

A Comparison of Income Poverty and Multidimensional Deprivation: Lessons Learned from the United States

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By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.

Central Theme

What we do?

- Estimate income poverty and multidimensional deprivation in the United States
- Analyze the overlap between the two and how it has changed over time

Why?

- If most of multidimensional deprived were also income poor, then the need to measure multidimensional deprivation separately is less imperative
- If significant proportion of non-poor were deprived, then even in high-income countries such as the United States, income poverty fails to capture deprivation in other aspects of well-being

Distinct Features

- **Entire Decade**
 - Estimate poverty and multidimensional deprivation in the U.S. over 10 years: 2008 to 2017
 - Great Recession, short and long term recovery
- **Deprivation among Population Groups**
 - Income class
 - Nativity and race/ethnicity
- **Alternate Poverty Thresholds**
 - Official Threshold
 - International Poverty Threshold
 - Relative Poverty Threshold

Literature Overview

- The UNHDR annually publishes multidimensional poverty index for more than 100 developing countries
- Several countries in the Americas publish official estimates of MPI along with those of income poverty
 - Colombia, Costa Rica, Chile, Ecuador, El Salvador, Mexico
- MPI routinely estimated in EU nations
- Compared to other countries, the United States has lagged behind in monitoring multidimensional poverty

Literature Overview

- Material Hardship
 - Beverly (2001)
 - Carle et al. (2009)
- Exploratory MPI: 1- Year estimates
 - Wagale (2009)
 - Alkire and Foster (2011)
 - Mitra and Brucker (2016)
- MPI Estimates Overtime
 - Dhongde and Haveman (2017, 2019)
 - Dhongde, Pattanaik, Xu (2019)
 - Glassman (2019)
 - Mitra and Brucker (2019)

Data

- U.S. Census American Community Survey (ACS)
- Largest household survey data in the U.S.
 - ACS has more than 3 million individuals
 - CPS annual sample size is about 100,000
 - We use individual data appended by household data
- Annual files represent about 1% of the total U.S. population
- ACS has detailed data on education, housing but lacks data on health and neighborhood characteristics

Official Poverty Threshold

- Unlike most high income countries which use relative thresholds, poverty thresholds in the United States are absolute
- Thresholds are based on the basic needs approach
- Thresholds were developed by Orshansky (1965), who used estimates of minimum food expenditure by the U.S. Department of Agriculture
- Thresholds vary by family size and are updated for inflation
- Thresholds do not take into account differential costs of living across regions

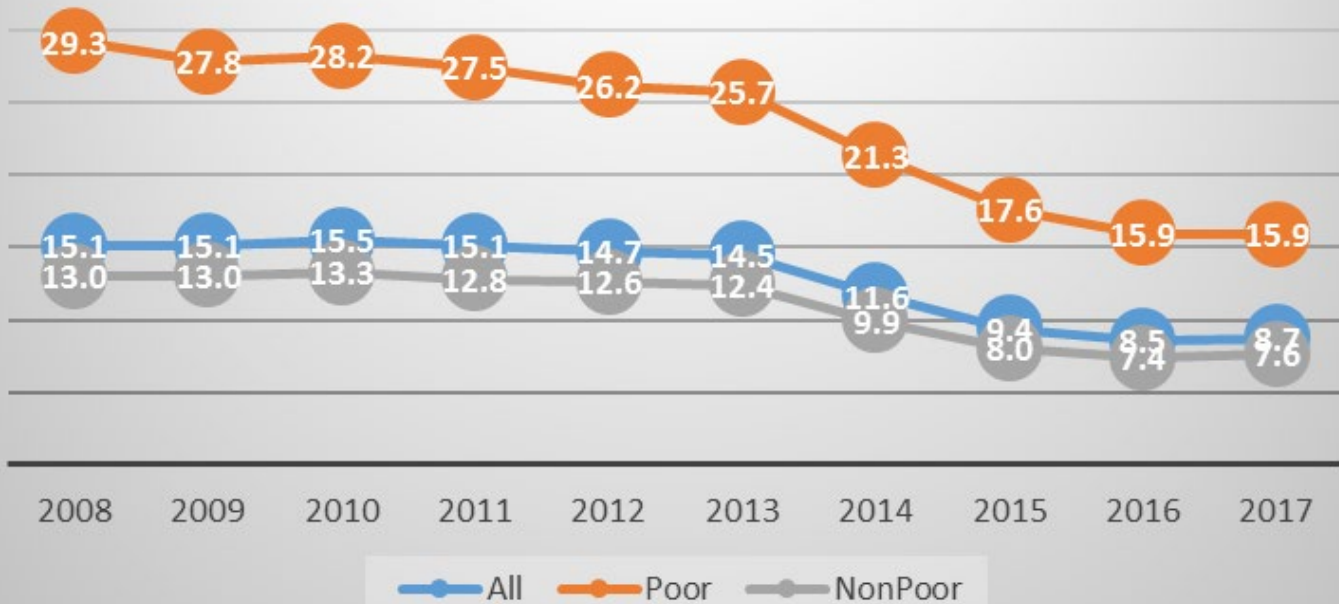
Multidimensional Deprivation

- Use indicators commonly used
- Dashboard Approach
 - Deprivation in each indicator among poor and non-poor
- Head count Ratio
 - Alkire and Foster (2011) two-step identification
 - Proportion of individuals deprived in at least 2 out of the 6 indicators
 - Indicators are assigned equal weights

Multidimensional Deprivations

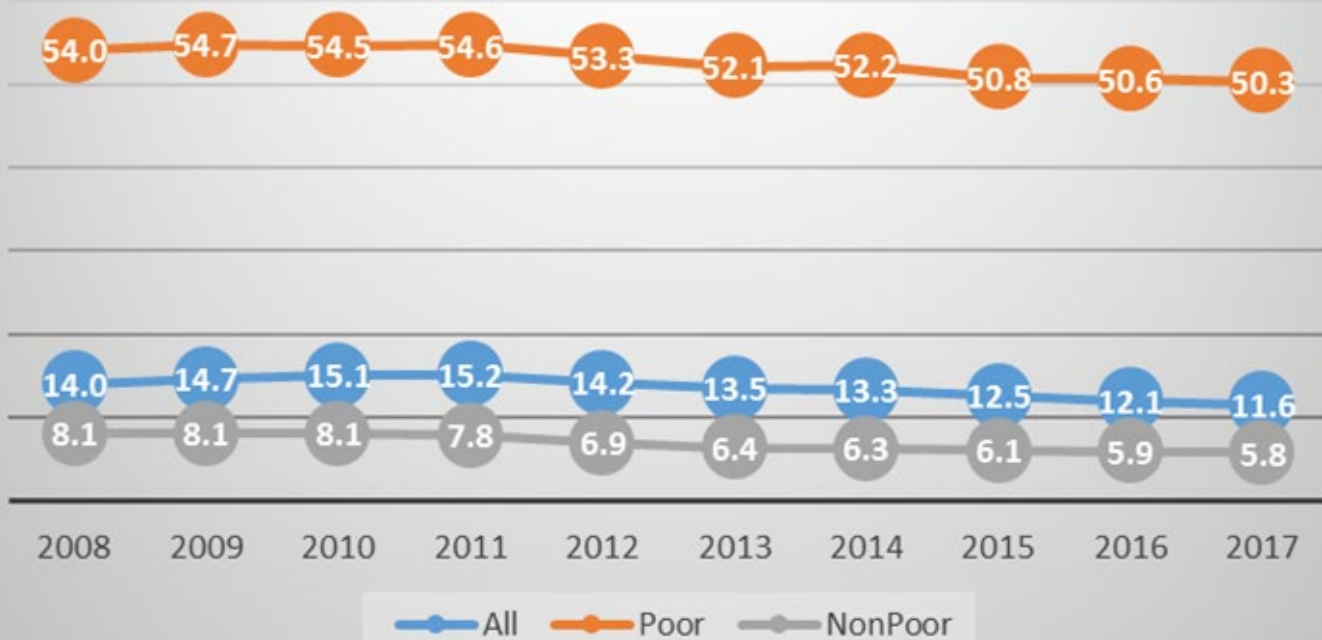
Dimensions (Stiglitz et al 2009)	Indicators	Previous studies using these indicators
Health	Two or more out of six disabilities: hearing, vision, cognition, ambulation, serious difficulty with self-care (e.g. bathing and dressing), or performing independent tasks (e.g. shopping)	Dhongde and Haveman (2017, 2019), Glassman (2019), Dhongde, Pattanaik, Xu (2019)
Education	Not having received at least a high school diploma	Dhongde and Haveman (2017, 2019), Glassman (2019), Mitra and Brucker (2019), Dhongde, Pattanaik, Xu (2019)
Std. of Living	Severe housing burden: Monthly owner costs or gross rent in excess of 50% of household income	Dhongde and Haveman (2017, 2019), Glassman (2019), Dhongde, Pattanaik, Xu (2019)
Economic Security	Lack of any type of health insurance; public or private	Dhongde and Haveman (2017, 2019), Glassman (2019), Mitra and Brucker (2019), Dhongde, Pattanaik, Xu (2019)
Social Connections	Live in a household where no person, 14 and over, speaks English only or speaks a language other than English at home and speaks English very well	Dhongde and Haveman (2017, 2019), Glassman (2019), Dhongde, Pattanaik, Xu (2019)
Housing Quality	Overcrowding: unit has more than one occupant per room	Dhongde and Haveman (2017, 2019), Glassman (2019), Dhongde, Pattanaik, Xu (2019)

No Health Insurance



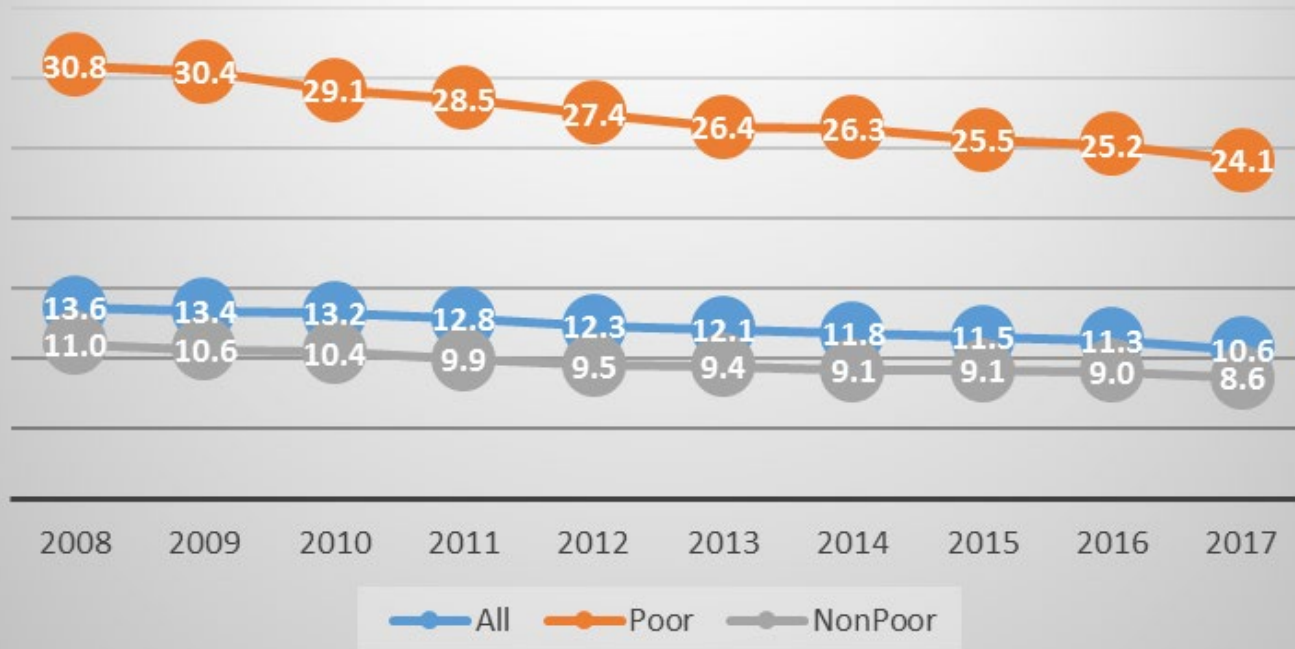
- Average population without any health insurance, public or private:
 - 13% overall, 23.5% poor, 11% non-poor
- Affordable Care Act: 2014
- Slight increase in uninsured among non-poor between 2016-2017

Severe Housing Burden



- Severe housing burden with monthly owner costs in excess of 50% of household income
- Mortgage payments, taxes, insurance, utilities, fuel costs and gross rent
- 53% of poor individuals had severe housing burden
- Housing burden among the poor has remained remarkably high and stable over the last decade

No High-school Education

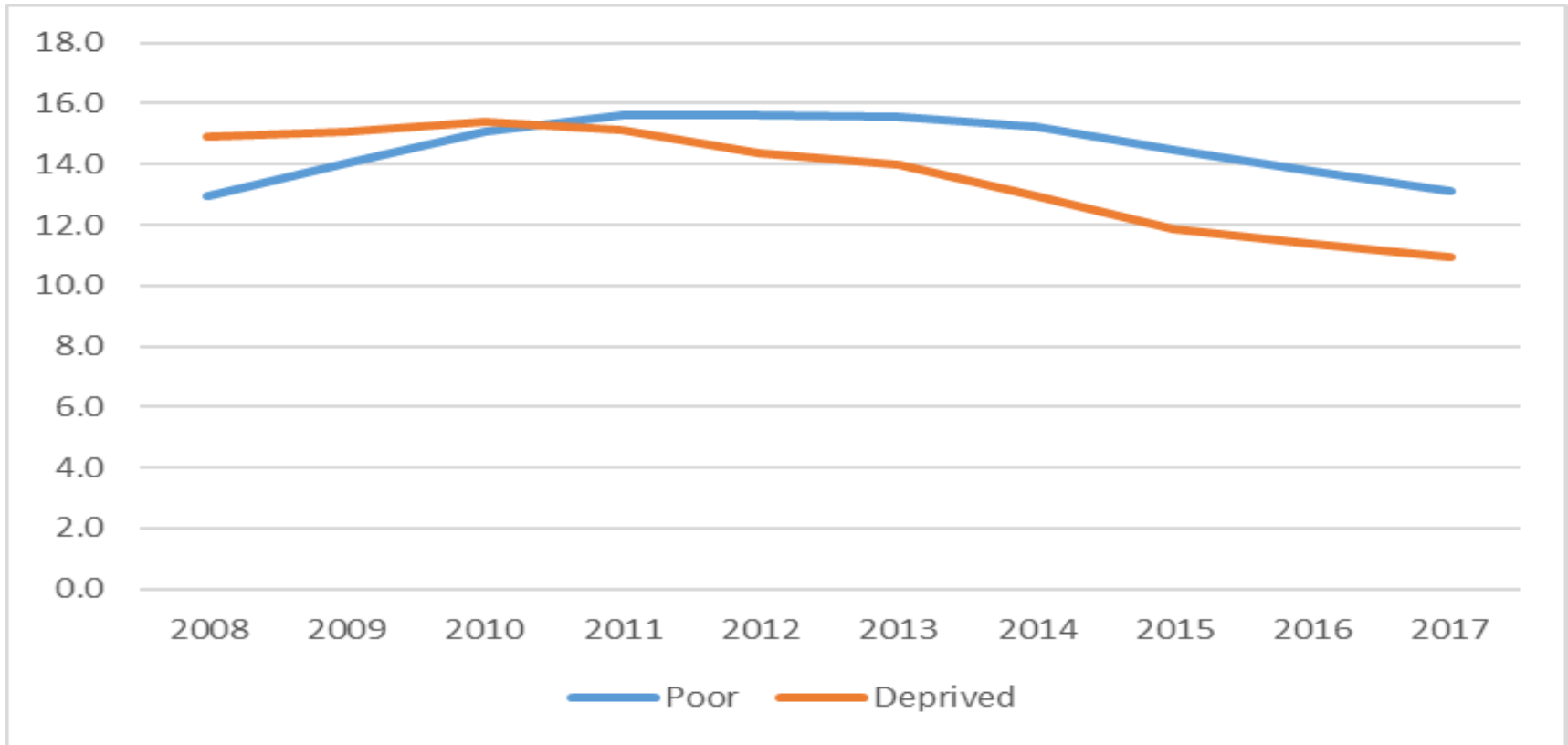


- Average population without high-school education:
 - 12% overall, 27% poor, 10% non-poor
- Downward trend especially among the poor
- Though trend is different for poor boys and poor girls

Correlation between poverty and deprivation in each indicator

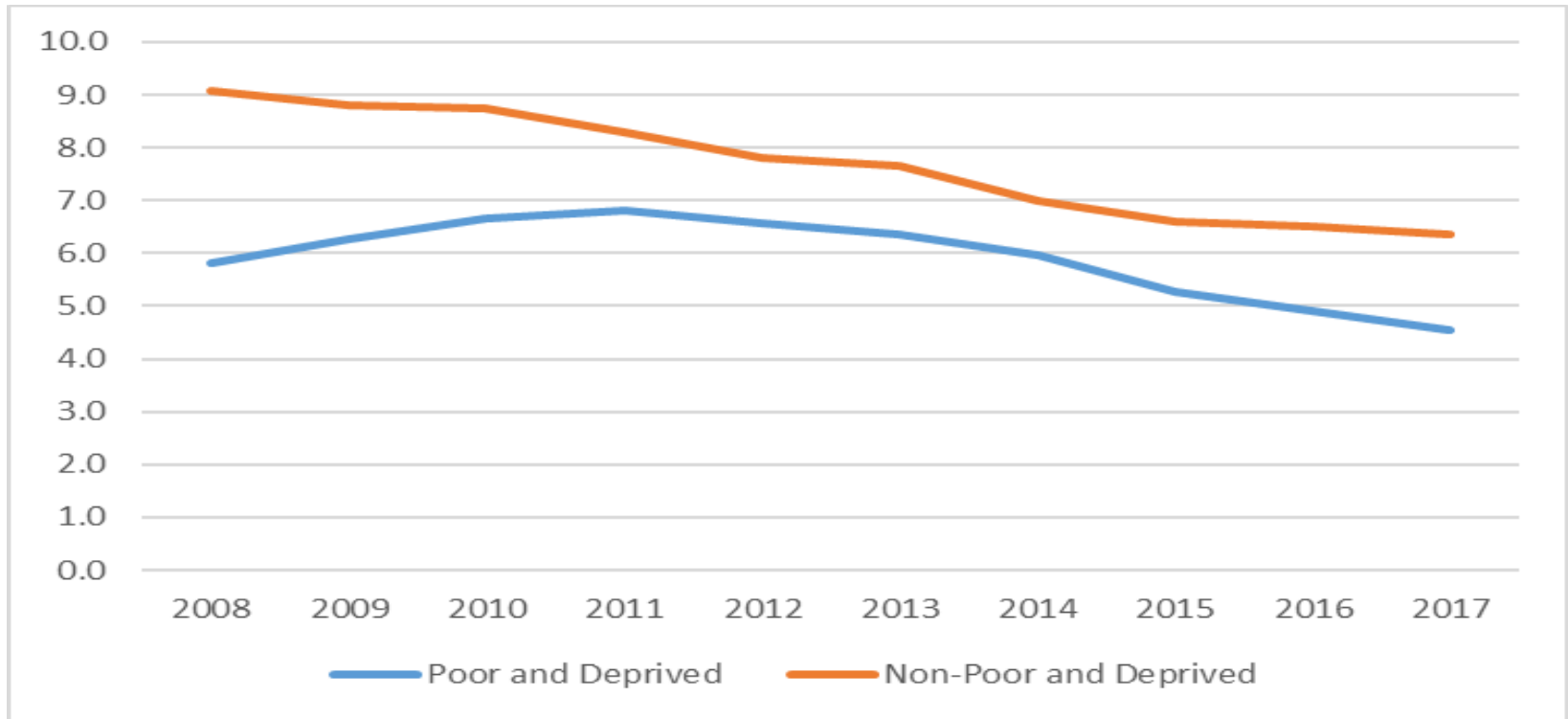
	Poor	Insur.	Disabi.	School	Eng.	H. Cost	Crowd
Poor	1						
Insur.	0.3	1					
Disabi.	0.2	-0.1	1				
School	0.4	0.3	0.3	1			
Eng.	0.3	0.3	0.0	0.5	1		
H. Cost	0.7	0.1	0.2	0.2	0.3	1	
Crowd	0.3	0.2	-0.1	0.4	0.3	0.1	1

Trends in Poverty and Deprivation



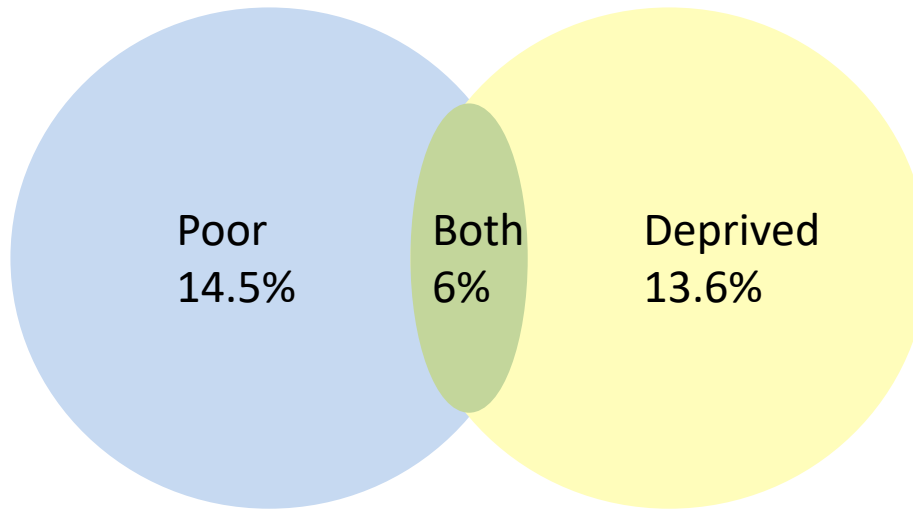
	Av.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Poor	14.5	12.9	14.0	15.1	15.6	15.6	15.6	15.2	14.5	13.8	13.1
Deprived	14.0	15.3	15.5	15.8	15.5	14.8	14.4	13.3	12.3	11.8	11.3

Overlap in Poverty and Deprivation



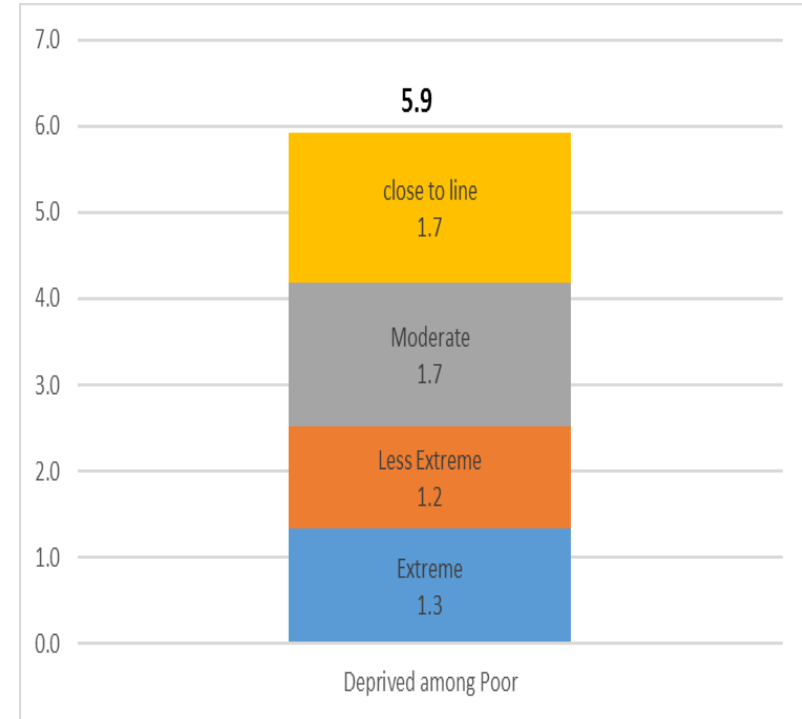
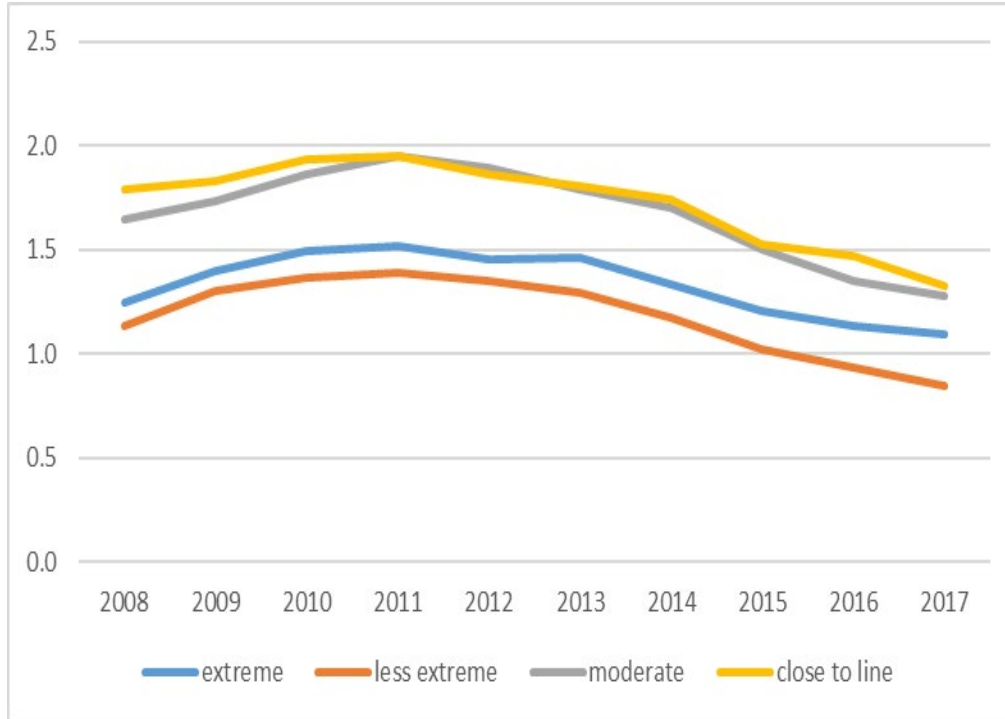
	Av.	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Poor + Dep.	5.9	5.8	6.3	6.7	6.8	6.6	6.3	6.0	5.3	4.9	4.5
N. Poor + Dep.	7.7	9.1	8.8	8.7	8.3	7.8	7.7	7.0	6.6	6.5	6.4

Overlap in Poverty and Deprivation



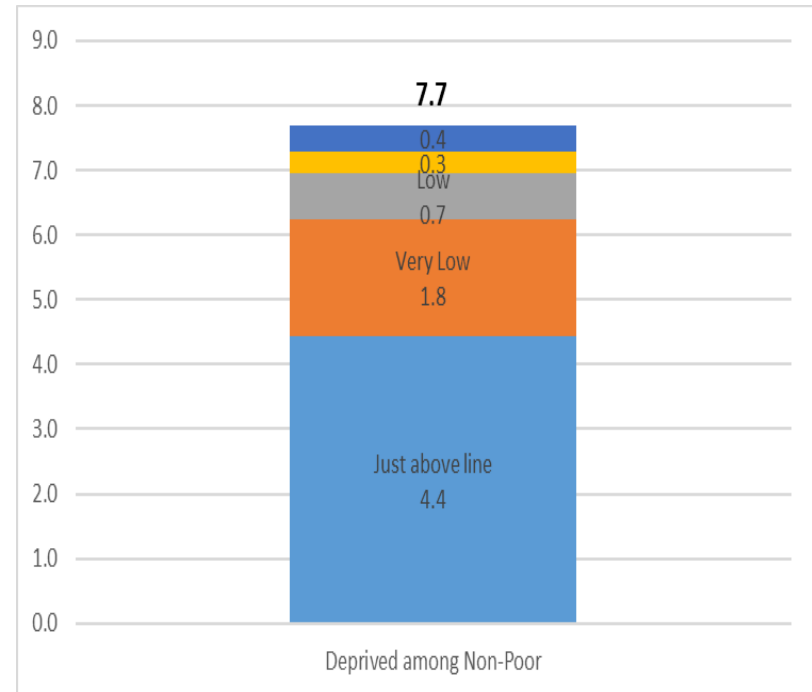
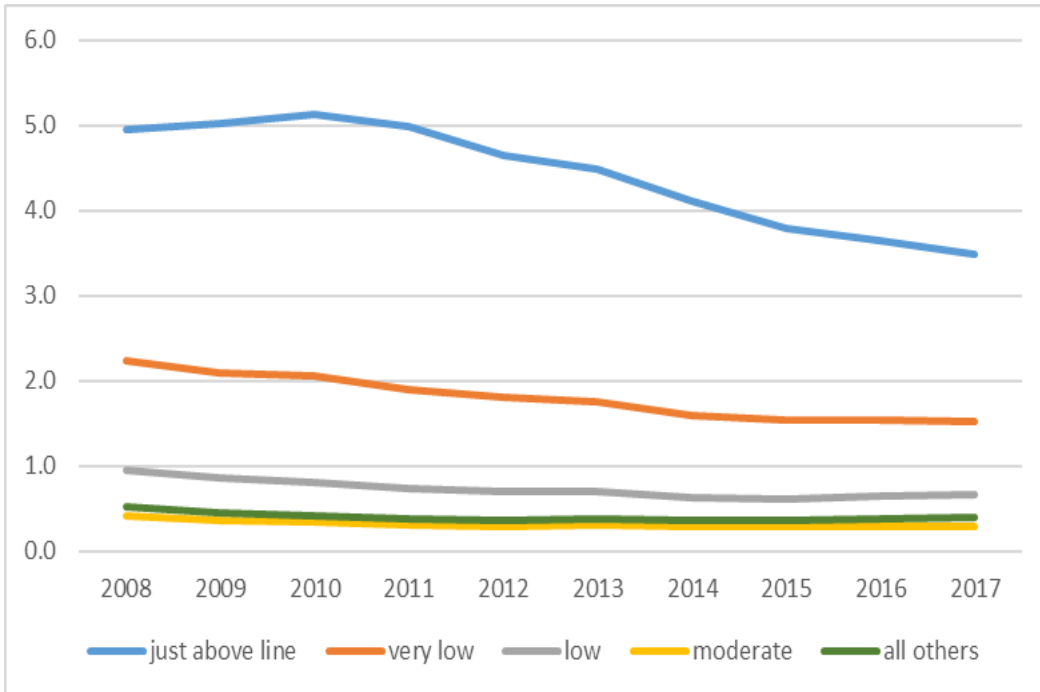
	Deprived	Not Deprived	Total
Poor	5.9	8.6	14.5
Not Poor	7.7	77.8	85.5
Total	13.6	86.4	100.0

Deprivation by Income Class: Poor



Income Classes	R: Income-to-Poverty Threshold	Av. Poor	Av. Deprived
Extreme Poor	$R < 0.25$	3.8	1.3
Less extreme Poor	$0.25 \leq R < 0.5$	2.6	1.3
Moderately Poor	$0.5 \leq R < 0.75$	3.7	1.7
Close to poverty line	$0.75 \leq R < 1$	4.4	1.7
Total Poor	$R < 1$	14.5	5.9

Deprivation by Income Class: Non-Poor



Income Classes	R: Income-to-Poverty Threshold	Av. Poor	Av. Deprived
Just above poverty line	$1 \leq R < 2$	18.4	4.4
Very low incomes	$2 \leq R < 3$	16.6	1.8
Low incomes	$3 \leq R < 4$	13.5	0.7
Moderate incomes	$4 \leq R < 5$	10.3	0.3
All others	$R \geq 5$	26.6	0.4
Total Non-Poor	$R \geq 1$	85.5	7.7

Alternative Poverty Thresholds

- **International Poverty Threshold**
 - Jolliffe and Prydz (2016) presented international poverty lines (IPL) more relevant for higher-income countries.
 - The median poverty line for high income countries including the U.S. was set at \$21.70 per person per day in 2011 PPP
 - The official poverty threshold in 2011, for a family of four, roughly translates to \$16 per person
- **Relative Poverty Threshold**
 - The EU-2020 strategy, adopted in 2010, identified people ‘at risk of poverty,’ if their income was less than 60 percent of the median income in the country.
 - Over the last decade, the median household income was \$58,000.

Alternative Poverty Thresholds

Thresholds	Poor	Poor and Deprived	Non-Poor and Deprived
Official	12.8	5.6	7.9
International	24.0	6.0	7.4
Relative	23.7	8.0	5.5

*Estimates are based on working adult sample (18-64) and are NOT strictly comparable

1. Official threshold is based on family size

2. International threshold uses personal income; threshold updated using CPI

3. Relative threshold uses 60% of median household income

Summary

- Over the decade (2008-2017), about 14 percent of population was poor
- Similar proportion of population was deprived in at least 2 of the 6 indicators
- However only about 6 percent of individuals were both poor AND deprived
- Around 8 percent individuals were not poor BUT deprived
- Similar proportions using alternate thresholds

Policy Suggestions: Housing Costs

- Median rent increased over 70% in the last two decades, and the cost of fuels and utilities has risen by over 50% since 2000 (Carliner, 2013, Collinson 2011).
- A majority of poor renting families in America devote over half of their income to housing; almost a quarter dedicate more than 70% (Desmond 2015)
- For every family in possession of a voucher or subsidized housing unit, there are three who qualify but receive nothing (Currie 2006, Schwartz 2010).

Policy Suggestions: Health Insurance

- Affordable Care Act (ACA)
- Extended Medicaid to low income families and marketplace subsidies to individuals below 400% of poverty line
- However poor adults in states that did not expand Medicaid remain ineligible
- In 2017, 45% of uninsured nonelderly adults said they were uninsured because the costs were too high (Kaiser family foundation, 2018)

Going Forward

- Subgroup decomposition
 - Age, gender, marital status
- Housing Costs
 - Rural versus urban
 - Remove and measure deprivation
- Health Insurance
 - Separate public versus private health insurance
 - Separate by states
- Include population in Group Quarters
 - Atkinson Report (2017)

Atkinson Report

- In 2015, the World Bank formed the Atkinson Commission to provide a comprehensive overview of the challenges faced when measuring global poverty.
- The Commission's Report on Global Poverty (2017) made several recommendations to overcome some of these challenges.
- We use some of the recommendations of this commission in the design of this paper.

Atkinson Report Recommendations

- Adoption of a truly global approach to poverty measurement implied that high-income countries should come within the scope of inquiry.
 - *We focus on poverty in the United States*
 - *Use the international poverty line, relative poverty line*
- Measures of global poverty should also include a portfolio of non-monetary complementary indicators reflecting a person's quality of life.
 - *We measure deprivation in six dimensions*

Atkinson Report Recommendations

- Using a dashboard approach to assessing deprivation beyond income
 - *Deprivation in each indicator for poor and non-poor*
- Efforts should be made to incorporate those individuals missing from the global poverty count
 - *We plan to include population typically not covered in poverty and deprivation estimates, namely, individuals living in group quarter such as college dormitories, nursing facilities, military barracks and correctional facilities*