA	56.0553	6.774484
GHANA	52.5459	9.77712
SAUDI ARABIA	52.4925	9.780684
ZIMBABWE	52.3355	9.607251
TRINIDAD AND TOB	51.7734	9.668
MOROCCO	50.9884	9.828315
GUATEMALA	49.4479	9.718876
PERU	49.2537	9.060163
AZERBAIJAN	48.8155	8.668542
EGYPT	48.16075	9.767565
ZAMBIA	48.0643	9.182432
PAKISTAN	48.0379	9.938163
INDONESIA	47.51724	9.698722
TANZANIA	47.4627	9.607792
DOMINICAN REPUB	47.4437	9.36715
BANGLADESH	47.3956	9.583361
PHILIPPINES	47.1227	9.611922
JORDAN	47.07164	9.932309
TURKEY	47.0592	9.12429
BRAZIL	46.69774	9.545846
VENEZUELA	46.6071	9.389774
NIGERIA	46.57342	9.644169
IRAQ	46.1917	9.841508
CHILE	46.13839	8.669691
URUGUAY	45.95655	6.987303
ETHIOPIA	45.7405	9.211669
INDIA	45.56054	7.940482
EL SALVADOR	45.3933	9.732904
SOUTH AFRICA	44.64071	9.031842
COLOMBIA	43.95779	9.619016
RWANDA	43.93	9.454424
UGANDA	43.5963	9.26087
ARGENTINA	43.49466	8.049877
ALBANIA	43.4171	7.20999
IRAN	43.3005	9.492644

BURKINA FASO	42.9634	9.108234
ISRAEL	42.8969	7.776923
MEXICO	42.72996	8.693064
BULGARIA	42.61758	5.279777
MACEDONIA	42.2899	7.14852
UKRAINE	41.87948	6.282876
HONG KONG	41.61	4.307331
THAILAND	41.4147	7.976471
LITHUANIA	39.5674	6.470282
MOLDOVA	39.33936	7.557181
SINGAPORE	39.2476	8.231788
BOSNIA AND HERZE	39.2036	7.227656
ALGERIA	39.0572	9.81206
MALAYSIA	38.9519	8.072621
NEW ZEALAND	38.9399	5.527559
SPAIN	38.80235	6.0036
LATVIA	38.6979	5.794961
CYPRUS	38.4691	8.513823
UNITED STATES	38.28396	8.322877
CANADA	38.09163	7.428008
SOUTH KOREA	37.64791	5.561952
CROATIA	37.5675	6.28802
JAPAN	36.53415	4.905384
FRANCE	36.417	4.684105
ITALY	36.3076	7.842052
GREAT BRITAIN	36.30475	5.422876
AUSTRALIA	36.26109	5.919449
RUSSIAN FEDERATI	36.06655	5.149849
GERMANY	35.8275	4.420438
NETHERLANDS	35.0959	4.694499
SLOVAKIA	34.87733	6.599624
POLAND	34.18474	8.738332
NORWAY	33.95234	4.440487
SLOVENIA	33.69259	5.295939
TAIWAN	32.85874	5.896
FINLAND	31.69497	5.824448
CHINA	29.7068	2.878821
HUNGARY	28.87071	5.030027
SWEDEN	28.72634	3.984899
CZECH REPUBLIC	28.67831	4.011722

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