The Effect of Income Inequality
On Happiness Levels

Spencer Carlin[a]

Abstract:

This paper investigates and presents the impact of income inequality upon general levels of happiness. The study will examine the influence of the income gap upon life satisfaction. Incorporating information from OECD databanks and the World Bank into a standard model in happiness studies, we will examine the effect on nations measured Happy Life Years (HLY). After careful examination this study provides a conclusion that reinforces past studies. Income inequality has a consistent significant and negative impact on subjective well-being and happiness levels. The study contributes to the inequality-happiness literature, by examining the effects of inequality on happiness amongst a panel of countries.

JEL Classification: I31, O15, D63

Keywords: Income Inequality, Gini, Happiness, Life Satisfaction.

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1.0 INTRODUCTION

There is considerable debate in literature on how best to measure inequality in life satisfaction. Income inequality refers to the degree that revenue is dispersed in an uneven fashion throughout a population. In more simple terms, it is the gap between the wealthy populace and everyone else. The assumption that happiness and respective levels of income inequality are negatively correlated has become widespread among developed western countries.

Since the 1950s income inequality has grown even through decades of stability in developed economies. In some countries this has driven the public to such low levels of satisfaction they have picketed against current policy and demanded reform. For example, take the United States recent progressive movement. The "Occupy Wall Street" protest solely focused on income inequality. The 99% waged a political war against the 1%. Striving to push the government toward reformation that amended regulations and laws, which supported the continued growth of the "Gap," protesters had such high levels of dissatisfaction with life, low levels of happiness, they were willing to camp in the streets for months. Economists, sociologists, and psychologist have all been dumbfounded by a similar question; what causes this extreme dissatisfaction in life, or unhappiness?

Many economists have delved into the subject of happiness. The main difficulty of their inquiry: how to measure happiness and life satisfaction. Happiness, when measured, is highly subjective. Making the index used to measure happiness a key fragment to any

study. This desire to understand the effect of inequality upon social cohesion and subsequently social unrest, had led to many results. This study will attempt to pinpoint the effects, contributing to the area of research, and providing further evidence for policy makers interested in social well-being.

This study's goals and objectives were set to examine the level, determinants and distribution of life satisfaction, and more specifically the effect of income inequality as measure by the Gini coefficient. The results produced from this study's model can be utilized to further the area of research, and assist policy makers in setting laws and regulations. The analysis of the results will provide sound methods that will ensure a healthy level of inequality. The level that produces enough incentive to compete and strive for success; the level that does not discourage or support the mind-set that bridging the gap is impossible.

The remainder of this paper is ordered as follows: The proceeding section explores a historical literature review of recent and significant past studies. Section 3 outlines the empirical model used in the study's regression. Methodology for data and estimation are covered in section 4. Lastly, section 5 discussed and explores the observed results, followed by a conclusion in section 6.

2.0 TREND

      Figure 1 shows that the Gini coefficient of income inequality, as measured by the surveys and running data incorporated in the OECD database have remained in an upward trend since the mid-1980s. With regards to the current economic downturn, the rise has recently begun to slow in its upward ascent. However, this consistent expansion of the gap between the wealthy, middle class, and poor only illustrates that the economic growth continues to be shared unfairly.
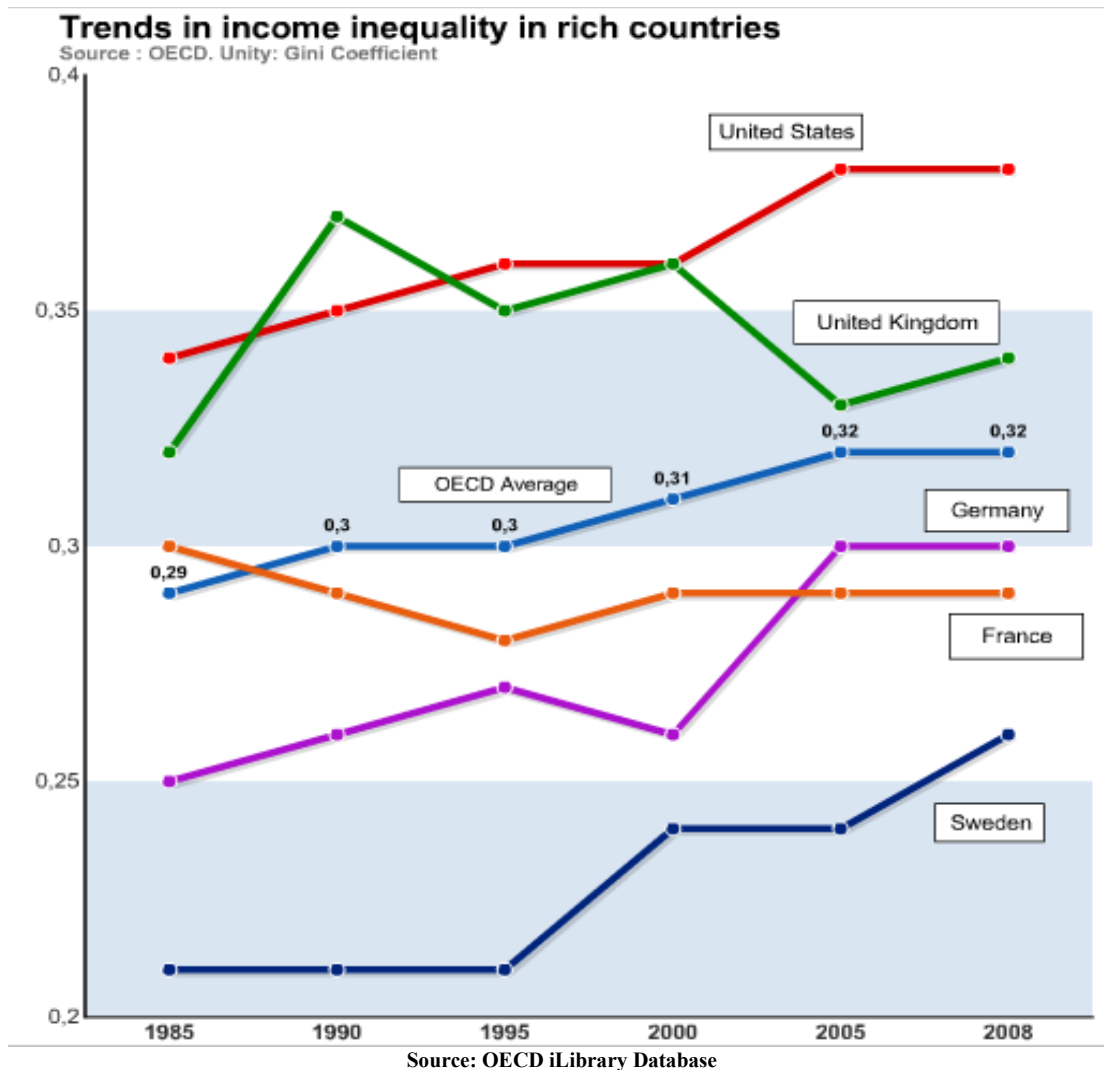
Figure 1
Increase Trend in Gini
OECD Countries mid-1980s to late-2000s
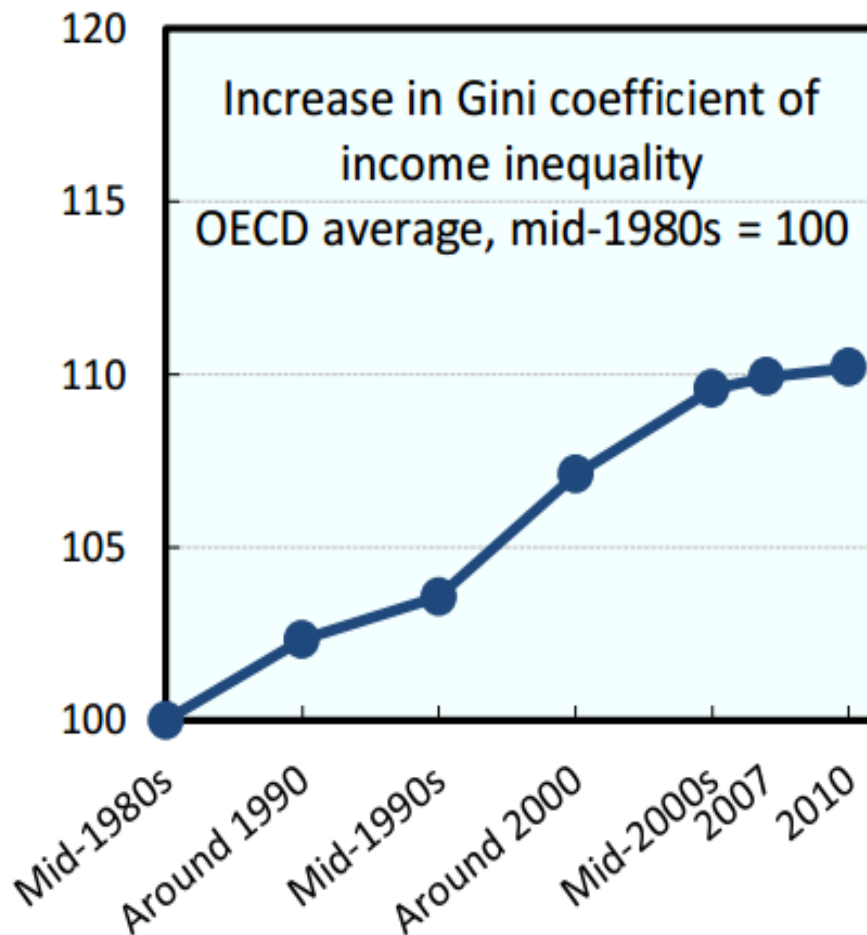
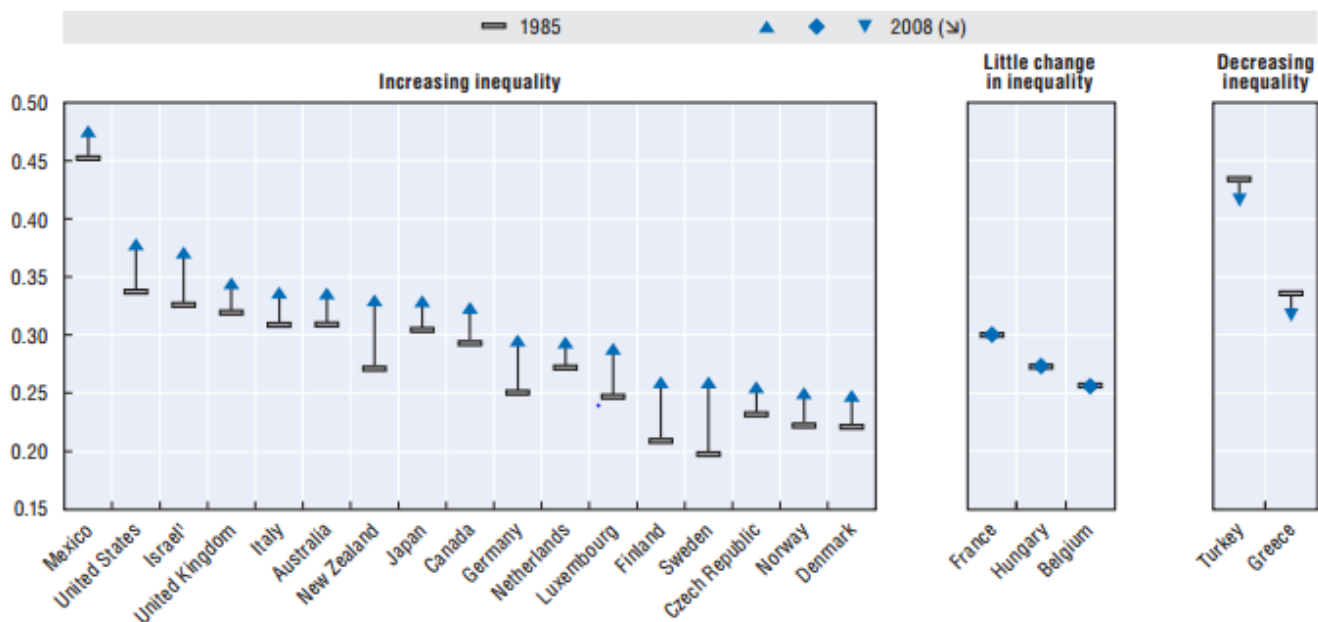Source: OECD Income Distribution Database

The fluctuations in income inequality in the majority of OECD countries have remained in an upward direction. In **Figure 2** some key countries trend in income inequality, as measured by the Gini coefficient using household disposable income (HDI), increases over three decades yet nearly flat lines for more recent years. While these wealthy countries experience some major and minor increases, the average remains deterred.

Figure 2

Trends in income inequality in rich countries
Source : OECD. Unity: Gini Coefficient


Source: OECD iLibrary Database

While **Figure 2** shows minimal increases, **Figure 3**'s results depict a more accurate inclination for the evolution of income inequality. This graph's results come from the use of a more telling variable. Looking at post-tax income inequality is more useful in examining its effects on happiness levels. Happiness, a subjective term, is exposed to perception. Pre-income tax is a perceived income level that impacts one's perceived well-being. Below one can grasp the trend of inequality in terms which are a better measure for the purpose of examining Gini's effect on life satisfaction. The trend of increasing income inequality is clear and significant in the majority of countries. Only a few experienced decreases, albeit small. This could be due to the different approaches to confronting economic crisis. France for example, has implemented in depth social welfare programs that encourage the sharing of wealth during the economic downturn.

Figure 3
Income inequality increased in most, but not all OECD countries
Gini coefficients of income inequality, mid-1980s and late 2000s
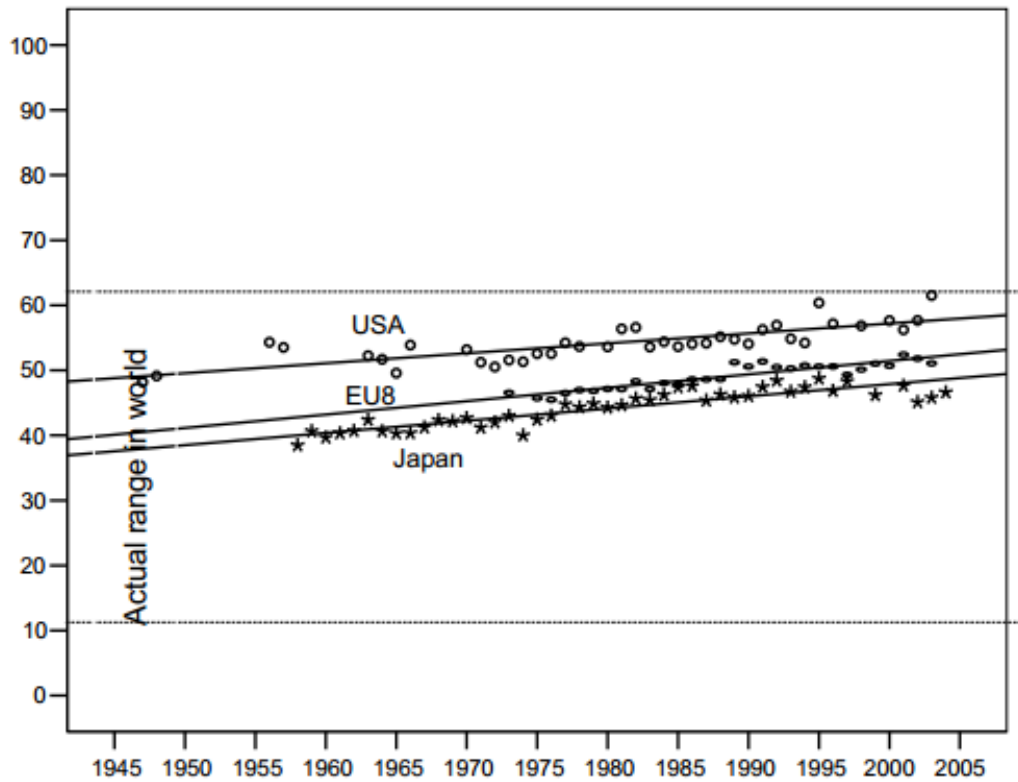
Figure 4
Trend in Average Happiness
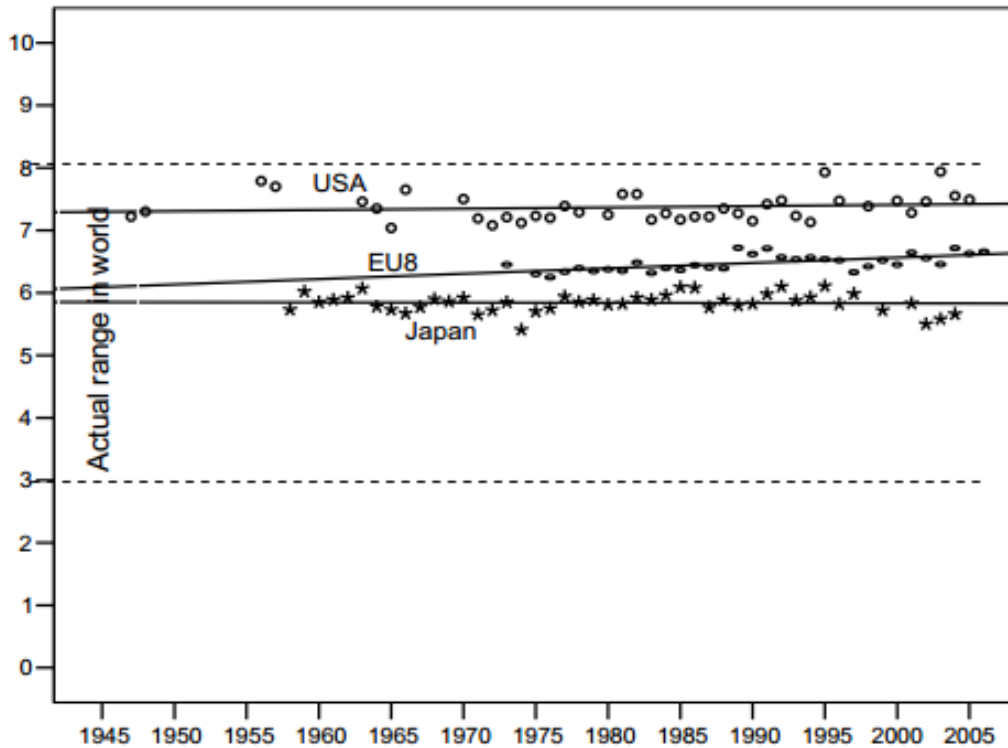
Source: Measures of Gross National Happiness

Trend data on average happiness is depicted in **Figure 4**. While difficult to discern, the graph shows a gradual and slow rise of average happiness over the past fifty years. This increase is contrary to current opinions that the U.S. has not become happier with its increased economic prosperity. The measure of average happiness tends to be more neutral rather than volatile.

In **Figure 5**, below, the visual representation of data, happy life years (HLY,) indicates a spectacular progression. Economists and sociologists are surprised to see such large gains, even with the increase of life expectancy over the years. The unprecedented upward trend of HLY, in such a short span of time, marks noteworthy economic and social progress.

Figure 5
Trend HLY 1973-2005

3.0 LITERATURE REVIEW

The inequality and happiness relationship has recently been under increased observation and has become a more common topic in studies conducted by both leading economists and sociologists. Income inequality occurs when there is a gap so expansive that those on the left, the poor side, cannot or are highly discouraged from exerting effort to bridge the difference. This discontent in the ability to be equal leads to reduced happiness. Research has found that an increase in the income gap lowers perceived well-being and subjective life satisfaction (Rousseau, 2009; Graham and Felton, 2005). To follow, in the near term, individuals with a higher income experience higher levels of happiness (Blanchflower and Oswald, 2004; Di Tella et. al., 2001), while a study conducted by Ravallion and Lokshin (2000), did not uncover any significant positive association between income and happiness. Theory dictates that increasing income inequality raises social deprivation, which can encourage work ethic to bridge the gap. Additionally empirical research's evidence on the happiness-inequality relation is controversial and heterogeneous (Verme, 2010). Positive, negative, non-significant relations have all been supported through research and varying empirical models.

This paper takes past research into account and attempts to provide further evidence in determining the true relationship between happiness and income inequality. Deriving an empirical model based on Verme's (2010) study, the study delves into the effects of not only income inequality but other key factors that may correlate with

inequality and certainly relate to life satisfaction, perceived well-being, and subjective happiness levels.

4.0 DATA AND EMPIRICAL METHODOLOGY

4.1 Data

The study uses annual data derived from 2005 through 2012. Data points were obtained from the Organization for Economic Co-operation and Development (OECD) iLibrary website. Publicly available OECD data encompasses a specific set of thirty-four countries, twenty of which were randomly selected for this study. **Table 1** shows a summary of the data collected and utilized in an empirical model in or to analyze the effects upon measured happiness. Additional data was found at the World Bank website and the World Database of Happiness archive.

Table 1: Summary Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Life Expectancy (OECD)	142	79.07	2.63	71.72	82.93
Job Security (World Bank)	102	.8466	.0708	.6596	.9633
Long-Term Unemployment (World Bank)	152	2.76	2.44	.1	14.4
Household Disposable Income (OECD)	160	26919.7	8227.664	10117.49	45776.09
GDP with PPP (World Bank)	160	27257.34	9324.459	8502.324	45431.03
GINI Index (World Bank)	140	36.94	9.4616	25.5	57.78
Happy Life Years Index (World Database of Happiness)	160	6.6	.9678	4	8.5

Source in parentheses

4.2 Empirical Model

This study closely follows Verme's research and model (2010). Adapting the model by modifying variables and sources of data, this study examines the issue from a different perspective. The model used incorporates a pre-tax Gini and the post-tax Household Disposable Income (HDI) in order to get an angle on income and inequality, which is closer to the amount perceived and realized by an individual. The model also incorporates a measure of security in employment in order to account for the discouragement of the underemployed. The model is written as follows:

$$HLY_{it} = \beta_{O} + \beta_{it} \, Gini_{it} + \beta_{it} \, HDI_{it} + \beta_{it} \, JS_{it} + \beta_{it} \, LTUE_{it} + \beta_{it} \, LE_{it} + \beta_{it} \, GDP\_PPP_{it}$$

HLY_{it}, is the annual average of Happy Life Years from a country i at a specific year t. HLY_{it} is used as a dependent variable. It is a measure of happiness that takes not only the intensity of satisfaction, but also its duration. This combination has advantages. It offers a more comprehensive view on well-being in a country. Additionally, using this measure instills common sense. Logically one prefers a long and happy life over either an unhappy life or a short happy life. Lastly it measures to and associates with established economic and public policy. HLY is considered the top measurement method in a scholarly literature assessment of the different types of life satisfaction and quality measures (Hagerty et. al. 2001). For this reason the study will utilize the HLY index.

The independent variables of the study are comprised of six measures obtained from various databanks and archives. First, $Gini_{it,}$ (An inequality measure of country i at year t) taken from the World Bank DataBank online. $Gini_{it}$ represents the gap between the rich and poor in a specified country i at year t. $HDI_{it,}$ which is a substitution for the income measure, is obtained from the iLibrary of OECD. This incorporates a post-tax measure of household income in order to analyze a household's income available to spend before progressive tax brackets affect the levels of yearly income. Third, $JS_{it,}$ is the ratio of temporary to permanent employment in country i at year t. This is obtained from the public source on the OECD iLibrary Databank online. The purpose of this variable is to account for discouraged members of the labor force who are not included in LTUE. $LTUE_{it}$, Long-term Unemployment, is the measure of unemployed in country i at year t. The data was collected from the World Bank DataBank website. The fifth variable is LE_{it}, Life Expectancy. The data was extracted from the OECD iLibrary databank in order to ensure we not only have a measure of length for HLYs, but for the expected time of life an individual expects to have, a number, which greatly affects how society utilizes the scarce resource of time. Last is the study's sixth independent variable, $GDP\_PPP_{it,}$ GDP per Capita taking the purchasing power parity into account. It is important to measure not only the individual's wealth but that of the economy in which they dwell. GDP_PPP_{it}, indicates the growth of the economy, GDP, per individual, at a level that is adjusted for currency exchange rate. This measure assists in incorporating, on an equal scale, the economic benefits each individual realizes. Using these variables in an empirical model, the study expects to find significant negative correlation between the $Gini_{it}$ and HLY_{it}.

5.0 EMPIRICAL RESULTS

The empirical estimation results are presented in **Table 2**, **Table 3**, and **Table 4**. The regression analyses show the expected negative relationship between the level of income inequality measured by a Gini index and the Happy Life Years index.

Table 2: Regression #1 Results

Variable	Coefficient	Std. Error
GINI**	-0.042974	0.020416
LE**	0.088629	0.037974
LTUE***	-0.288748	0.044825
JS*	1.058702	1.064642
HDI	3.46E-06	9.91E-06
C	0.635026	3.266047
R-squared	0.523578	
F-statistic	14.94613	
Number of Obs.	100	

Note: *** , **, and * denotes significance at the 1%, 5%, and 10% respectively.

Table 3: Regression #2 Results

Variable	Coefficient	Std. Error
GINI*	-0.015259	0.00854
HDI	-9.31E-06	8.31E-06
GDP_PPP***	2.72E-05	9.94E-06
LE	0.028468	0.032325
LTUE***	-0.282012	0.038499
C	3.967857	2.451772
R-squared	0.571277	
F-statistic	25.05119	
Number of Obs.	100	

Note: *** , **, and * denotes significance at the 1%, 5%, and 10% respectively.

Table 4: Regression #3 Results
All Variables

Variable	Coefficient	Std. Error
GINI*	-0.026277	0.015576
HDI	-9.17E-06	7.41E-06
GDP_PPP***	0.000117	1.49E-05
LE**	0.081377	0.035241
LTUE***	-0.104473	0.040332
JS***	3.330615	0.95887
C	13.06353	2.865599
R-squared	0.750339	
F-statistic	33.5606	
Number of Obs.	74	

Note: ***, **, and * denotes significance at the 1%, 5%, and 10% respectively.

The results of the empirical model with all the variables, **Table 4**, and with a few variations, removing JS_{it} in **Table 3** and GDP_PPP_{it} in **Table 2**, can be understood in terms of relativity to changes in the independent variables. The effect of the trend of a widening gap between the rich and poor is affecting the levels of happiness within a country. As expected, LE, LTUE, and JS all have significant positive relation to HLY.

However, it is interesting to note that despite increasing HDI, it is found to be statistically insignificant for life satisfaction. Meaning that despite increased wages and salaries or decreased taxes, an individual's happiness level will neither increase nor decrease. This outcome is unexpected. Despite increasing HDI having no effect towards HLY, the Gini coefficient still negatively correlates. These results, while confirming the hypothesis that income inequality spreads discontent and influences negatively upon happiness and life satisfaction, reveal something unanticipated.

5.0 CONCLUSION

In summary, the twenty OECD countries when put into the model reveal the anticipated outcome. The conclusions of this study imply that the number of happy years, the study's measure for life satisfaction and wellbeing, an individual lives are reduced by the presence of high levels of income inequality. Moreover it seems this discontent is not going to resolve even as total income realized, measured by HDI, increases. Economically, it is only possible to reduce the inequality of income through means of wealth redistribution. As a reduction in taxes, this would raise HDI, or an increase in minimum wage, which would also increase HDI, will have no effect towards increasing happiness levels, HLY. Additionally, many policies that push for wealth redistribution can affect LTUE negatively, which subsequently will further decrease life satisfaction levels. Further research is required to determine the proper methods to reduce Gini and close the exponentially expanding gap between the rich and the poor, increasing perceived well-being. Nevertheless, this paper discovered that individuals, on average, do not place wealth as a component of happiness. The increase in income, HDI, did not have significant correlation with HLY. Meaning, that an individual would rather have maintain the same

level of income, with less expanse between the far side of the inequality canyon than have a higher level of income with the same gap to bridge. The discouragement of being unable to obtain and reach the next stage of wealth is more detrimental to happiness than the entertainment that additional income provides the opportunity to experience. Thus analysis of the determinants of happiness suggest that society and economies should form closer ties and work together to improve personal drive for success, reduce income inequality, and continue to accelerate economic growth and maintain unprecedented levels of social development.

Appendix A: Variable Description and Data Source

Acronym (Expected Sign)	Definition or Purpose	Data source
HLY (Dependent)	Happy Life Years Index	World Database of Happiness
Gini (-)	Gini Coefficient of Income Inequality	World Bank DataBank
HDI (+)	Household Disposable Income (Income Post-Taxes)	World Bank DataBank
JS (+)	Job Security in terms of temporary and permanent employment	OECD iLibrary
LTUE (-)	Long-term Unemployment Rate	OECD iLibrary
LE (+)	Life Expectancy at Birth	OECD iLibrary
GDP_PPP (+)	GDP per Capita adjusted to the PPP	World Bank DataBank

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Inequalities of Income And Happiness Levels

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- Examine the influence of the income gap upon life satisfaction.

- Income inequality: the degree that revenue is dispersed in an uneven fashion throughout a population.

- Income inequality has grown even through decades of stability in developed economies.

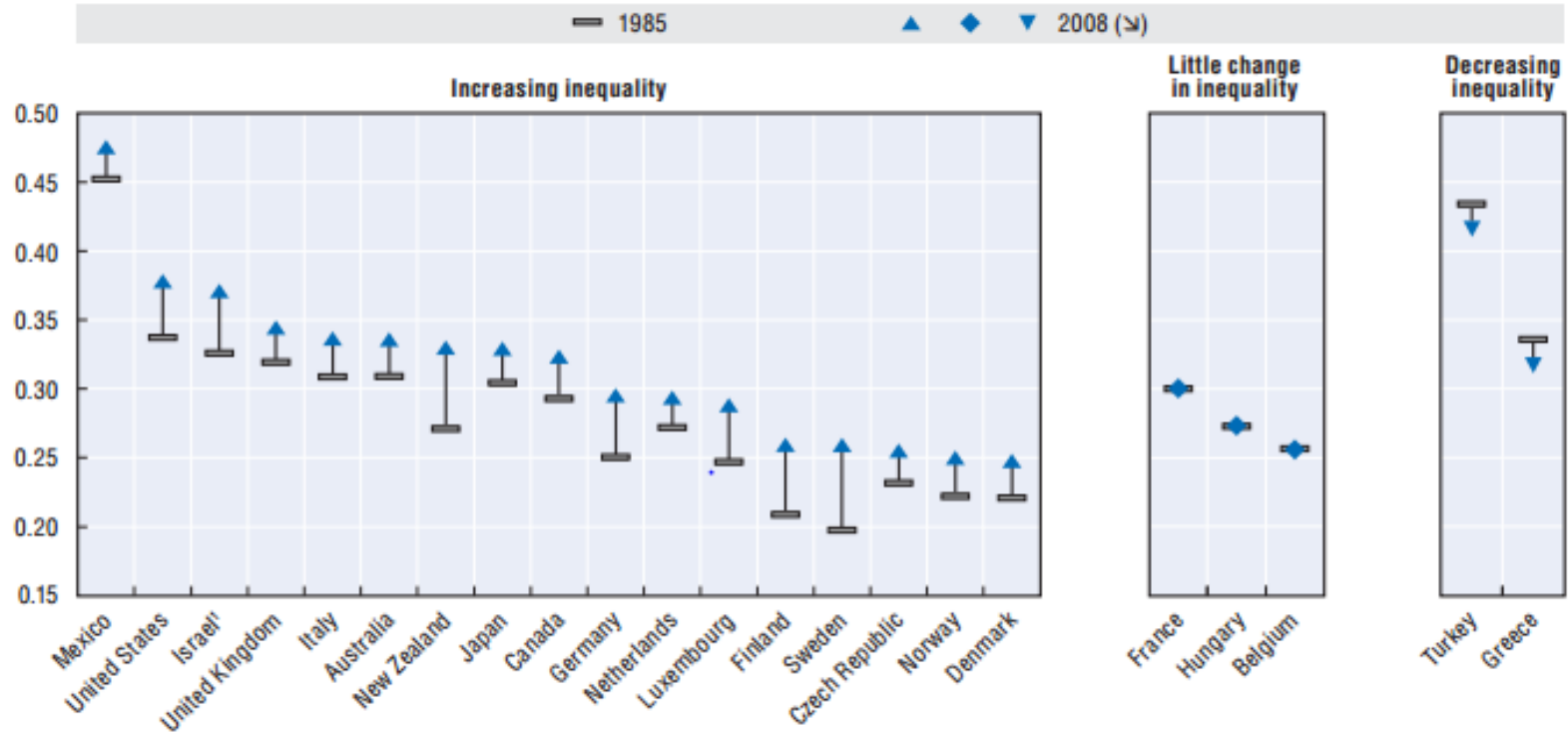- Extreme situations of inequality have even led public to protest against policy.

The Issue
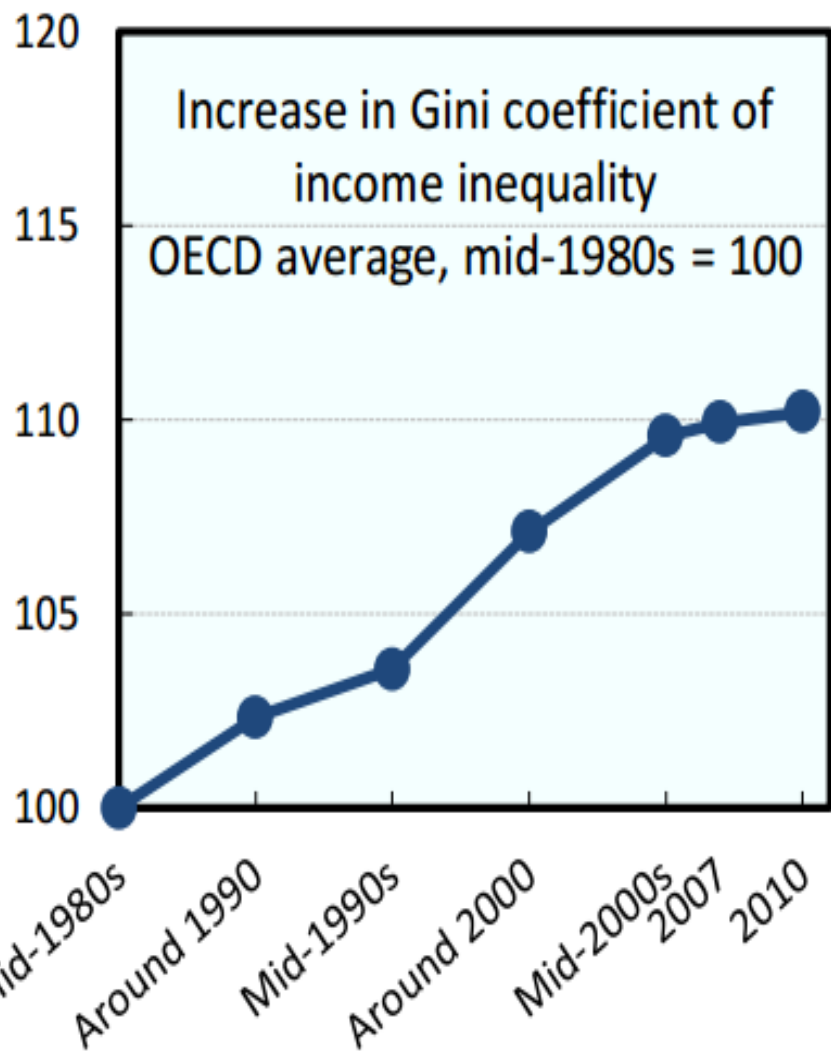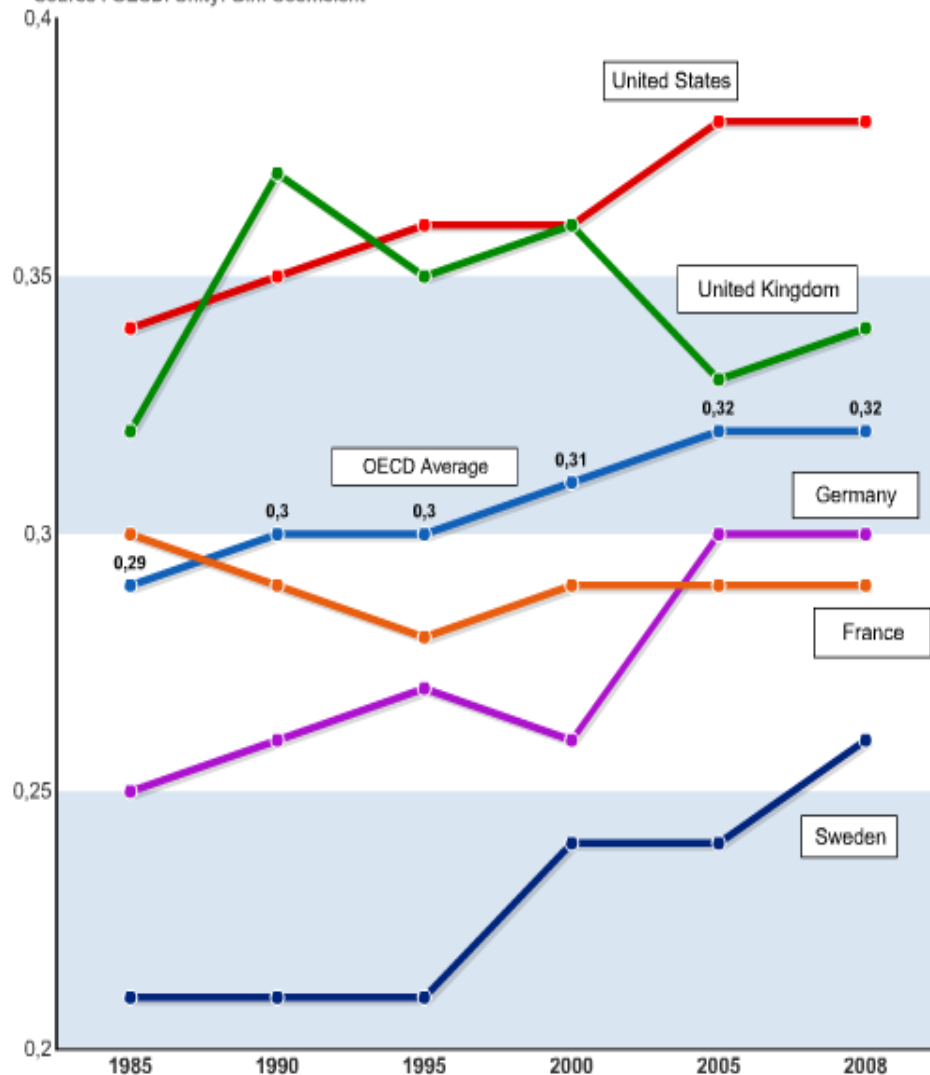
The Trend
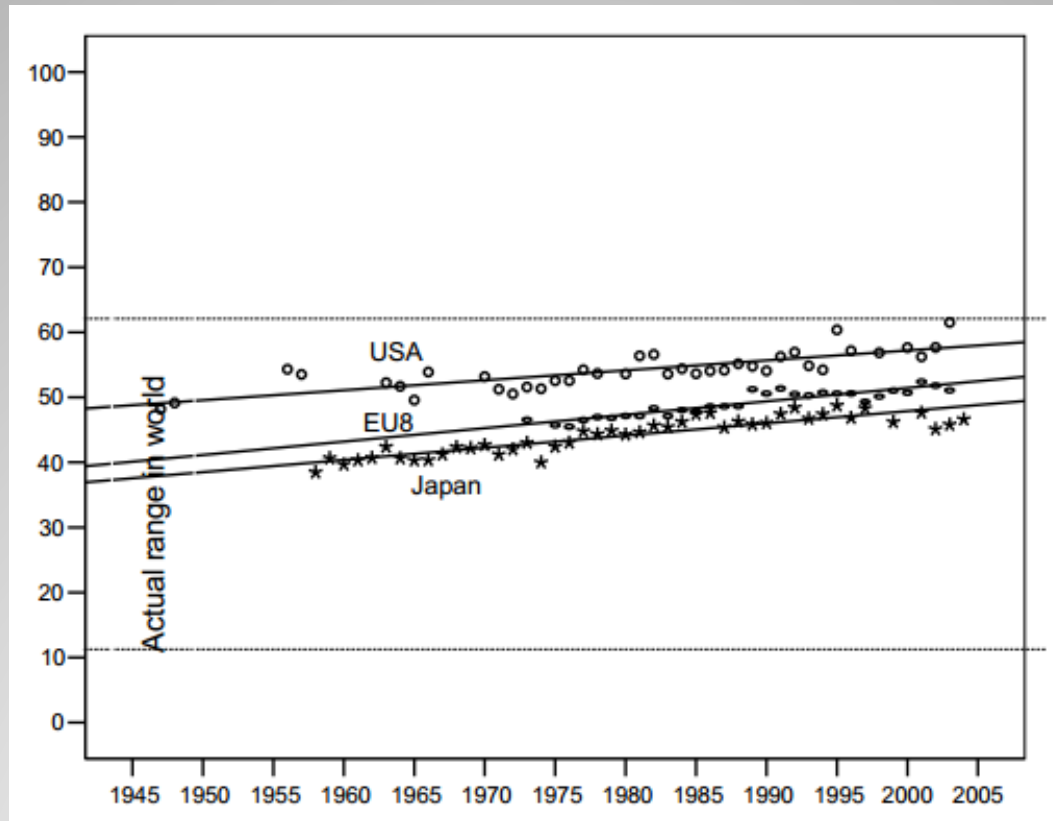
The Trend

The Trend

- Jiang (2011)
  - Empirical result concludes that rural to urban inequality levels negatively impact happiness levels

- Blanchflower and Oswald (2004) and Di Tella et. al. (2001)
  - Found the impact on individuals with higher income is more exaggerated

- Rousseau (2009) and Graham and Felton (2005)
  - Multiple studies have shown significant negative correlation

- Oshio and Kobayashi (2009)
  - Regional inequality in Japan

- Verme (2010)
  - Consistent and negative impact
  - Choice of inequality measure is key.

Literature Review

- Panel Data
  - i: 2005-12
  - t: 20 Countries
    - Australia, Brazil, Canada, Chile, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Mexico, Netherlands, New Zealand, Poland, Portugal, Spain, United Kingdom, United States.

  - The World Bank DataBank, the OECD iLibrary and databases, and the World Database of Happiness

The Data

$$HLY_{it} = \beta_0 + \beta_{it} \, Gini_{it} + \beta_{it} \, HDI_{it} + \beta_{it} \, JS_{it} + \beta_{it} \, LTUE_{it} + \beta_{it} \, LE_{it} + \beta_{it} \, GDP\_PPP_{it}$$

HLY: Happy Life Years

Gini: Measure of Income Inequalities

X_1: Household Disposable Income

X_2: Job Security: Expressed in terms of temporary to permanent employment

X_3: Long Term Unemployment Rate

X_4: Life Expectancy

X_5: GDP Per Capita Purchasing Power Parity

The Model

Acronym (Expected Sign)	Definition or Purpose	Data source
HLY (Dependent)	Happy Life Years Index	World Database of Happiness
Gini (-)	Gini Coefficient of Income Inequality	World Bank DataBank
HDI (+)	Household Disposable Income (Income Post-Taxes)	World Bank DataBank
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LE (+)	Life Expectancy at Birth	OECD iLibrary
GDP_PPP (+)	GDP per Capita adjusted to the PPP	World Bank DataBank

Expected Outcome

Variable	Coefficient	Std. Error
GINI*	-0.026277	0.015576
HDI	-9.17E-06	7.41E-06
GDP_PPP***	0.000117	1.49E-05
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C	13.06353	2.865599
R-squared	0.750339	
F-statistic	33.5606	
Number of Obs.	74	

Regression Results

- The conclusions of this study imply that the number of happy years, the study's measure for life satisfaction and wellbeing, an individual lives are reduced by the presence of high levels of income inequality.

- The increase in income, HDI, did not have significant correlation with HLY.
  - Meaning, that an individual prefers maintaining the same level of income, with less inequality, than have a higher level of income with the same gap to bridge.

Conclusion

Income Inequality and Happiness Level

SPENCER CARLIN

Brief Literature Review

- ## Jiang (2011)
  - Empirical result concludes that rural to urban inequality levels negatively impact happiness levels

- ## Verme (2010)
  - Consistent and negative impact
  - Choice of inequality measure is key.

- ## Oshio and Kobayashi (2009)
  - Regional inequality in Japan

Data

Panel Data

- 2005-12

- 20 Countries

  ○ Australia, Brazil, Canada, Chile, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Mexico, Netherlands, New Zealand, Poland, Portugal, Spain, United Kingdom, United States.

    ⤬ Data comes from the World Bank and OECD

The Model

$$HLY_{it} = \beta_{o} + \beta_{it} Gini_{it} + \beta_{it} HDI_{it} + \beta_{it} JS_{it} + \beta_{it} LTUE_{it} + \beta_{it} LE_{it} + \beta_{it} GDP\_PPP_{it}$$

H: Better Life Index (OECD)

Gini: Measure of Income Inequalities (World Bank)

X_1: Household Disposable Income (World Bank)

X_2: Job Security, Expected Future Income (Labor Market Statistics)

X_3: Long Term Unemployment Rate (Labor Market Statistics)

X_4: Life Expectancy (World Bank)

X_5: GDP Per CaApita PPP (World Bank)

Conclusion

The study will find that income inequality, measured by the Gini Coefficient will have a significant negative impact on a country's level of happiness.

Inequality and Globalization

Spencer Carlin

Introduction

- Major issue of the 21st Century
- Inequality has steadily increased within:
  - Developed Countries
  - Developing Countries
- Global inequality may also be increasing
- Explanatory Variables
  - Globalization, Technology, Government Policy, Social Norms
- Experts disagree as to whether rising inequality even presents a problem

Developed Countries

- Measure of inequality: Gini Index
  - World Bank
- Hungary and Denmark: 24.4 and 24.7
- Chile: 57.1

- United States, Hong Kong, United Kingdom
- France
 - Expansive social welfare institutions

The U.S. Experience

- Gini Index 1968-2003
  - 38.8 to 46.4
- Increasing
  - Shares of household hold income by quintile
  - Shares of income held by top decile
- Decreasing
  - Real wages
  - Real minimum wage
- 35.9 million living in poverty by 2003

Exhibit 3a   United States Gini Index, 1968 to 2003 (U.S. Census Bureau)
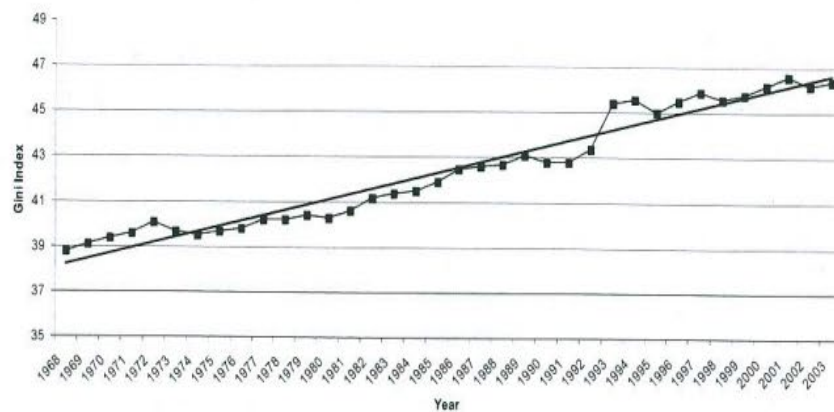
Source: Adapted from Carmen DeNavas-Walt, Bernadette D. Proctor, and Robert J. Mills, *Income, Poverty, and Health Insurance Coverage in the United States: 2003* [U.S. Census Bureau, Current Population Reports – Consumer Income, P60-226] (U.S. Government Printing Office, Washington, D.C., 2004, Table A-3).
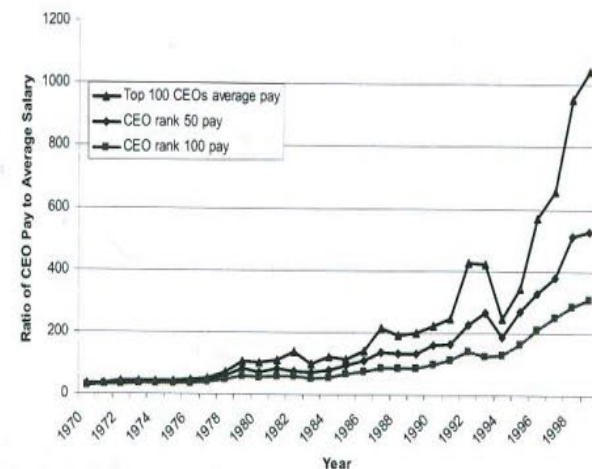
Exhibit 3b   United States Shares of Household Income of Quintiles, 1968 to 2003
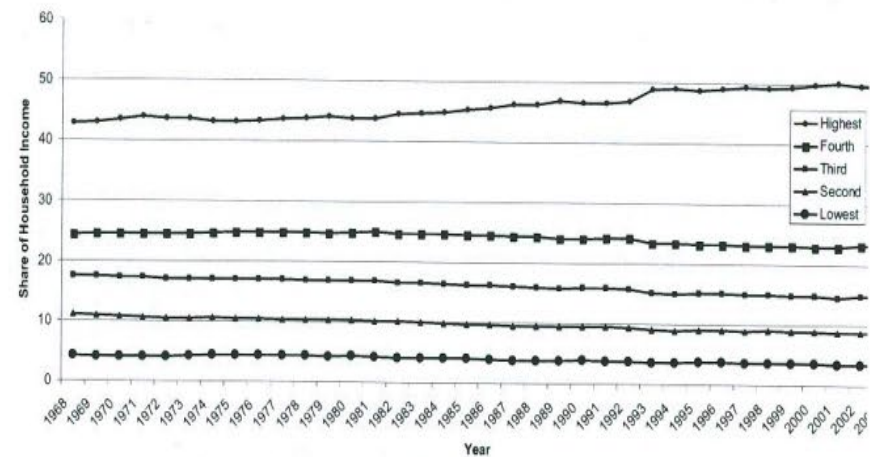
Source: Adapted from Carmen DeNavas-Walt, Bernadette D. Proctor, and Robert J. Mills, *Income, Poverty, and Health Insurance Coverage in the United States: 2003* [U.S. Census Bureau, Current Population Reports – Consumer Income, P60-226] (U.S. Government Printing Office, Washington, D.C., 2004, Table A-3).

Exhibit 3c   U.S. Income Share of Top Decile, Top Percentile, and Top 0.01%, 1968 to 2000
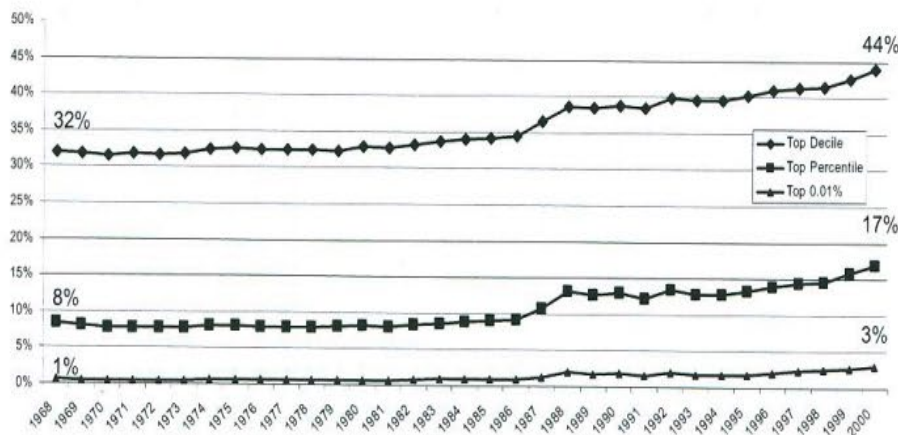
Source: Adapted from Thomas Piketty and Emmanuel Saez, "Income Inequality in the United States, 1913-1998," Working Paper 8467, National Bureau of Economic Research, September 2001.

Note: The data presented in this exhibit are not perfectly consistent with those presented in Exhibit

Exhibit 3d   Ratio of CEO Pay to Average Full-Time Worker Salary, 1970-19

Source: Adapted from Thomas Piketty and Emmanuel Saez, "Income Inequality in the United Stat 1998," Working Paper 8467, National Bureau of Economic Research, September 2001.
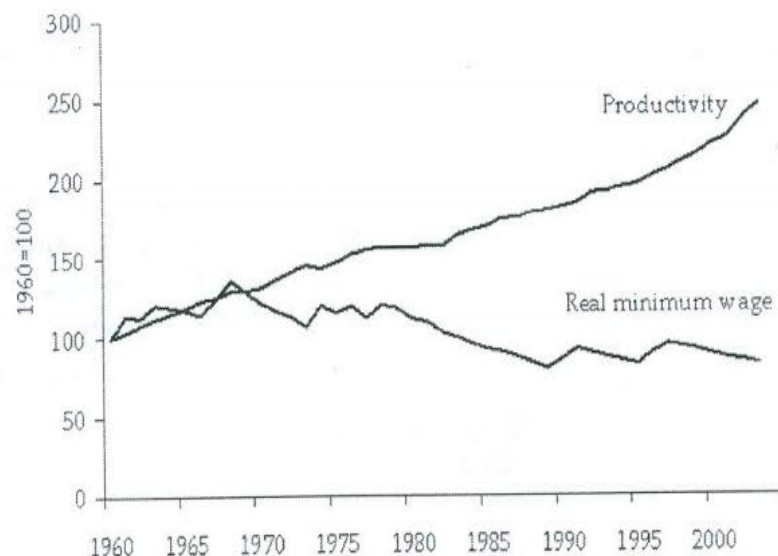
Note: "Top 100 CEOs average pay" refers to the average real compensation for the top 100 (highe CEOs from Forbes survey of 800 CEOs. "CEO rank 50 pay" and "CEO rank 100 pay" ref compensation for the 50th and 100th ranked CEO. "Annual Pay of Average Wage Earne

Exhibit 5a Real Wages for Men and Women in the 10th and 20th Percentile of Wage Distribution, 1973 to 1997, indexed to 1979

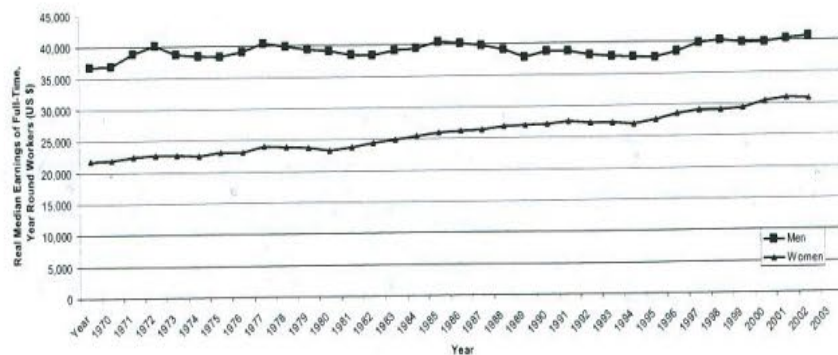
Source: Mishel, Bernstein, and Schmitt, 1999b.
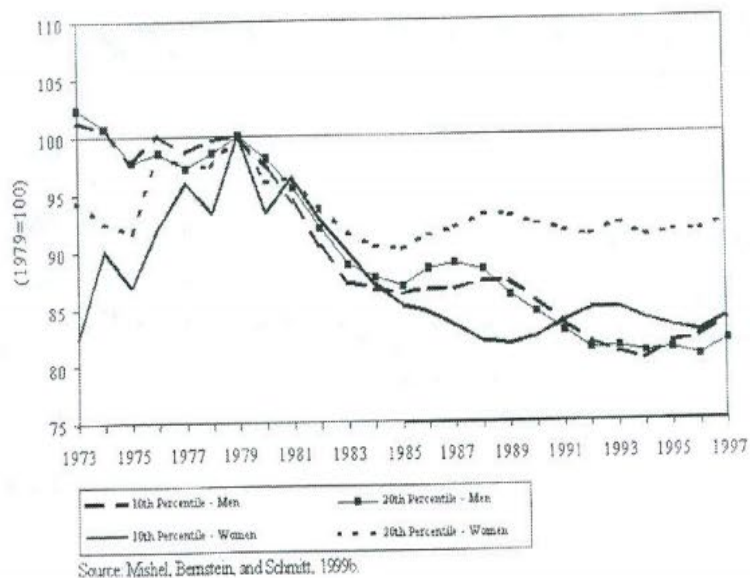
Source: Jared Bernstein and Heidi Hartmann, "Defining and Characterizing the Low-Wage Labor Market," in *The Low-Wage Labor Market: Challenges and Opportunities for Economic Self-Sufficiency*, prepared by the Urban Institute for Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services (Washington, D.C.: December 1999), http://aspe.hhs.gov/hsp/lwlm99/.
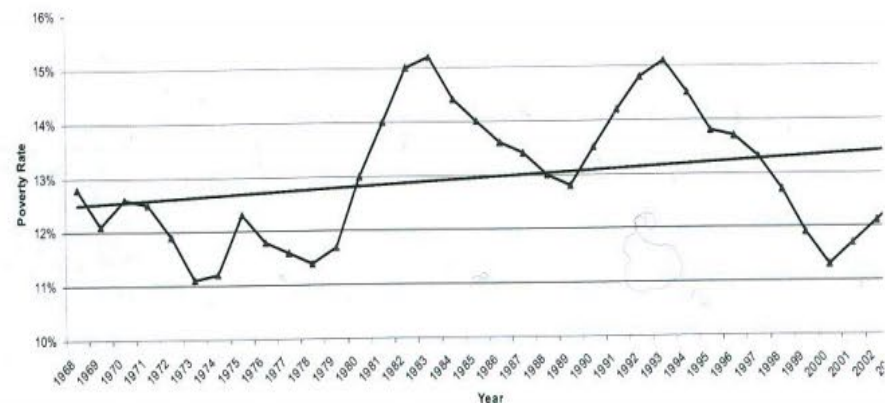
Exhibit 5b Real Minimum Wage and Productivity, 1960 to 2003

Source: Democratic Staff of the Committee on Health, Education, Labor and Pensions Committee, United Stat Senate, "The Decline in the Minimum Wage for America's Workers," July 1, 20(http://www.policyalmanac.org/economic/archive/minimum_wage02.shtml.

Exhibit 5c Real Median Earnings for Men and Women in the U.S., 1970 to 2003

Source: Adapted from Carmen DeNavas-Walt, Bernadette D. Proctor, and Robert J. Mills, *Income, Poverty, and Health Insurance Coverage in the United States: 2003* [U.S. Census Bureau, Current

Exhibit 6 U.S. Poverty Rate: 1968 to 2003

Source: Adapted from Carmen DeNavas-Walt, Bernadette D. Proctor, and Robert J. Mills, *In(Poverty, and Health Insurance Coverage in the United States: 2003* [U.S. Census Bureau, Cu
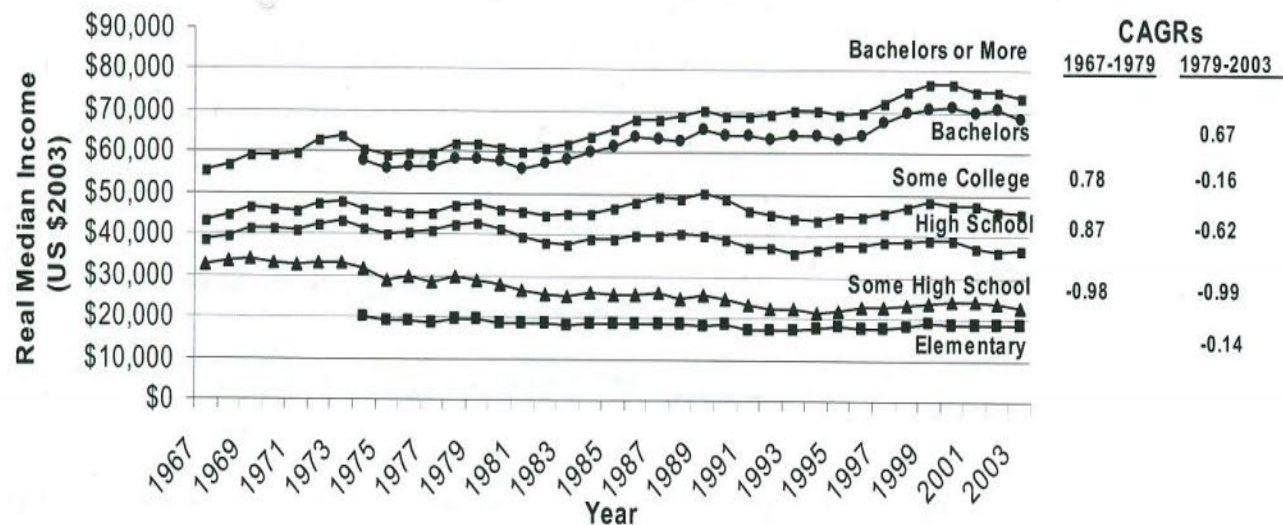
The Explanation

- Increasing returns to education
  - College Degree
    - Real Median Income Increased
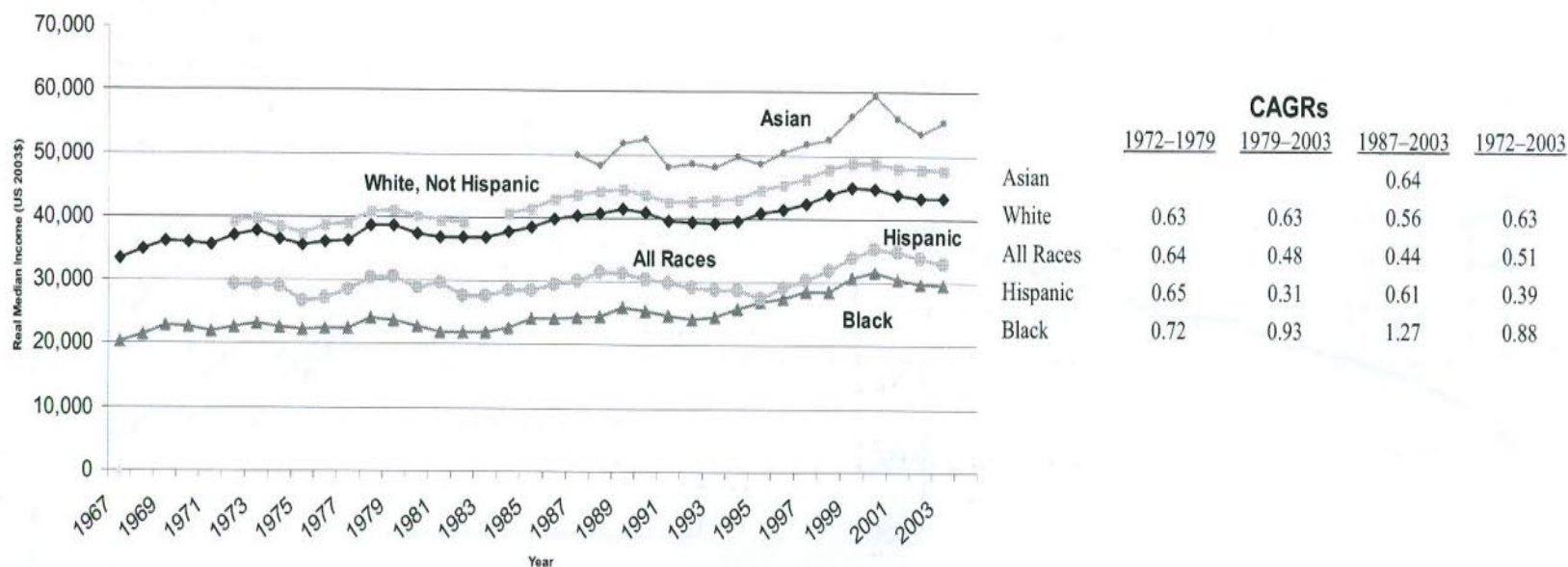 - Without a Degree
    - Real Median Income Decreased

Exhibit 4a US Median Household Income by Education Level, 1967-2003

	CAGRs	
	1967-1979	1979-2003
Bachelors or More		
Bachelors		0.67
Some College	0.78	-0.16
High School	0.87	-0.62
Some High School	-0.98	-0.99
Elementary		-0.14

Chart: Real Median Income (US $2003) vs Year (1967-2003), y-axis $0 to $90,000. Series: Bachelors or More, Bachelors, Some College, High School, Some High School, Elementary.

Exhibit 4b U.S. Median Household Income by Race: 1967-2003

Chart: Real Median Income (US 2003$) vs Year (1967-2003), y-axis 0 to 70,000. Series: Asian, White Not Hispanic, All Races, Hispanic, Black.

	CAGRs			
	1972–1979	1979–2003	1987–2003	1972–2003
Asian			0.64	
White	0.63	0.63	0.56	0.63
All Races	0.64	0.48	0.44	0.51
Hispanic	0.65	0.31	0.61	0.39
Black	0.72	0.93	1.27	0.88

Contributing Variables

- Globalization
  - Forced lower-skilled workers in the developed world to compete with the developing world
    - This competition transmitted through trade and capital flows
    - Downward pressure on wages
  - Trade liberalization increased the demand for skilled workers
    - High-income workers gained more bargaining power
- Technology
  - Technological advances replacing lower-skilled workers
  - Digitization, The Internet, Communication Technology
- State Policy and Cultural Norms
  - Declining influence of labor unions
  - Higher Social Welfare
  - Norms: extreme pay differentials

Developing Countries

- Not solely a main issue for developed countries
- Measure of Inequality: Gini Index
- Boznia and Herzegovina: 26.2
- Nambia: 70.7

- Median Gini Developing: 7.5
  - 40.2----32.7
- Median Gini Low-development: 11.4
  - 44.9

Exhibit 8   Income Distribution and Gini Coefficient in Selected Low Development Countries (World Bank)

			Share of income or consumption				
HDI rank		Survey year	Poorest 10%	Poorest 20%	Richest 20%	Richest 10%	Gini index
142	Pakistan	1998/99	3.7	8.8	42.3	28.3	33
145	Lesotho	1995	0.5	1.5	66.5	48.3	63.2
146	Uganda	1999	2.3	5.9	49.7	34.9	43
147	Zimbabwe	1995	1.8	4.6	55.7	40.3	56.8
148	Kenya	1997	2.3	5.6	51.2	36.1	44.5
149	Yemen	1998	3	7.4	41.2	25.9	33.4
150	Madagascar	2001	1.9	4.9	53.5	36.6	47.5
151	Nigeria	1996/97	1.6	4.4	55.7	40.8	50.6
152	Mauritania	2000	2.5	6.2	45.7	29.5	39
155	Gambia	1998	1.5	4	55.2	38	38
157	Senegal	1995	2.6	6.4	48.2	33.5	41.3
159	Rwanda	1983	4.2	9.7	39.1	24.2	28.9
160	Guinea	1994	2.6	6.4	47.2	32	40.3
162	Tanzania, U. Rep. of	1993	2.8	6.8	45.5	30.1	38.2
163	Côte d'Ivoire	1998	2.2	5.5	51.1	35.9	45.2
164	Zambia	1998	1.1	3.3	56.6	41	52.6
165	Malawi	1997	1.9	4.9	56.1	42.2	50.3
169	Central African Republic	1993	0.7	2	65	47.7	61.3
170	Ethiopia	2000	3.9	9.1	39.4	25.5	30
171	Mozambique	1996/97	2.5	6.5	46.5	31.7	39.6
172	Guinea-Bissau	1993	2.1	5.2	53.4	39.3	47
173	Burundi	1998	1.7	5.1	48	32.8	33.3
174	Mali	1994	1.8	4.6	56.2	40.4	50.5
175	Burkina Faso	1998	1.8	4.5	60.7	46.3	48.2
176	Niger	1995	0.8	2.6	53.3	35.4	50.5
177	Sierra Leone	1989	0.5	1.1	63.4	43.6	62.9

Note: The Human Development Index (HDI) is a measure of achievement based on three measures: life expectancy, education and standard of living, measured by PPP-adjusted income per capita.

Source: Adapted from United Nations Development Programme, *Human Development Report* (New York, N.Y.: Oxford University Press, 2004), at http://hdr.undp.org/statistics/data/excel/hdr04_table_14.xls, citing World Bank, Correspondence on data on income distribution, Washington, D.C., March 2004.

Exhibit 9a   China Gini Index, 1968 to 1998 (World Income Inequality Database)
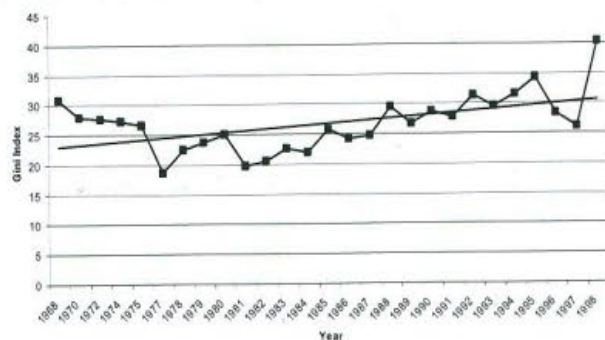
Source: Adapted from WIDER World Income Inequality Database (WIID), http://www.wider.unu.edu/wiid/wiid.htm. WIDER data are averages for each year.

Exhibit 9b   Brazil Gini Index, 1970 to 2001 (World Income Inequality Database)
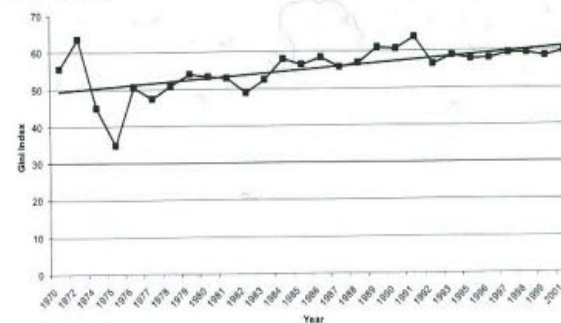
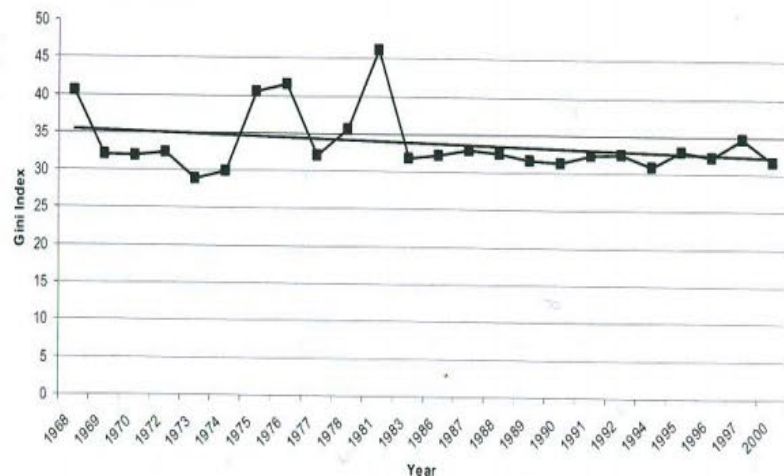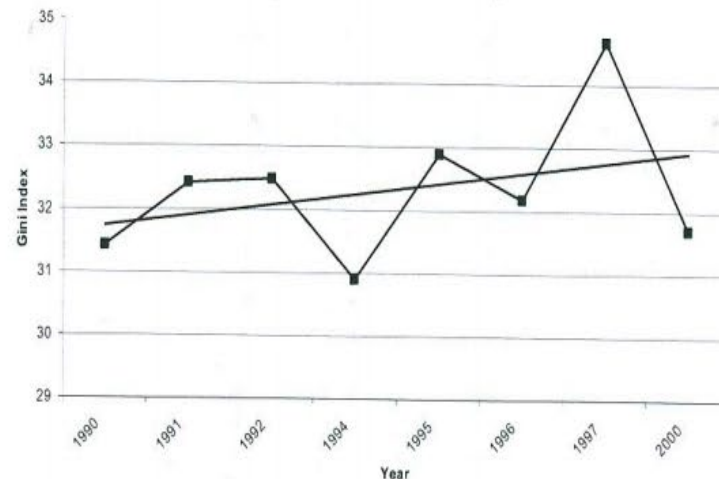Source: Adapted from WIDER World Income Inequality Database (WIID), http://www.wider.unu.edu/wiid/wiid.htm. WIDER data are averages for each year.

China And India

- China (45)
- 1970s Economic Reform
  - Gains unequally shared
    - Rural vs. Cities
  - Rural families migrated for work
    - $300 yearly wages
    - Basic living expense was overwhelming
  - Migrant wages became stagnant
  - The Mules of the Economy

- India (32.5)
- India is a milder case
  - Late 60s-80s
    - GDP per Capita 2.1% growth rate
  - 1990 and thereafter
    - GDP per Capita 3% growth rate
  - Trade liberalization
  - Agriculture and stagnating employment
  - $1-a-day poverty decreased 46.3 to 35.3 percent

Exhibit 10a India Gini Coefficient, 1968 to 2000 (World Income Inequality Database)

Exhibit 10b India Gini Coefficient, 1990 to 2000 (World Income Inequality Database)

Exhibit 10c India Gini Coefficient, 1968 to 1997 (Dollar and Kraay)
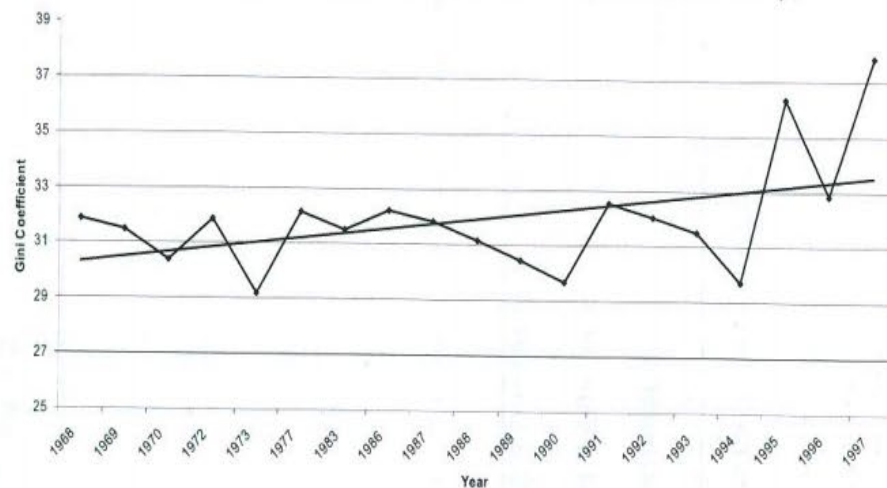
Exhibit 10d India Income by Percent Population, 2000

| Population	Percentage share of income or consumption (%)
Lowest 10%	3.94
Lowest 20%	8.89
Second 20%	12.33
Third 20%	15.95
Fourth 20%	21.20
Highest 20%	41.63
Highest 10%	27.43

Contributing Variables

- Globalization
  - The ability or capability of regions to integrate into the world economy
  - Competition from even poorer countries for low-skilled laborers
- Technology
  - The lack of rounded education for the general public
- State Policy and Cultural Norms
  - Under-provision of key-public goods
  - Malicious state policies
  - Politically powerful rich elite

Global Inequality

- Measure of Inequality: GDP and GDP Per Capita
  - World GDP: $1.345 Trillion to $32.312 Trillion
  - High-income countries rose, medium and low fell
    - 80.6%, 15.9%, 3.5%
  - Per capita GDP increased by almost 200%
- Measure of Inequality: PPP Purchasing Power Parity
  - Middle and low-income countries experience growth
    - Remove China and PPP adjust GDP per Capita fell 8%
- Measure of Inequality: Weighted by Population

Exhibit 14   Global Income Inequality by Quintiles, 1989
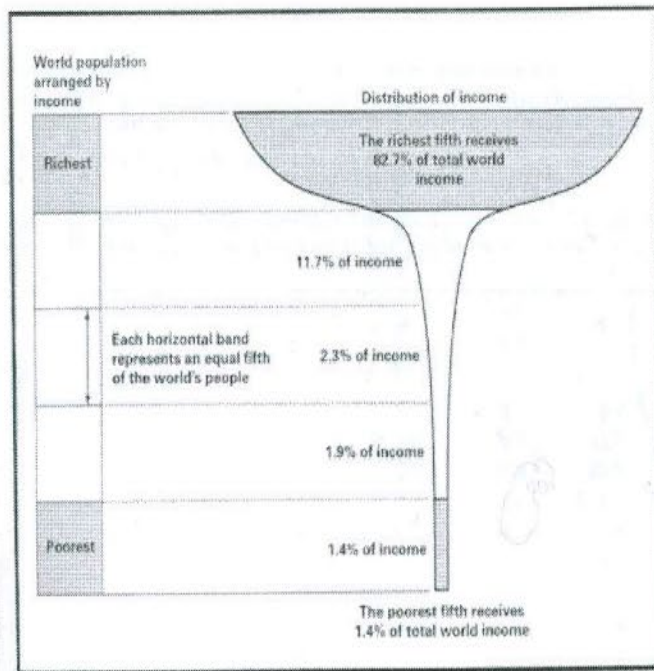
Source: United Nations Development Programme, *Human Development Report 1992* (New York: Oxford University Press, 1992), in David C. Korten, *When Corporations Rule the World*, (Bloomfield, Conn.: Kumarian Press, 2001), pg. 111.

Exhibit 15a   Estimated Gini Coefficient for the World, 1970 to 1998 (Sala-i-Martin)
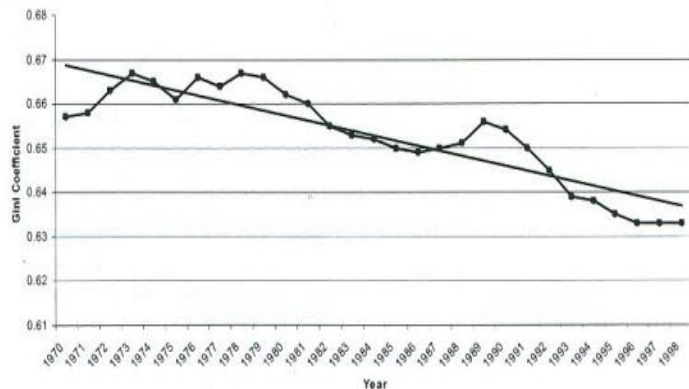
Exhibit 15b   Estimated Gini Coefficient for the World, 1988 to 199 (Milanovic)
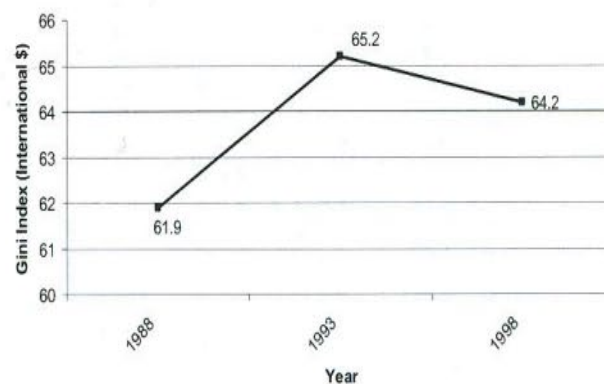
Source: Adapted from Xavier Sala-i-Martin, "The Disturbing 'Rise' of Global Income Inequality," Working Paper 8904, National Bureau of Economic Research, April 2002.

Source: Adapted from Branko Milanovic, *Worlds Apart: Measuring Global and International Inequali 1950-2000*, Princeton University Press, 2005, forthcoming, table 9.4.   Note: numbers va:

Contributing Variables

- Globalization
  - Rich countries and powerful companies set the rules
  - Open global financial markets have increase market volatility
  - China's rock-bottom wages
- Technology
  - Unequal distribution across countries
  - Information gap
- State Policy and Cultural Norms
  - Corrupt policy within developing countries
  - Developed: subsidies and protectionism distorting prices

Does Inequality Matter?

- It is Unjust
  - Demoralizing
  - Destabilizing
- It is a Necessity
  - Motivates Economic Activity
- Poverty
  - $1 a Day vs. $2 a Day

THE ITALIAN ECONOMY

SPENCER CARLIN
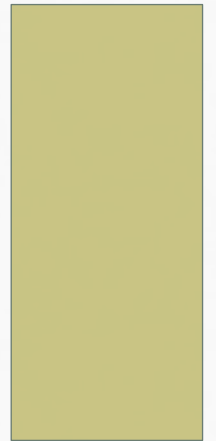
ECONOMIC PROFILE

- **Population:**
  - 60.8 million
- **GDP (PPP):**
  - $1.8 trillion
  - -2.4% growth
  - -1.4% 5-year compound annual growth
  - $30,136 per capita

- **Unemployment:**
  - 10.6%
- **Inflation (CPI):**
  - 3.3%
- **FDI Inflow:**
  - $9.6 billion

ECONOMIC FREEDOM

- Score of 60.9- the 86th freest with a .3 increase
  - Increases in Investment and trade freedom
  - Decreases in freedom from corruption and monetary and business freedom

- Economic freedom has remained stagnant
  - Gains in market openness and fiscal policy
  - Declines in property rights and labor freedom

- The economy remains burdened by political interference, corruption, high levels of taxation
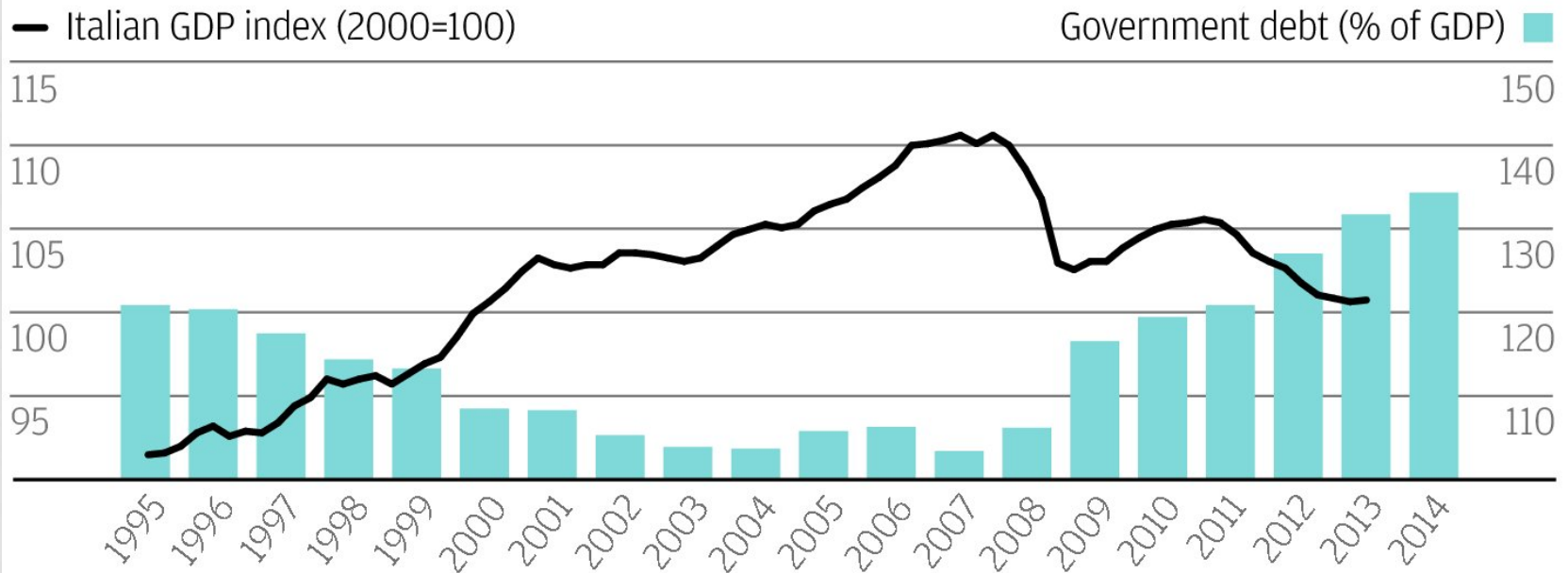
A POWDER KEG

- Italy is known as the land of fast cars, high fashion and stunning design

- Italy's economy is in dire straits.

- The country is struggling to emerge from its longest post-war recession.

- Unemployment is at record levels.

GDP AND GOVERNMENT DEBT

New realms

— Italian GDP index (2000=100)　　　　Government debt (% of GDP) ▪

Source: New View Economics　　　　　　　　　　　　　　　　SCMP

- Italy's public debt remains dangerously high, about 135 per cent of gross domestic product.

EURO-ZONE CRISIS

- Euro-zone crisis
- Debt deflation
- Fiscal consolidation
- Tight credit conditions

- The economy is only just emerging from this two-year recession. Economic confidence has taken a hard beating.
- National output is 10 per cent lower than pre-crisis levels.

EMPLOYMENT AND WAGES

- Business investment is down by a 25%

- Domestic demand is stagnat

- Unemployment is at a record high of 13%

- Consumer spending power has slowed due to the squeeze on wages.

EMPLOYMENT AND WAGES

- Excess capacity in the economy

- Weak competitiveness

- Low productivity

- A poor investment record

- Employment and wages are likely to struggle for years to come.

EXPORTS

- Strong weight has been placed on recovery

- Deeping crises in the region surrounding, slowdowns in emerging markets and loss of momentum in developing countries growth momentum

- The potential drag on Italy's export growth may prove to be detrimental to its future
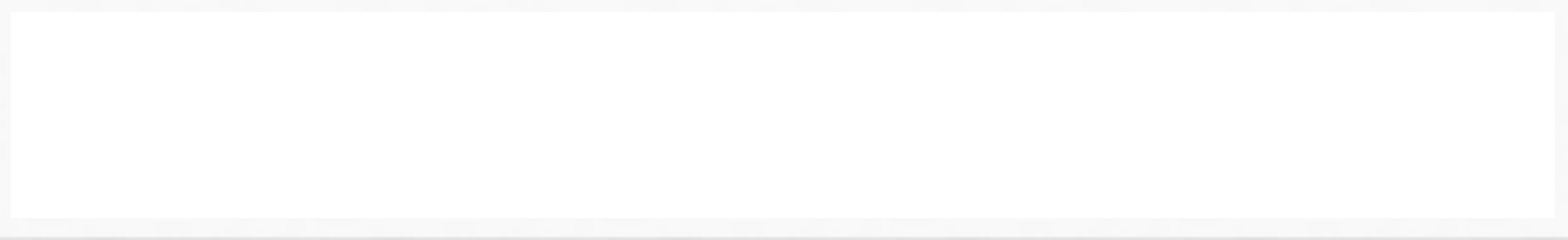
CONCLUSION

- Italy is exiting recession and growth is projected to rise through 2014-15
  - Fiscal consolidation eases.
- However, economic slack will remain large.
- The return to growth is supported by exports, which are projected to gain but are subject to unknown variables.
- Domestic demand should gain momentum during 2014 as investment turns round.
- Unemployment is set to remain high as the impact of rising demand is likely to initially increase average working hours, while cost and price pressures are expectedstay weak.

CONCLUSION

- The budget deficit improved in 2013.
- The 2013 deficit of 3% of GDP reflects the appropriate operation of the automatic stabilizers.
- Debt-to-GDP ratio continues to rise.
- Fiscal tightening of at least as much as programmed is needed in coming years.
- Reforms are essential to strengthen the still weak recovery.
  - Further reductions in labor taxation should be part of a coherent overall tax reform.

- Italy is exiting recession and growth is projected to rise through 2014-15 as fiscal consolidation eases. However, economic slack will remain large. The return to growth is supported by exports, which are projected to gain further momentum in the next two years as foreign demand accelerates. Domestic demand will gain momentum during 2014 as investment turns round. Unemployment is set to remain high as the impact of rising demand is likely to initially increase average working hours of persons already employed. Cost and price pressures will stay weak.

-

The underlying improvement in the budget deficit was substantial in 2013. The likely 2013 deficit of 3% of GDP reflects the appropriate operation of the automatic stabilisers, but with the debt-to-GDP ratio still rising, fiscal tightening of at least as much as programmed is needed in 2014-15. Putting recent reforms into practice is essential to strengthen the still weak recovery. Further reductions in labour taxation should be part of a coherent overall tax reform