UNIVERSITY OF KENTUCKY
CENTER FOR POVERTY RESEARCH

Concepts, Trends, and Measurement in Labor Economics

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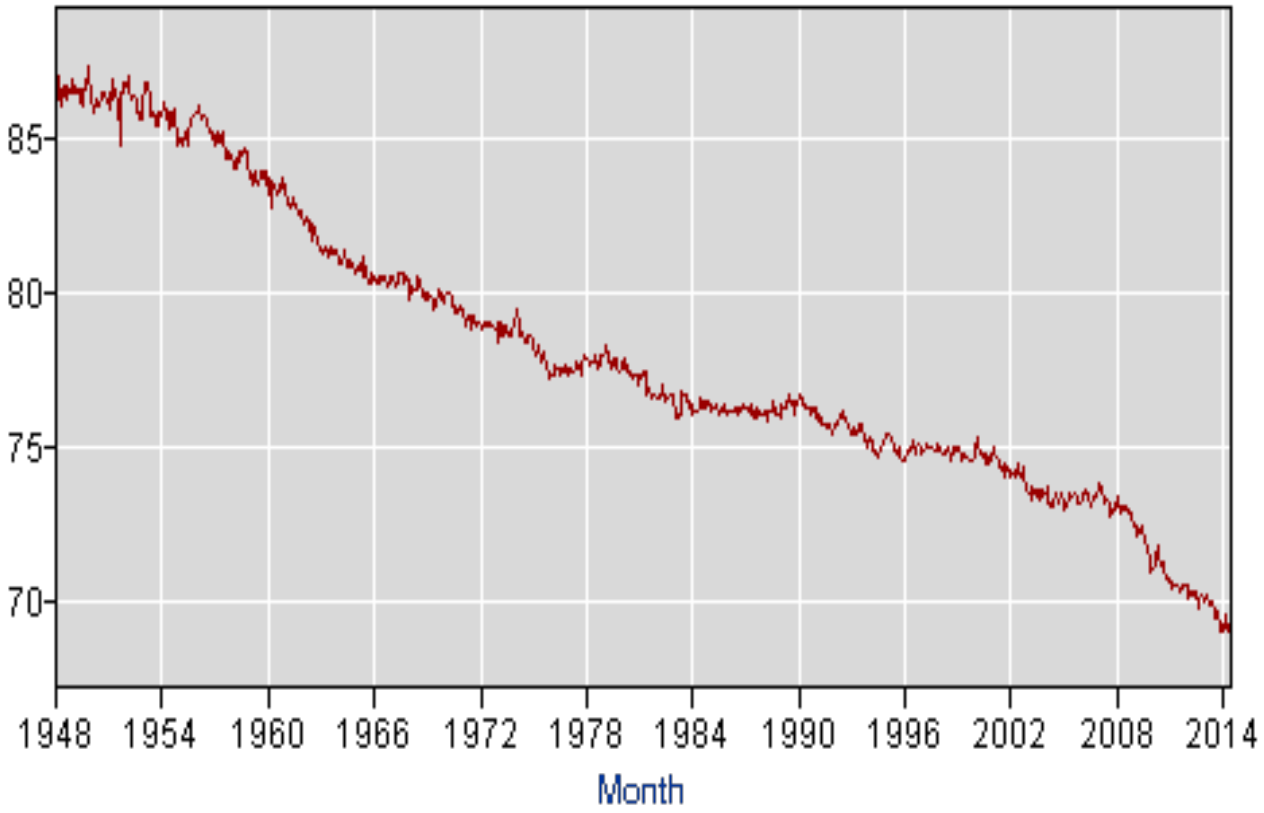
Basic Concepts

- (Civilian) Labor Force Participation Rate
  - Labor Force = Employed + Unemployed
  - Denominator is noninstitutionalized population 16+
- Employment Rate
  - Ratio of Employment to Labor Force
- Employment per Capita (per Pop)
  - Ratio of Employed to noninstitutionalized pop
- Unemployment Rate
  - Ratio of Unemployment to Labor Force

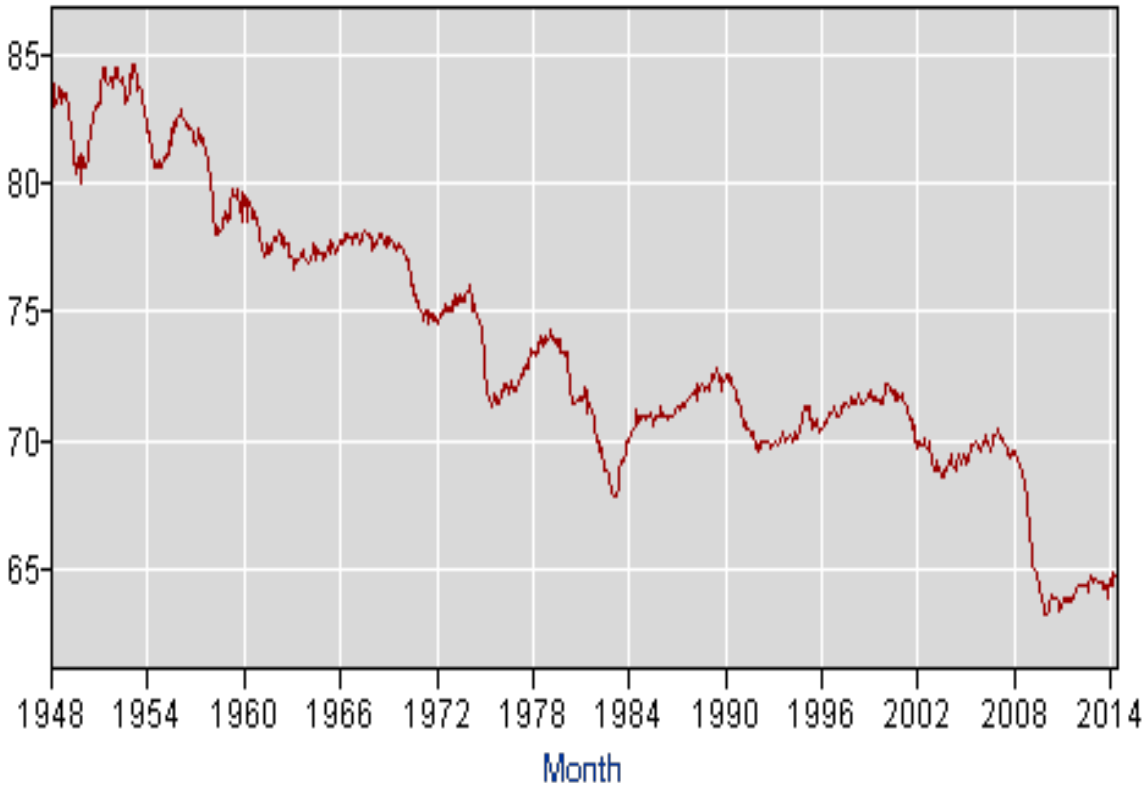
Basic Concepts

- Who is Unemployed?
  - Persons are classified as unemployed if they do not have a job, have actively looked for work in the prior 4 weeks, and are currently available for work.
  - Workers expecting to be recalled from layoff are counted as unemployed, whether or not they have engaged in a specific job-seeking activity.
  - In all other cases, the individual must have been engaged in at least one active job search activity in the 4 weeks preceding the interview and be available for work (except for temporary illness).

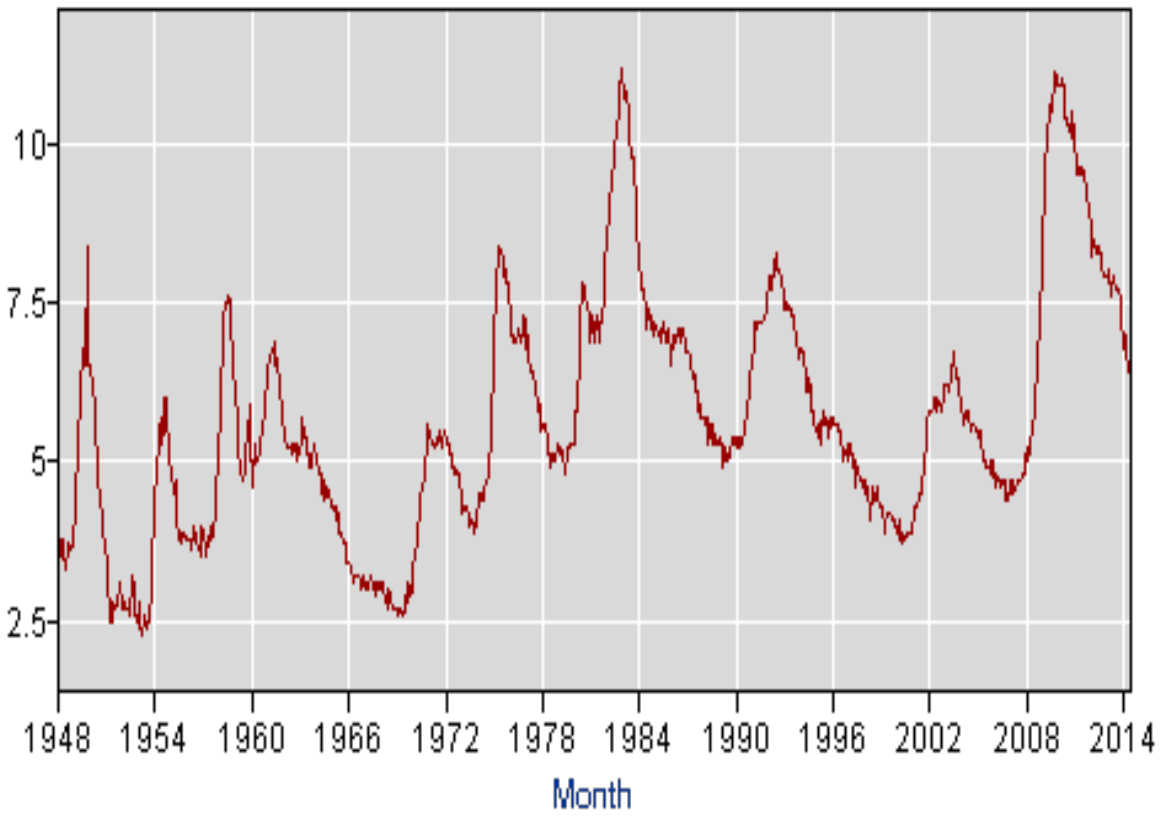
Trends in Labor Force Participation Rate of Men (Seasonally Adjusted)



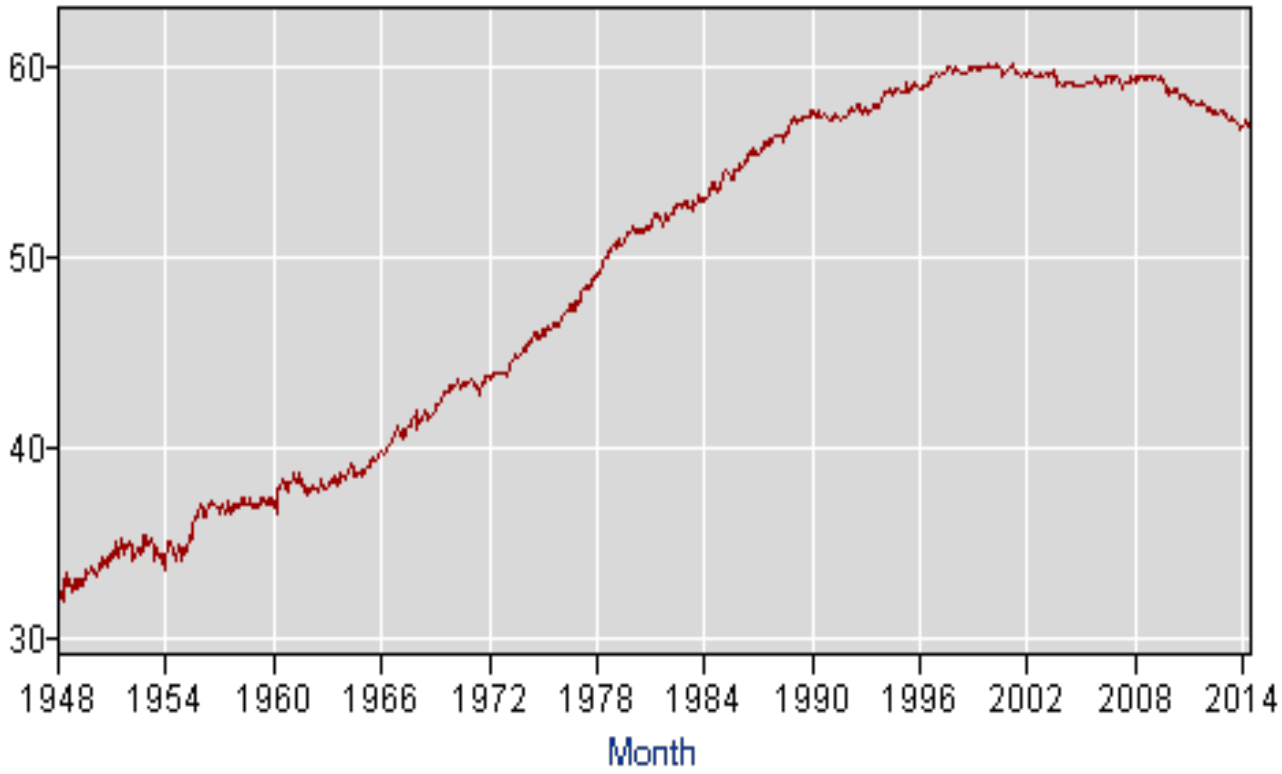
Trends in Employment/Population Men (Seasonally Adjusted)



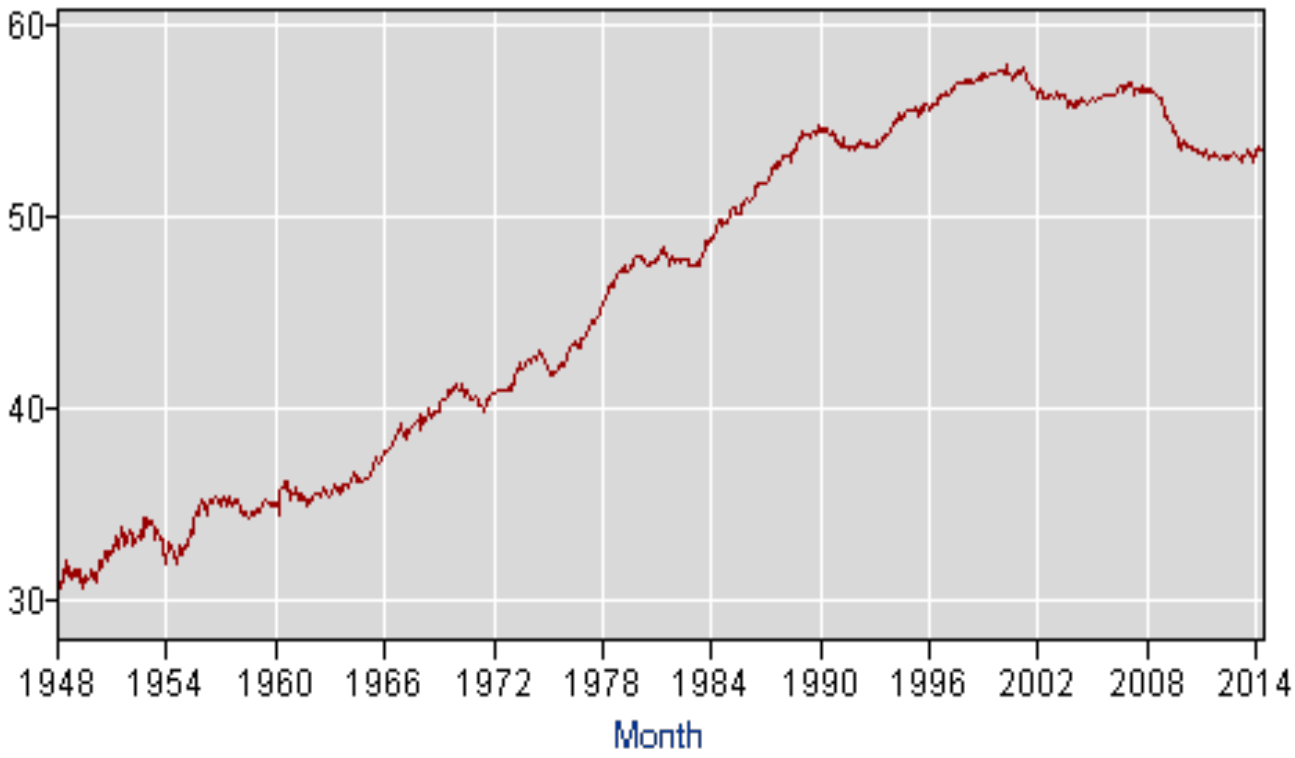
Trends in Unemployment Rate of Men (Seasonally Adjusted)



Trends in Labor Force Participation Rate of Women (Seasonally Adjusted)



Trends in Employment/Population Women (Seasonally Adjusted)



Trends in Unemployment Rate Women (Seasonally Adjusted)

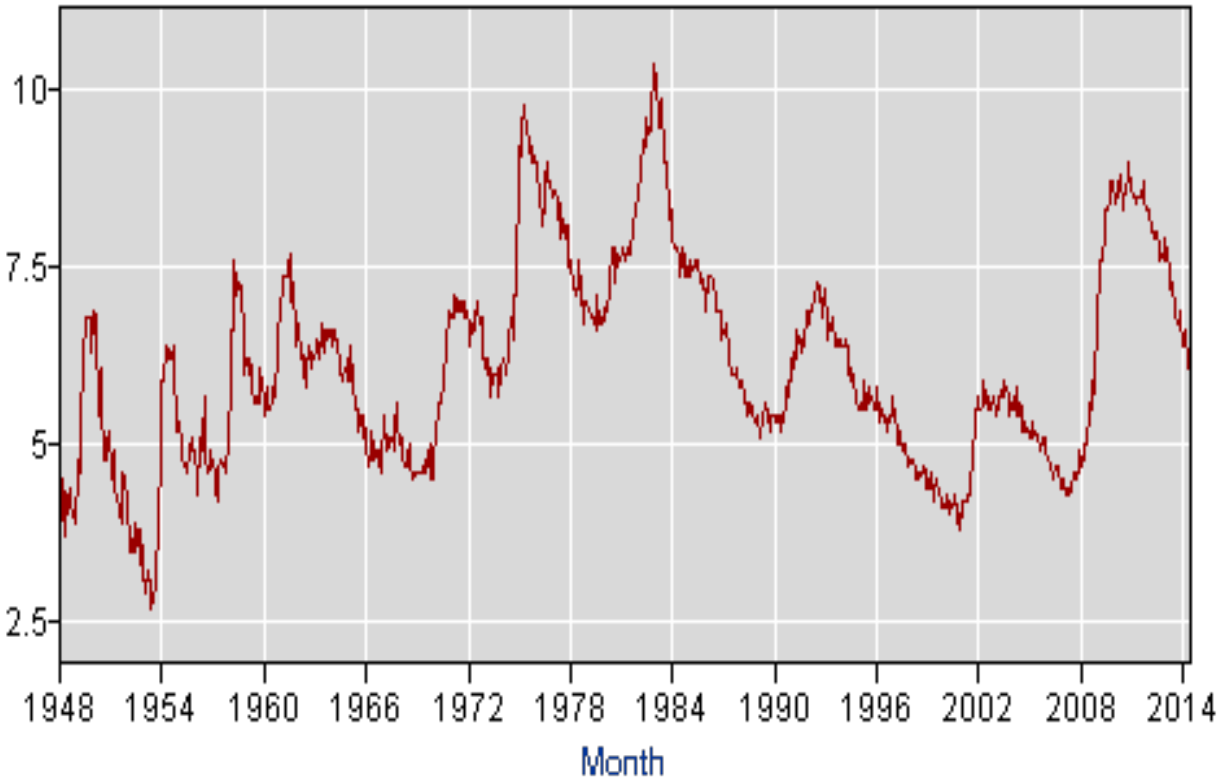


Table 3. Employment Rates of Men and Women by Education

	(1) P(0,0)	(2) P(0,1)	(3) P(1,0)	(4) P(1,1)
	Men—Less than High School			
1973	9.27	5.85	2.93	81.95
1978	14.87	8.55	5.38	71.20
1983	21.27	8.05	6.69	64.00
1988	18.71	8.18	4.84	68.27
1993	23.71	11.55	6.84	57.89
1998	24.63	10.70	6.83	57.85
2003	33.25	9.68	7.49	49.58
2008	37.79	9.97	7.15	45.09
	Women—Less than High School			
1973	42.66	11.14	6.93	39.27
1978	41.61	10.98	8.59	38.83
1983	47.57	9.39	6.91	36.13
1988	39.30	11.31	7.83	41.55
1993	43.44	10.90	8.24	37.42
1998	42.34	12.14	8.75	36.77
2003	50.29	11.28	7.07	31.36
2008	50.15	12.61	7.02	30.21

Table 3 Continued

	(1) P(0,0)	(2) P(0,1)	(3) P(1,0)	(4) P(1,1)
	Men—High School			
1973	2.11	1.02	1.64	95.23
1978	2.69	1.68	1.59	94.04
1983	4.17	2.48	2.92	90.43
1988	4.48	1.61	1.99	91.92
1993	5.72	2.18	3.44	88.66
1998	6.86	2.33	2.74	88.07
2003	9.64	2.92	4.13	83.31
2008	11.75	2.95	4.47	80.83
	Women—High School			
1973	35.20	7.70	7.47	49.63
1978	30.04	8.45	5.93	55.57
1983	25.21	6.64	7.66	60.50
1988	20.13	5.31	6.14	68.42
1993	21.13	5.61	5.41	67.85
1998	21.62	5.24	5.60	67.53
2003	24.87	4.18	6.30	64.65
2008	26.39	5.04	6.07	62.49

Table 3 Continued

	(1) P(0,0)	(2) P(0,1)	(3) P(1,0)	(4) P(1,1)
	Men—More than High School			
1973	1.89	2.19	1.09	94.83
1978	1.97	2.23	1.43	94.36
1983	2.97	1.58	2.44	93.01
1988	2.46	1.52	1.78	94.24
1993	3.59	2.02	2.22	92.17
1998	4.38	1.78	2.58	91.26
2003	5.84	2.91	3.45	87.80
2008	6.04	2.73	3.13	88.10
	Women—More than High School			
1973	23.44	8.07	6.24	62.25
1978	20.54	7.16	6.24	66.05
1983	14.35	5.57	5.26	74.82
1988	11.46	3.63	4.89	80.01
1993	11.36	4.38	4.35	79.91
1998	11.88	3.98	5.35	78.79
2003	16.63	4.47	5.03	73.87
2008	15.62	4.80	4.91	74.66

Table 5. Employment Rates of Men and Women by Marital Status

	(1) P(0,0)	(2) P(0,1)	(3) P(1,0)	(4) P(1,1)
	Unmarried Men			
1973	11.65	10.53	3.97	73.86
1978	12.13	11.86	5.92	70.09
1983	17.07	9.53	7.60	65.80
1988	12.41	7.87	4.82	74.90
1993	14.54	9.17	6.36	69.93
1998	16.43	7.99	6.29	69.30
2003	22.29	8.90	7.37	61.44
2008	23.81	8.44	6.75	61.01
	Married Men			
1973	1.75	0.88	1.36	96.01
1978	2.78	0.87	1.38	94.96
1983	3.70	1.39	1.97	92.93
1988	3.70	0.94	1.52	93.84
1993	4.38	1.18	2.23	92.22
1998	4.56	1.26	1.83	92.35
2003	5.34	1.41	2.61	90.64
2008	5.75	1.64	2.61	90.00

Table 5 Continued

	(1) P(0,0)	(2) P(0,1)	(3) P(1,0)	(4) P(1,1)
	Unmarried Women			
1973	18.23	12.80	5.36	63.62
1978	21.12	10.65	6.41	61.81
1983	23.74	9.58	6.00	60.68
1988	16.83	7.93	5.31	69.92
1993	18.94	7.78	5.79	67.50
1998	19.35	8.14	5.82	66.69
2003	24.10	8.26	6.15	61.49
2008	23.86	8.37	6.32	61.45
	Married Women			
1973	39.27	9.69	8.71	42.33
1978	34.56	9.14	7.80	48.50
1983	27.88	7.41	8.25	56.47
1988	22.37	5.15	6.46	66.01
1993	20.56	5.06	5.36	69.02
1998	20.56	4.79	6.09	68.55
2003	24.90	4.39	5.98	64.73
2008	23.98	4.89	5.31	65.82

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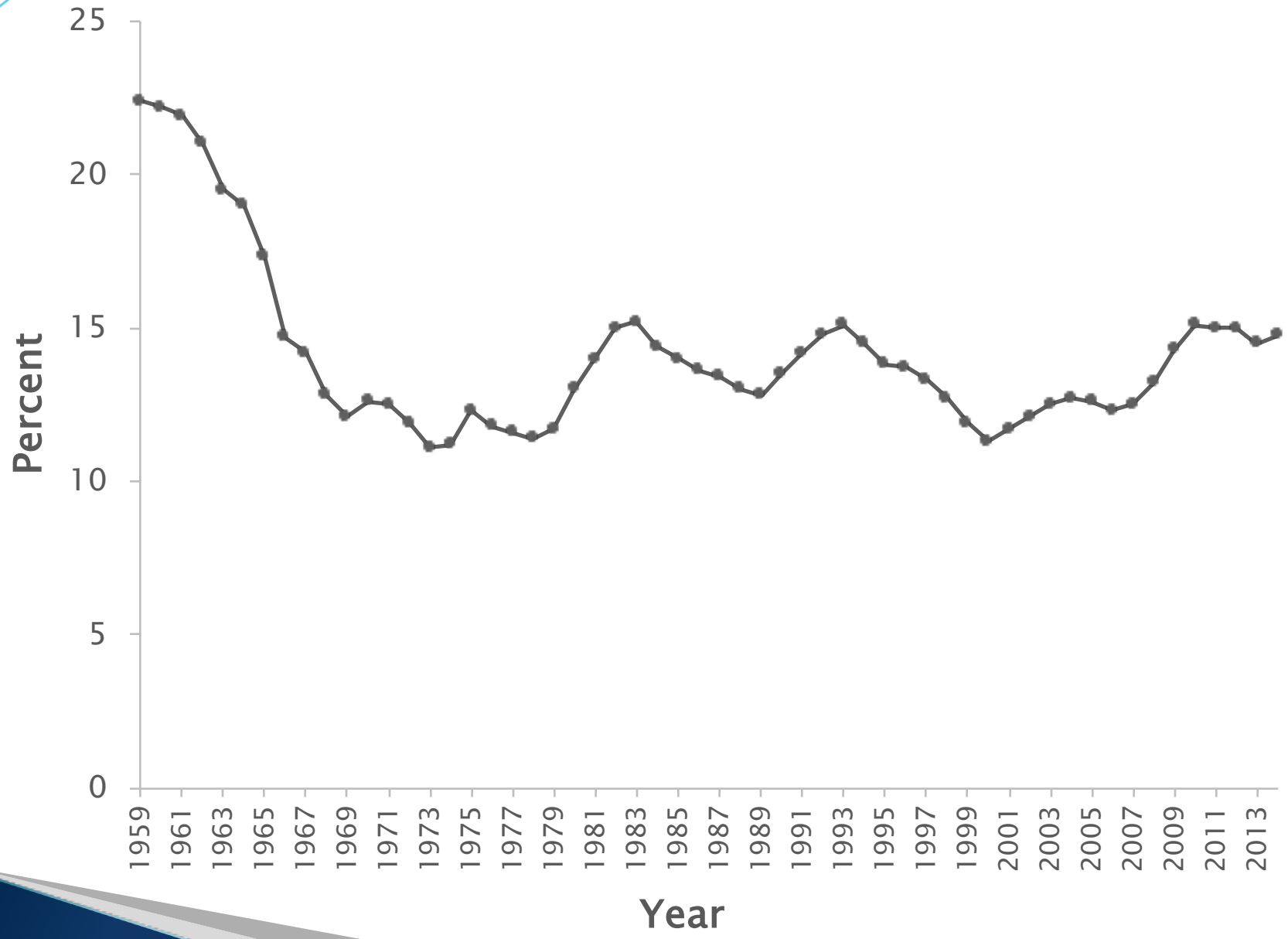
Measuring Poverty

- Absolute Measures
  - Define poverty with respect to a given, minimum subsistence level of consumption of goods and services.
  - Generally implies that the standard of living of the poor remains constant, or with periodic updates
- Relative Measures
  - Define poverty as a condition of comparative disadvantage
  - Generally implies that the standard of living of the poor changes with changes in the overall standard of living

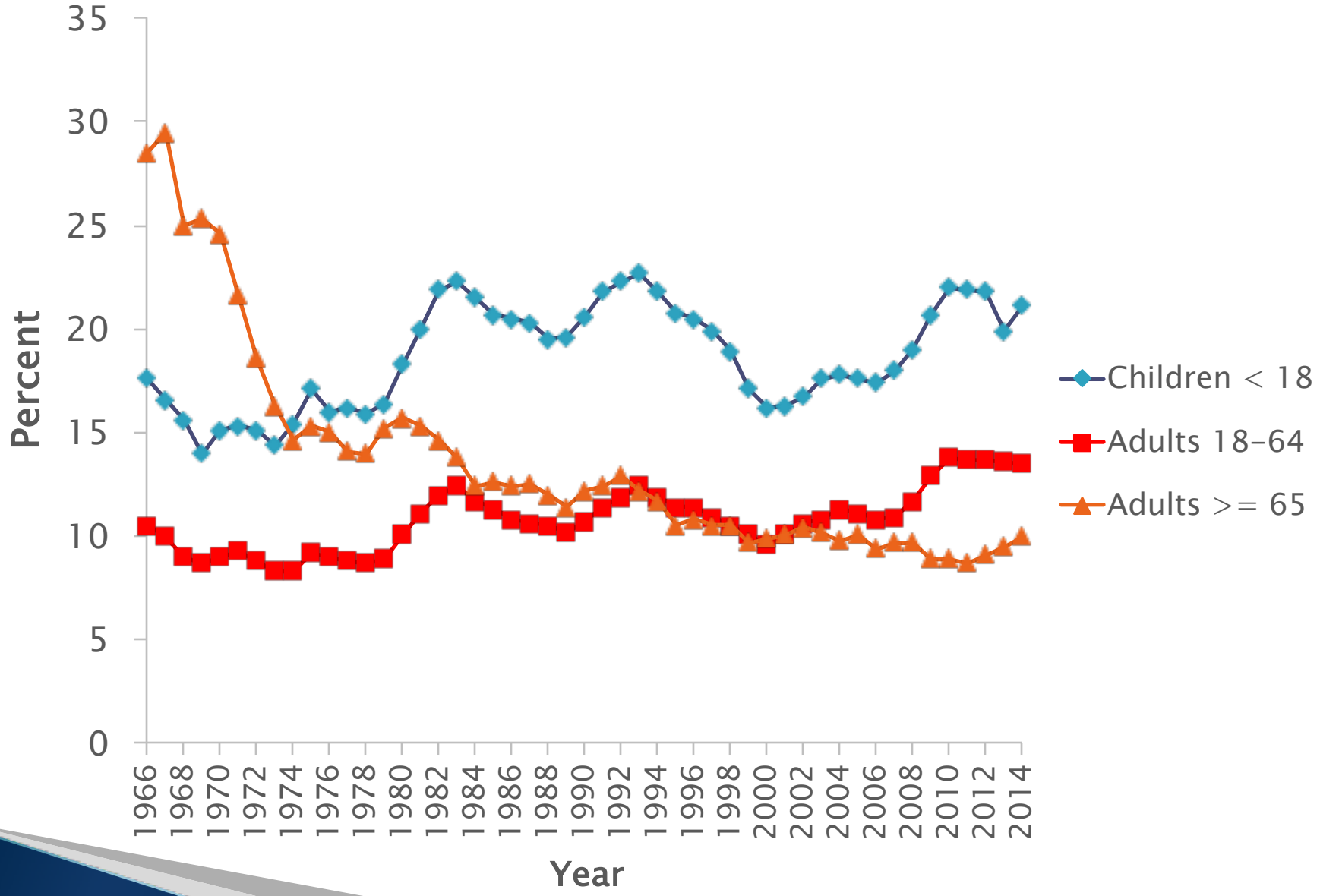
How We Measure Poverty in America

- We adopted an Absolute Poverty measure in the 1960s, the so-called Orshansky Measure.
- Poverty Thresholds were constructed by “scaling-up” family-size specific food expenditures in 1955. Since food accounted for 1/3 of the total budget, the scale factor was set at 3.
- Each year the threshold is updated by the CPI to keep up with inflation.

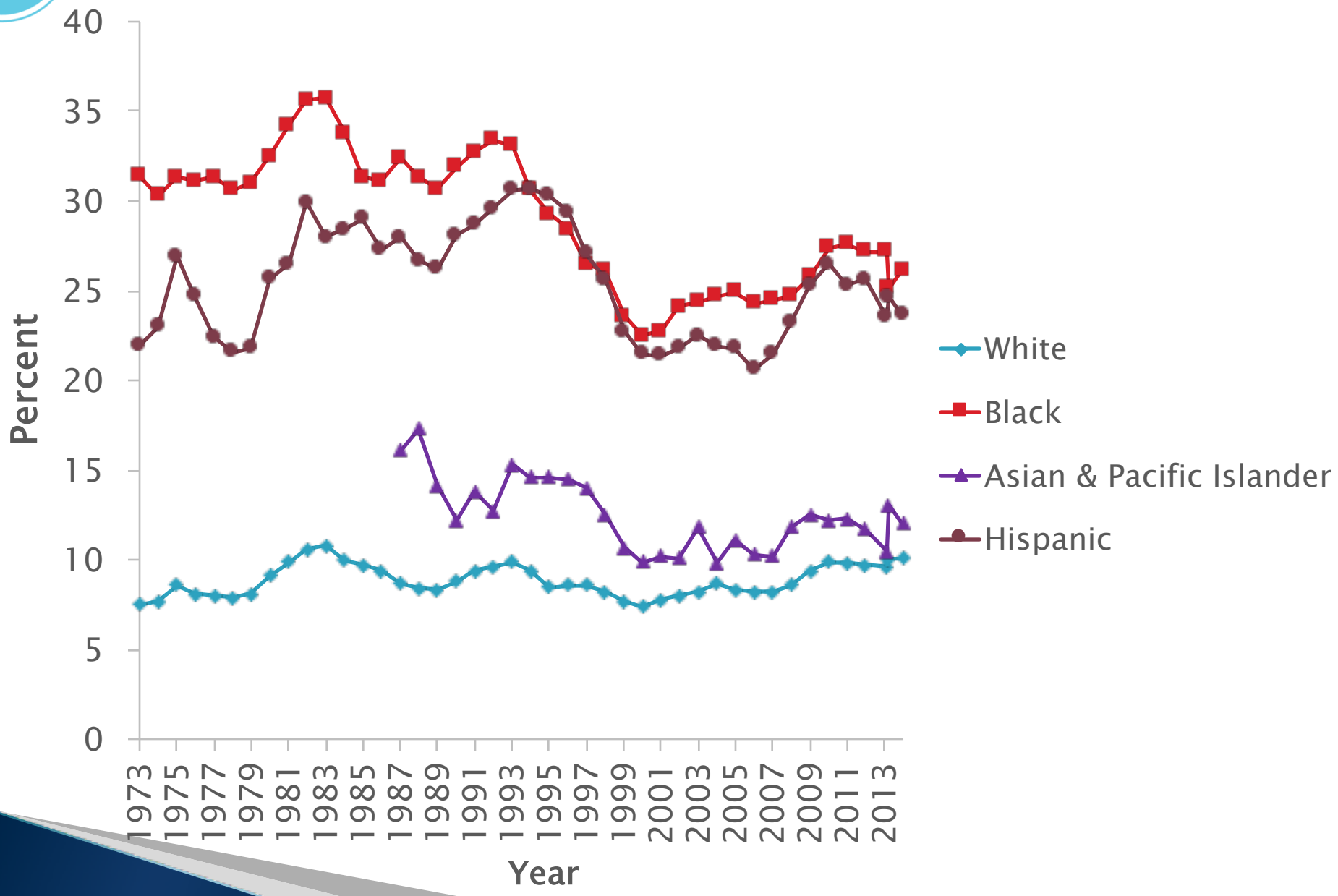
All Persons Poverty Rate, 1959 – 2014



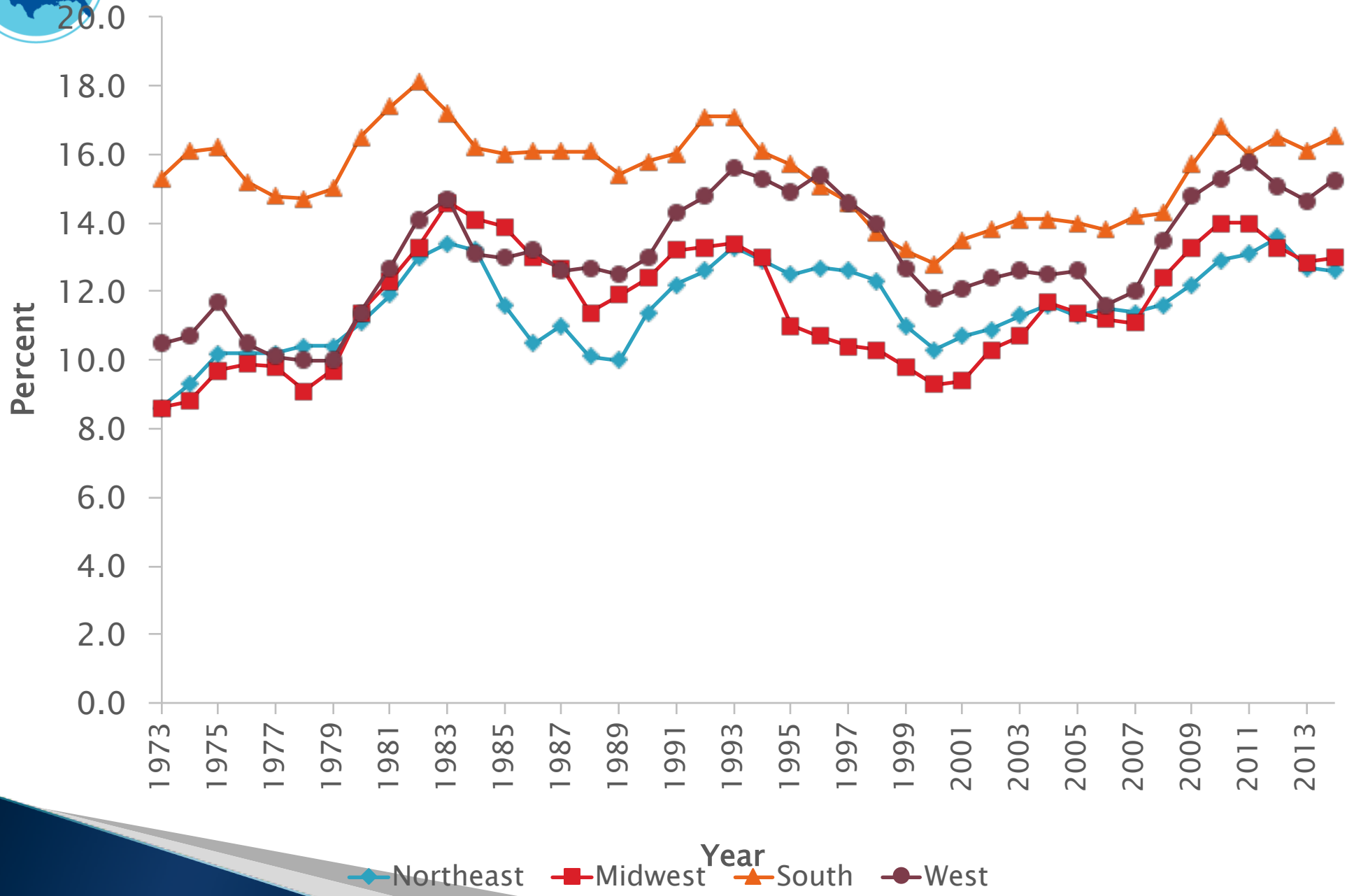
Poverty Rates by Age



Poverty Rates by Race and Ethnicity



Poverty Rates by Region



Inequality Measures

- **Quintile Shares**: Measures the concentration of income accruing to each 20th percent (1/5th) of the distribution
- **Top Income Shares**: Measures top 1%, or 0.01%
- **Lorenz Curve**: Graphical depiction of quintile shares.
- **Coefficient of Variation**: Ratio of standard deviation to mean
- **Gini Coefficient**: A single summary statistic ranging b/t 0 and 1, with numbers closer to 1 reflecting higher inequality. It can be visualized from the Lorenz Curve.
- 90/10, 80-20, 90/50, 50/10 ratios

Trends in Income Shares in the United States

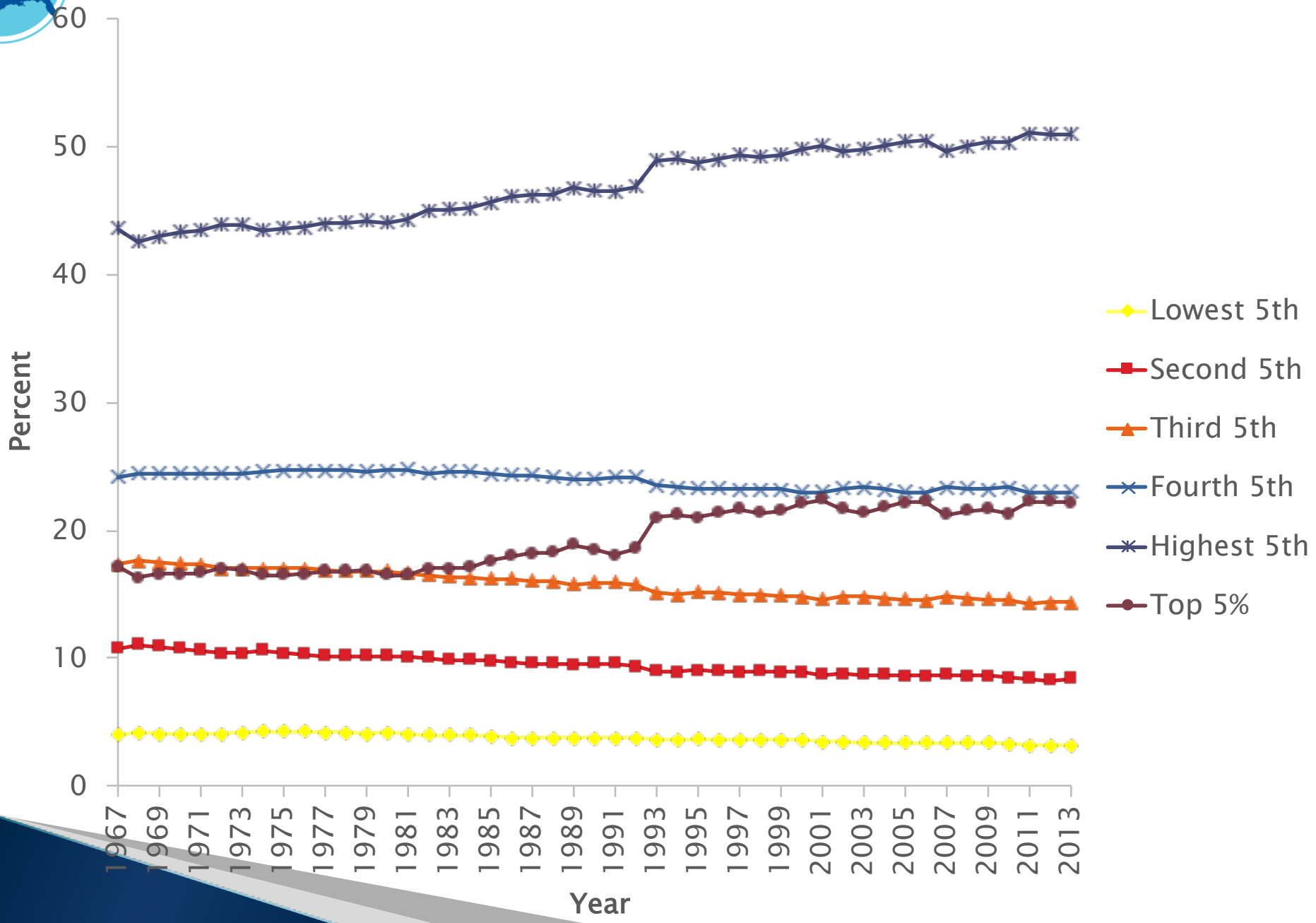
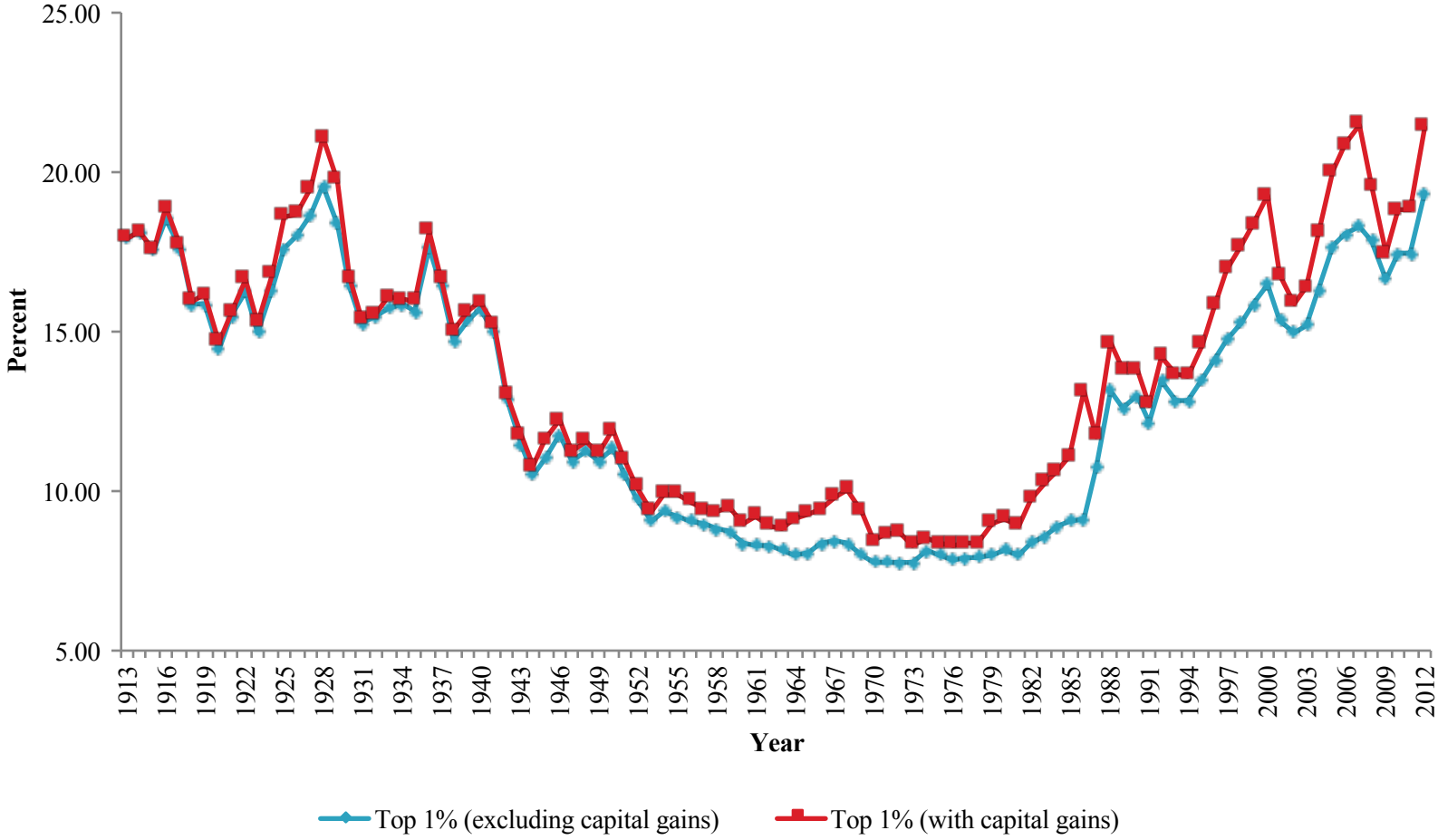


Figure 2. Trends in Income Shares of Top 1%



Trends in Real Median Earnings of Full-Time Year-Round Workers

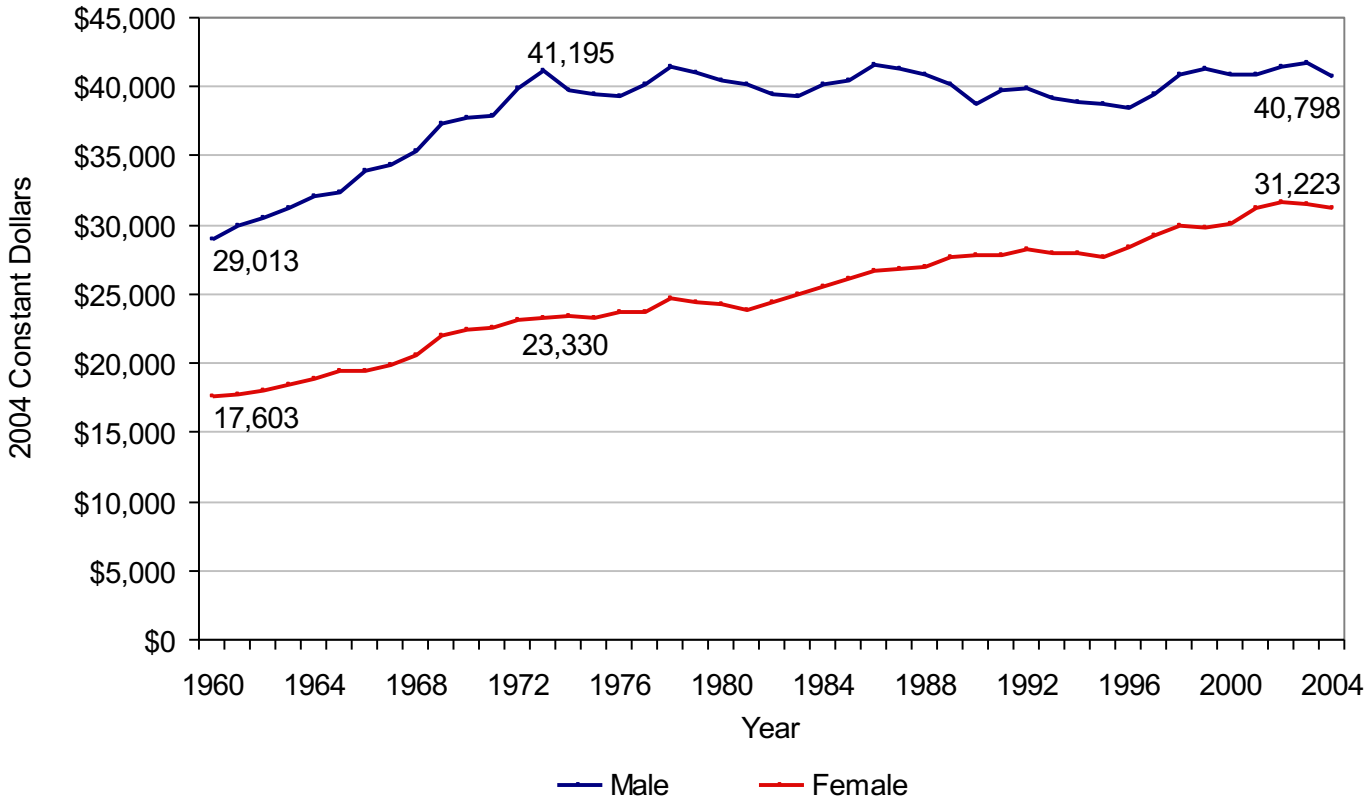


Table 1. Trends in Real Spending on Selected Social Insurance and Means-Tested Transfer Programs

	1980	1990	2000	2010
Social Insurance				
OASI	256.3	354.0	452.2	550.4
Medicare	89.8	176.2	284.4	535.7
Disability Insurance	37.8	39.4	70.4	130.7
Workers Compensation	33.2	60.6	61.2	61.3
Unemployment Insurance	39.3	29.0	26.8	145.9
Veterans Benefits	35.9	28.1	32.1	54.1
Means-Tested Transfers				
Medicaid	56.8	103.0	215.9	356.6
Supp. Security Income	18.8	25.6	39.4	50.7
AFDC/TANF	32.7	35.1	36.3	37.7
Food Stamps/SNAP	21.2	24.4	21.9	71.9
Housing Assistance	22.2	28.7	41.9	44.4
Earned Income Tax Credit	4.6	11.9	41.4	64.1

Antipoverty Bite of the Safety Net Little Changed in Last Decade

Table 2. Millions of Persons in Poverty by Alternative Resource Definition

Year	Pre-tax and transfer	Official	After tax and in-kind transfers	Percent Reduction (%)	Percent Reduction (%)
	(1)	(2)	(3)	(2) ÷ (1)	(3) ÷ (2)
1999	54.8	32.3	26.7	-41	-17
2000	54.5	31.6	27.0	-42	-14
2001	56.4	32.9	27.8	-42	-15
2002	59.9	34.6	29.0	-42	-16
2003	61.3	35.9	30.2	-41	-16
2004	62.8	37.0	31.1	-41	-16
2005	61.9	36.9	30.9	-40	-16
2006	61.1	36.5	30.5	-40	-16
2007	62.4	37.3	31.0	-40	-17
2008	66.9	39.8	33.8	-40	-15
2009	74.8	43.5	35.1	-42	-19

36% 35% 32%

Census/BLS Data Sources

- Current Population Survey (CPS)
  - Monthly Employment/Unemployment
  - Annual Poverty, Inequality, Health Insurance, Food Insecurity Statistics
- American Community Survey (ACS)
- Decennial Census
- Survey of Income and Program Participation (SIPP)
- National Longitudinal Survey (NLSY79, NLSY97)
- Regional Economic Information System (REIS)
- Current Employment Statistics

Other Major (U.S.) Data Sources

- Panel Study of Income Dynamics (PSID)
  - http://psidonline.isr.umich.edu/
- National Longitudinal Study of Adolescent Health (Add Health)
- Early Childhood Longitudinal Survey (ECLS-B, ECLS-K)
- General Social Survey (GSS)
- National Health and Nutrition Examination Survey (NHANES)
- Behavioral Risk Factor Surveillance System (BRFSS)

Where to Find Data?

- http://www.census.gov/
- http://www.bls.gov/
- http://www.ipums.org/
- http://www.nber.org/data/
- http://www.bea.gov/
- http://www.icpsr.umich.edu/icpsrweb/ICPSR/
- http://www.ukcpr.org/Publications/DP2014-09-1.pdf

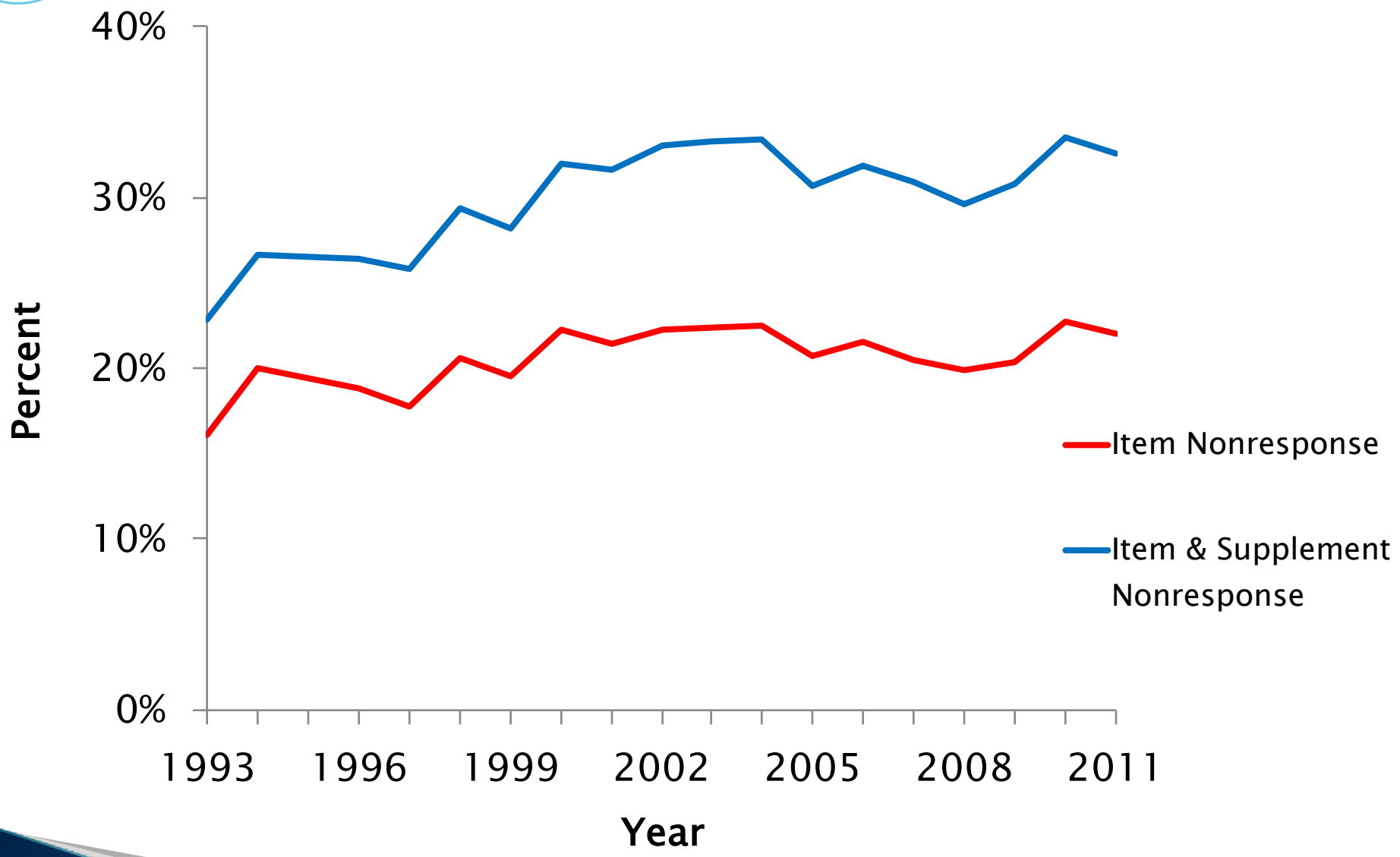
Summary of Current Data

- PSID is the only population-wide, open-ended panel survey in the U.S. that can address the major themes of long-term consequences of inequality/mobility, intergenerational transmission of welfare, alternative poverty measurement and persistence, and financial vulnerability/material hardships

Key Measurement Issues

- Nonresponse
  - Survey
  - Wave
  - Item
- Misreporting
- Top Coding
- Imputation
- Cross-Section-vs-Repeated Cross Section-vs-Panel Data

Earnings Nonresponse (Item plus Whole Supplement)

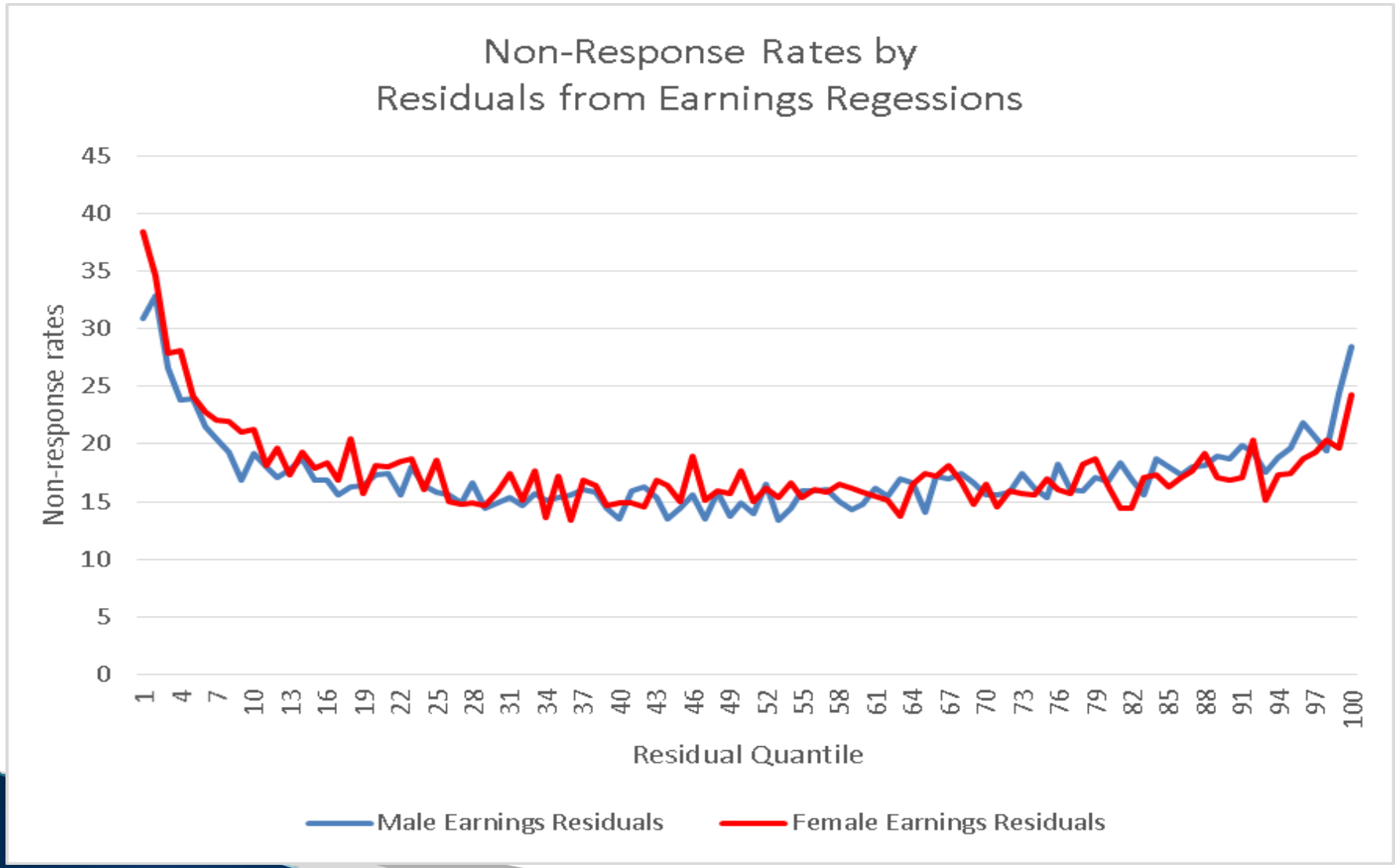


Current ASEC Procedure: Hot-Deck Imputations

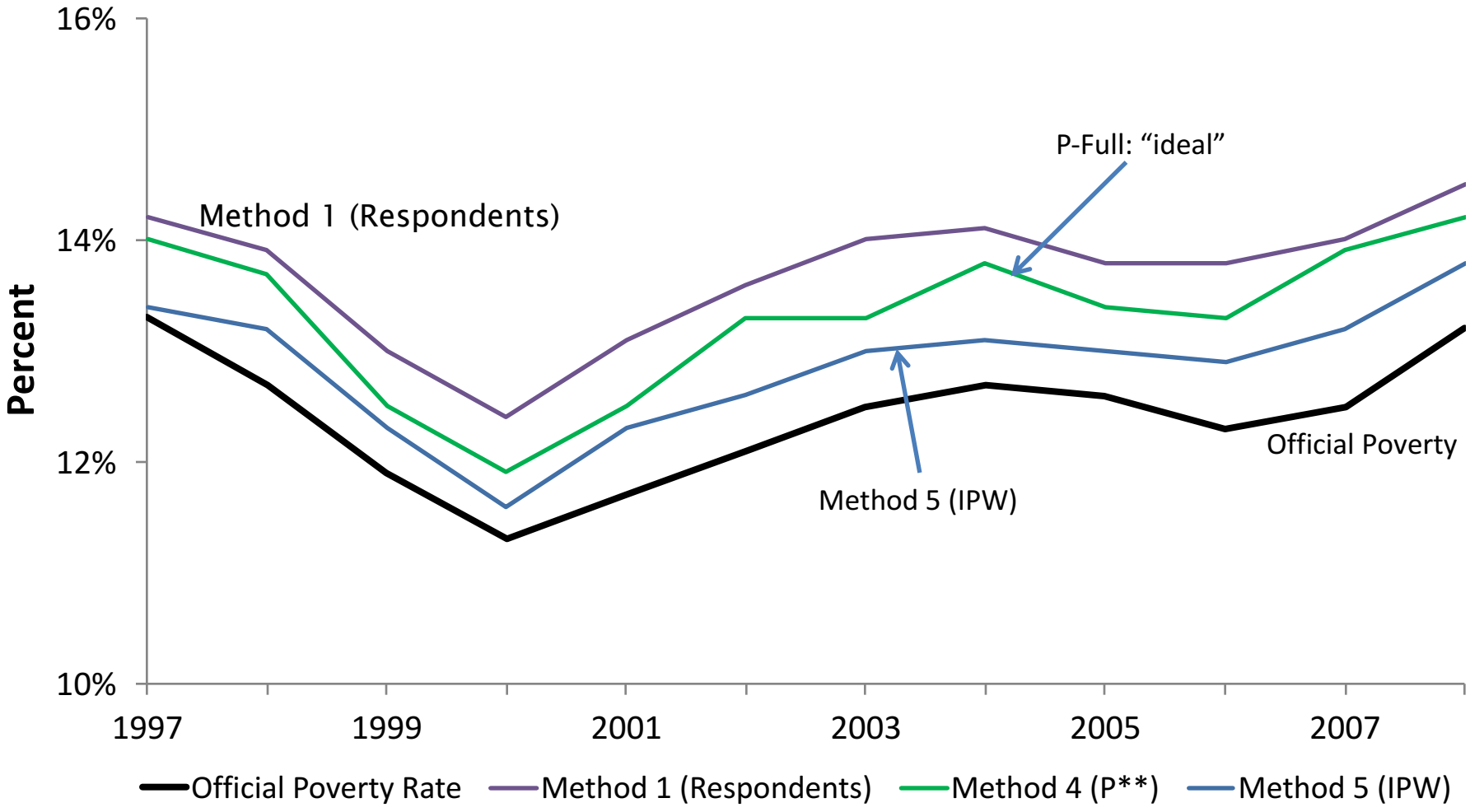
- Assign values to missing data matching to individuals with similar characteristics: preserves mean and variance (12 match groups)
- Current system in place since 1989.
- Missing at Random Assumption (MAR)

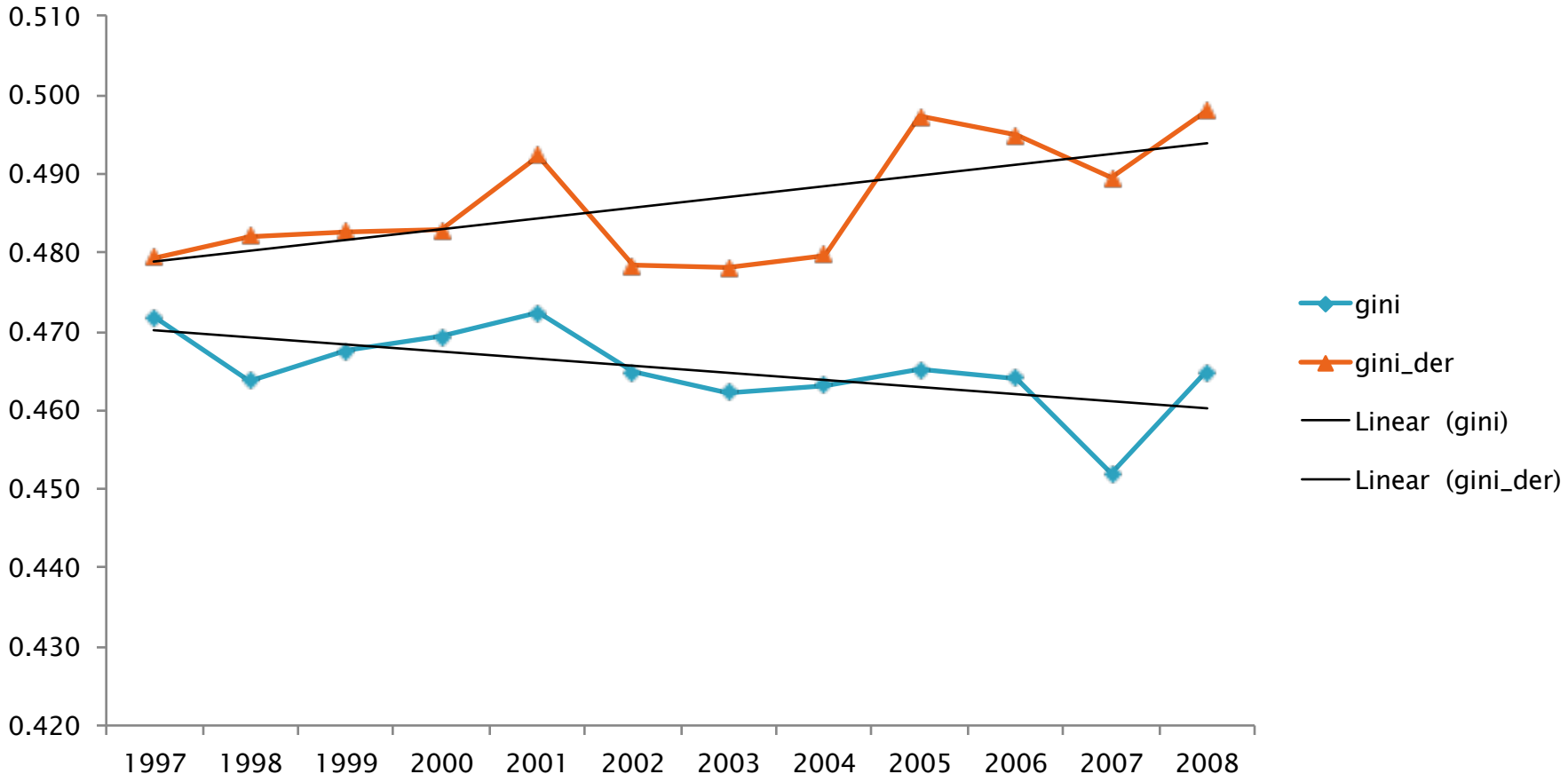
- Whole supplement is similar (8 match groups)
- Sequential collapse when exact match not found.

Why the Hot Deck is not enough.



Implications for Poverty Rates (Hokayem, Bollinger, and Ziliak 2015)



Top Coding in CPS

TRENDS IN EARNINGS GINI USING HOT DECK AND DER