7-2013

Income Polarization and Income Inequality in Connecticut During the Great Recession

A. E. Rodriguez
University of New Haven, arodriguez@newhaven.edu

Scott J. Lane
Quinnipiac University

Comments

We thank John Rosen, Lesley DeNardis, Demissew Ejara, and Steven Shapiro for their valuable input.

Income Polarization and Income Inequality in Connecticut During the Great Recession

A.E. Rodriguez[*]

University of New Haven

&

Scott J. Lane

Quinnipiac University

Abstract

In this paper, using Bureau of the Census family income data we formally examine the income polarization hypothesis for the State of Connecticut. We ask and answer two questions. First, did the polarization of income deteriorate over the Great Recession years of 2007-2009? If the observed clustering around two opposite poles that existed in Connecticut prior to the Great Recession increased between the years immediately prior to the recession and immediately after (2006-2010) it would be consistent with the perception that the size of the middle class decreased over this period. Second, have income polarization and income inequality fared significantly differently during this period in the state? Income polarization and income inequality, albeit related, are generally distinct features of income distributions.

There was no statistically significant change in the polarization of Connecticut's income over the recent recessionary period. We also find that income inequality and income polarization followed distinct and different trajectories over the time period examined.

Keywords: Polarization, Wolfson Index, Inequality, Income distribution, Connecticut

  All the people like us are We, and everyone else is They.
Rudyard Kipling, We and They (1926)

1.0 Introduction

According to official measures, the Great Recession ran from December 2007 through June 2009. During the Great Recession the State of Connecticut saw a downturn across practically all of its economic sectors. It experienced a rise in unemployment, budget shortfalls, a stagnant housing-market and a deterioration of middle class jobs (Krzyek, 2012). And although the distributional consequences of the Great Recession on Connecticut were not examined in any great detail, State policymakers articulated and proposed taxation and

social-welfare policies seeking to arrest or remedy the seeming harsher consequences of income polarization – aimed at remedying the lot of the "vanishing middle-class" (Stuart, 2011; Pazniokas, 2011).[1]

There is now evidence of increased polarization of labor across the nation between high and low wage employment during this period(Autor D. , 2010; Moretti, 2012). But to our knowledge, there was no state-level basis for the policy positions and programs that Connecticut deployed at the time.[2] The policy initiatives simply appeared to assume that the fortune of Connecticut's middle class mirrored those of the nation. As we explain later, this was far from being the case on multiple levels.

A factual record improves the information available for individuals and for public opinion and constitutes a sounder basis for policy. Thus, it is critical that we clearly understand the impact of the Great Recession on inequality and the polarization of income in the state of Connecticut especially before enacting policy. This is the objective of this research, specifically for the state of Connecticut: to test the vanishing middle-class hypothesis. We conduct formal statistical inference on the index of polarization by testing hypothesis about the changes in the values of the index over the years before, during and immediately after the Great Recession in Connecticut. Succinctly, we find no statistically meaningful change in polarization over the Great Recession years. We find distinct and different trends in polarization and inequality. And we find in general the family incomes held or slightly increased until noticeable differences in polarization emerged in the years immediately after the recession: 2010-2011 and 2011-2012.

This research is narrow in scope. It documents the presence of polarization, examines the performance of average family income levels disaggregated by income percentile and whether observed changes in the measure of polarization are statistically significant. At this point, we can only offer conjectures as to the reasons for the observed patterns.

All results, as well as the basis, methodology and the statistical tests underscoring our work are provided in this paper. In the next section we describe the routine, incorrect confounding and conflating of income inequality and polarization in the popular media and among individuals. The third section explains the difference between inequality and polarization. In section four and five we describe our work and our results. The last two sections conclude and in them we advance some tentative explanations for the observed results namely, that in Connecticut and contrary to public and official perceptions, income polarization did not increase.

2.0 Framing the Debate

In popular debates and discussion over the distribution of income, inequality frequently gets conflated with polarization and the terms are often used synonymously in common parlance. But increased polarization and the deterioration of the distribution of income while related are not necessarily the same thing. Societies are unequal if a small fraction of the population is much richer or wealthier than the rest. Yet, such societies are not polarized. Polarization, which conveys a new perspective on the inequality debate, is an important and distinct dimension of the distribution of income. If the distribution of income is compressed within groups within the state population but remains diverse or distant between groups, then we consider income

---

[1] The State of Connecticut passed an income tax increase (Senate Bill 1239) in May of 2011.

[2] Although it is not clear to what extent it found an audience among policymakers a notable examination of distributional considerations is the report by Hero for the state of Connecticut (Hero, 2007). For a similar look at New England see Gittel and Rudokas(Gittell & Rudokas, 2007).

"polarized" between the groups. We explain the difference between polarization and inequality in more detail below.

Despite distinct differences it is probably polarization that most people intuitively have in mind when they frown on inequality. The anger displayed by the Occupy Wall Street - and its counterparts in Connecticut, Occupy New Haven and Occupy Hartford – during the Summer of 2012 vividly brought to our attention the marked differences between the "1%" and the "99%". The Occupy message reflected an intense disaffection with income inequality; but it was *expressed and articulated* with imagery reflecting a bi-polarization of distinct income groups. The demonstrations channeled growing resentment and concern at - the "erosion," the "hollowing out," of the middle class, the worsening of everyone's general economic position and proffered a seemingly sensible explanation: the concentration of income in the top 1 percent of income earners.[3] This simple categorization conforms to cognitive psychologists' understanding of the human need to categorize – to assemble and understand the world in terms of groups and to attribute to all members of each grouping the typical or salient characteristics of a particular member of each group(Rosch, 1978). Within the heuristics literature it is well understood that disregarding information in favor of a ready or simple representation may be an optimal response to a complex environment (Gigerenzer, 2010). Indeed, it is probably by framing the inequality debate as a contest between readily understandable identifiable and distinct clusters – the 1 percent and everybody else – that the Occupy movement influenced policy-makers and had an impact on the general public.

Consider the following two Occupy Wall Street reports as archetypical examples. Laurie Kellman, reporting on an Associated Press-Gfk poll taken at the time noted that "more than one-third of the country (37 percent) supports the Wall Street protests" (Kellman, 2011). Similarly, Matthew Cooper, citing results that appeared in a United Technologies/*National Journal* Congressional Connection Poll observed the following:

> *A new survey shows that Americans overwhelmingly support the self-styled Occupy Wall Street protests that not only have disrupted life in Lower Manhattan but also in Washington and cities and towns across the U.S. and in other nations. Some 59 percent of adults either completely agree or mostly agree with the protesters, while 31 percent mostly disagree or completely disagree; 10 percent of those surveyed didn't know or refused to answer. What's more, many people are paying attention to the rallies. Almost two-thirds of respondents--65 percent--said they've heard "a lot" or "some" about the rallies, while 35 percent have said they've heard or seen "not too much" or "nothing at all" about the demonstrations (Cooper, 2011).*

In many instances - including matters of wealth and income - individuals differ on their values (e.g. the role of free agency, the role of the state), objectives and outcomes. The Occupy outcry was influential in framing the issues underscoring the widening income distribution gap and evoking a shared mental model among individuals. It succeeded where the copious amount of ink spilled in the ongoing debate over the distribution of income failed. It is a debate that commenced in earnest in the 1980's – but one that has been relegated largely to academics, think tanks and policy wonks(Autor, Katz, & Kearney, 2008; Burkhauser, Larrimore, & Simon, 2012; Frank, 2009; Mankiw, 2013; Piketty & Saez, 2003). Most individuals were (and are) hardly moved by the outcries in inequality in learned and academic journals replete with graphs, statistics and professional jargon as they were by the stark distinctions forged by the occupation of Zuccotti

---

[3] See, for example, USA Today, October 2011. "Middle Class' share of the nation's income is shrinking."(Bello & Overberg, 2011).

Park and other locales around the world. The irony in all this is that an intuitive understanding of polarization raised people's consciousness despite the fact that inequality was the focal point of the Occupy movement. This is a subtle point perhaps, but as we will see an association neither altogether correct nor inconsequential. The next section elaborates on the distinction between inequality and polarization.

3.0 Polarization and Income Inequality
One can appraise the extent of polarization across any number of socio-economic characteristics such as race, education, wages, income and wealth. The term refers to the extent to which the society is clustered into recognizably homogenous groupings.

Consider the following distribution of household income S_t ranked over income deciles:

$S_t = \{1, 2, 3, 4, 5, 5, 4, 3, 2, 1,\}$

The Gini coefficient of income inequality for the given distribution S_t is 0.2667. Now consider a transformation that causes households with income of 5 to converge to 1, and the income of households with income of 1 to converge to 5. We obtain the following changed distribution:

$S_{t+1} = \{5, 2, 3, 4, 1, 1, 4, 3, 2, 5,\}$

A marked bi-polarization or clustering has emerged towards each end of the distribution – as can be observed. And although the increase in clustering appears to intuitively reflect an increase in what one understands as inequality, inequality – as measured by the Gini coefficient - has not changed; the Gini coefficient for distribution S_{t+1} remains at 0.2667. Technically, polarization can be perceived as signifying two aspects of distributional changes: "spreadoutness" and bimodality (Wolfson M. C., July 1997). The concept of spreadoutness presumes to gauge the number of families with middle level income – because the distribution of income is spreading outwards in both directions away from the middle. Relatedly, bimodality refers to the clustering of formerly middle level incomes at either higher or lower levels of the distribution. Polarization is said to exist when income is largely concentrated at both ends of the distribution, with less in the middle. For example, distribution S_{t+1} is said to be more polarized than distribution S_t because the distribution of income in S_{t+1} is more bimodal in the sense that it contains more of the poor and of the rich – but fewer people in the middle. It is in this sense, that the concept of polarization is also known as the "disappearing middle-class" phenomenon.

3.1 Measuring Bi-Polarization
Techniques for measuring polarization emerged in the early 1990's largely out of concern primarily in western economies, over slow growth in middle class job creation (Wolfson M. C., 1994; Esteban & Ray, 1994). They found ready application in similar inquiries within individual developing nation-states and across nations (Hakim, 2002; Hegre, 2008; Brzezinski, 2011).

The causes and consequences of the income gap drive an often contentious debate that continues unabated to this day and largely unsettled(Burkhauser, Larrimore, & Simon, 2012; Frank, 2009; Piketty & Saez, 2003). And it was within this context that scholars and commentators expressed concern that a disappearing middle class would further impair the growing inequality in the distribution of income.

Conventional inequality measures such as the Gini coefficient were unable to capture changes in the share of income held by middle-income groups. The Wolfson Polarization index gauges the degree of pure income polarization (Wolfson M. C., July 1997) . Specifically, the Wolfson index best frames bipolarization around the median, limiting the focus to two groups. The Wolfson Index is derived from the Lorenz curve and measures twice the area between the Lorenz curve and the tangent line at the median point. The Wolfson Index is expressed as follows:

$W(f) = 2\mu/m\ [2[0.5 - L(0.5)] - G(f)]$

Where *f* is a functional representation the distribution of income and L the Lorenz Curve; and L(0.5) is the income share of the bottom half of the population. μ and m are the median and mean income respectively. G is the Gini index.

To appraise inequality we calculate the Gini Coefficient and its confidence interval using the same methodology. The Gini is the most frequently used measure of inequality. Specifically, the Gini is twice the area between 45-degree line and the Lorenz curve (Slottje, Basman, & Nieswiadomy, 1989).   The Gini Coefficient of inequality is defined as follows:

$$G = \left\{ \int_{y_{min}}^{y_{max}} F(y)\left[1 - f(y)\right] \right\}/\mu$$

Where y be a vector of incomes with mean μ, extreme value y_{min} and y_{max} and cumulative distribution function *F(y)*. Following Giles (2002), the operational formulation is as follows:

$$\hat{\theta} = \left[(\sum_{i=1}^{n} iy_i)/(\sum_{i=1}^{n} y_i) \right]$$

Both expressions, the Wolfson and Gini Indexes, are available in the Distributive Analysis Stata Package (DASP) module(Araar & Duclos, 2012). We utilize DASP routines to estimate the asymptotic variance and standard errors for the Wolfson and Gini indices. The output provides confidence intervals for the indices. These statistics allow us to formally set forth and construct hypothesis tests about changes in the levels of the indices.
.
Our interest is primarily on the change in polarization over the time period examined. Thus, our null hypothesis states that two different income distributions have the same value of the Wolfson Index. We provide tests for several comparisons between subsequent years as well as comparisons to a base-year/index; results are in Table 5.

4.0 Household Income and the Polarization of Income in Connecticut

We ask and answer two questions. First, did the polarization of income deteriorate over the recent recession? If the observed clustering around two opposite poles that existed in Connecticut prior to the recession increased between the years immediately prior to the recession and immediately after (2006-2010) it would be consistent with the perception that the size of the middle class decreased over this period. Second, have income polarization and income inequality fared differently in the state? Income polarization and income inequality, albeit related, are generally distinct features of income distributions. Importantly, we set forth tests of statistical significance to ensure that observed changes in inequality and polarization metrics are meaningful.

We use Bureau of the Census family income data adjusted for household size and corrected for nominal changes to formally examine the polarization hypothesis for the State of Connecticut. Income is deflated by the square root of household size to account for economies of scale across the household. Data for our analysis is from the Annual Social and Economic Supplement (ASEC) of the March Current Population Survey (CPS) – administered by the US Census Bureau and the Bureau of Labor Statistics. The CPS is a representative sample of the civilian population. It is commonly used to measure levels and trends in income and its distribution. The data were obtained via the Integrated Public Use Microdata Series CPS data (IPUMS CPS) published by the Minnesota Population Center at the University of Minnesota. We use the CPS-ASEC for 2005-2012. The data are harmonized to be consistent over time.

The analysis of income relies on reported family income. The family is the primary unit across which income is shared. Income data are adjusted to reflect 2012 dollars using the Consumer Price Index Research Series Using Current Methods (CPI-U-RS).

4.1 Results

Our data allow us to look at changes in the distribution of income in Connecticut over the period 2006-2010. It does not allow us to track particular families. Rather, it provides a look at the overall distribution of income across Connecticut's entire population.

To facilitate the examination we break the population into groups – specifically, percentile groups. The family at the 90th percentile of income has an income level higher than 90 percent of the population. By the same logic, the family at the 10th percentile has income higher than only 10 percent of the population. The 50th percentile, commonly known as the median, represents the exact middle-income. We report the recession's effect through its two official years, 2008 and 2009 – as well as the three years after 2010, 2011 & 2012. In some tabulations we compare the recession to the income peak in 2007 and to a comparable two years beforehand – 2006, and 2005.

The recession hit incomes across the distribution but not in an identical manner; certain groups felt its effects more strongly than others.

Table 1
Family Income Percentiles

Percentile	Family Income ($)				
	2006	**2007**	**2008**	**2009**	**2010**
10th Percentile	11,571	13,020	12,684	14,766	15,345
25th Percentile	27,554	28,494	31,071	33,117	35,100
Median	57,062	62,665	67,951	70,295	71,149
75th Percentile	98,257	108,111	118,980	121,410	121,484
90th Percentile	149,747	169,380	174,939	179,523	199,935

Source: Current Population Survey, Bureau of the Census, Connecticut MSA's.
All figures in 2012 dollars.

For example, family income increased by more than 6 percent for the richest families in the state – those at the 90th percentile. Median family income – by comparison - increased by more than 12 percent during the recession. Notably, the poorest segment of the population – those in the 10th percentile, exhibited a 13.3 percent in income.

Figure 1 shows the percentage *change* in income at several points in the income distribution in each year compared to the base year of 2005 – where all indexes are set equal to 100.

Figure 1
Percentage Change in Income across Percentiles
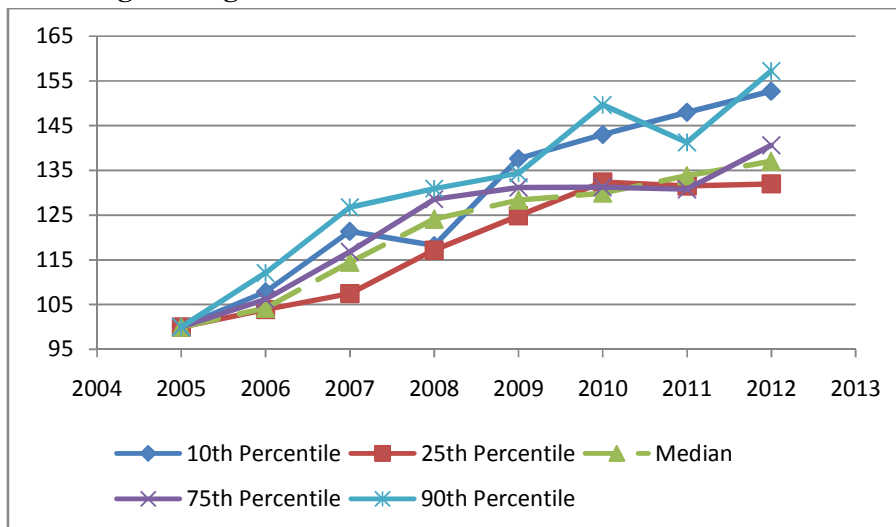

Source: Current Population Survey, Bureau of the Census, Connecticut MSA's.
All figures in 2012 dollars. (2005=100)

4.2 The Income-Gap

In Connecticut, the gap between lower- and upper-income has been markedly higher than in the rest of the nation. However, the last recession had an atypical impact on the income gap. A common way to examine the income gap is to look at the ratio of income for families at the top of the distribution to families at the bottom. The graphs below display two standard income ratios: the ration of income at the 90th relative to the 10th percentile (the "90/10 ratio") and the 75th relative to the 25th percentile (the "75/25 ratio"). The former
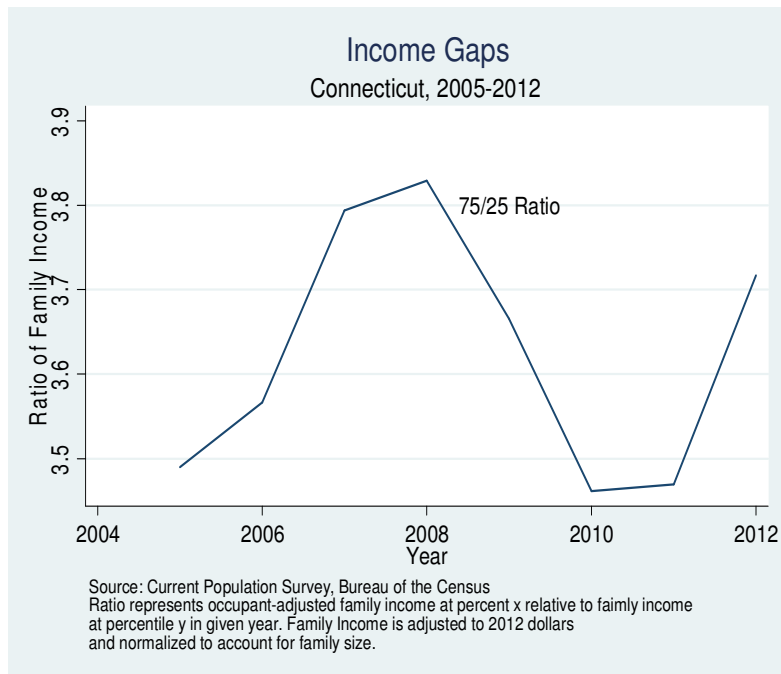
conveys a more dramatic contrast of the disparity between income groups whereas the latter is less so because the 75 percentile and the 25th percentiles are closer to the middle of the distribution.

Figure 2
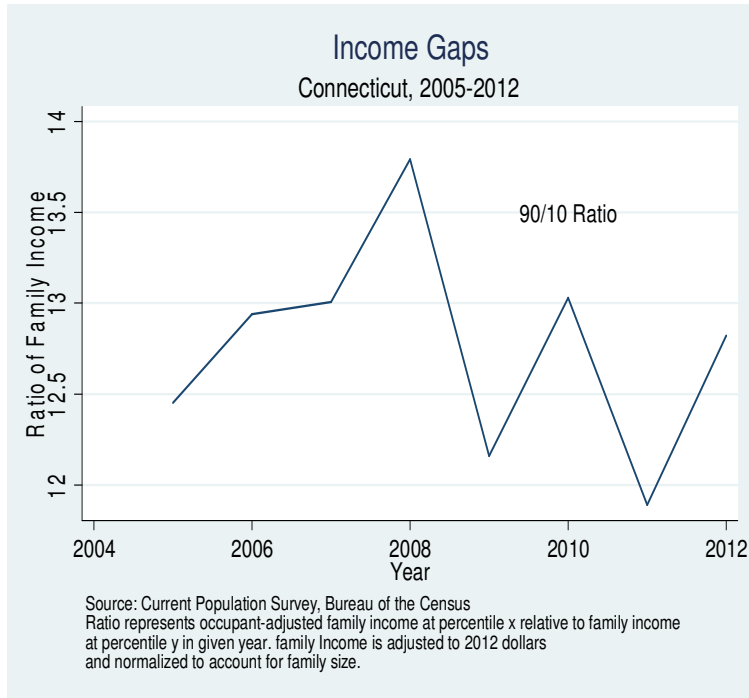
Interestingly, the disparity between rich and poor declined over the recession and only now does it appear to be returning to historical levels.

Figure 3

4.3 Polarization

Table 2 shows the values of the Wolfson Index over the period studied. Throughout the 2006-2010 – a period that includes a year both immediately prior to and immediately following the recession - there was an increase in income polarization of approximately 1.4 percent (CAGR). But the index *dropped* during the actual recession period (2007-2009) by slightly more than half a percent (CAGR). The table also shows the values of the standard error for the estimate of the Wolfson Index and the upper and lower bounds of a 95 percent confidence interval.

Table 2

Income Polarization Based on the Wolfson Index

Year	Wolfson Index	Standard Error	LB 95% CI	UB 95% CI
2005	0.414	0.019	0.377	0.451
2006	0.433	0.018	0.398	0.468
2007	0.449	0.022	0.406	0.491
2008	0.444	0.020	0.404	0.484
2009	0.439	0.020	0.401	0.478
2010	0.458	0.023	0.414	0.502
2011	0.416	0.017	0.382	0.450
2012	0.458	0.018	0.422	0.494

Source: Current Population Survey, Bureau of the Census, Connecticut MSA's.

Based on occupant-adjusted family income in 2012 dollars

Figure 4 provides a visual display of the Wolfson Index levels and the overlap among the associated confidence intervals. One can rely on the graph for a visual determination of the statistical significance of any realized difference in the Polarization index for any two years.

Figure 4

Source: Occupant-Adjusted Family Income, 2012 dollars, CT MSA's, Bureau of the Census
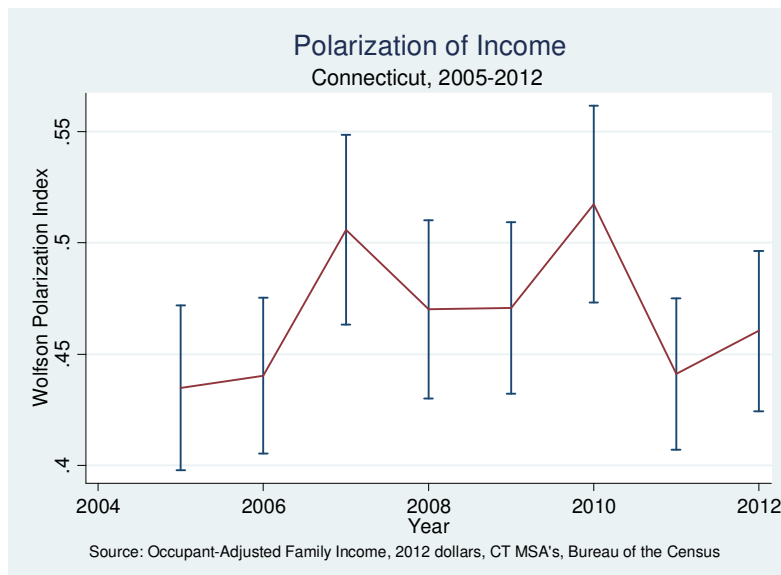
Table 3 shows the values in the realized difference in the Wolfson Polarization Index for every pair of years among the years between 2005 and 2012. It also provides the associated t-statistic of the estimated change and the p-value. The p-value represents the likelihood that the observed difference in the realized levels of the polarization index is distinct from sampling noise and measurement error.

Table 3
  Results of Hypothesis Test of No Change in the Wolfson Index

Year		2006	2007	2008	2009	2010	2011	2012
2005	Realized Change in Wolfson Index t-statistic p-value	0.0188 1.377 0.175						
2006	Realized Change in Wolfson Index t-statistic p-value		0.0156 0.9866 0.3238	0.0111 0.755 0.4503	0.0061 0.4289 0.6679	0.0249 1.677 0.0934		
2007	Realized Change in Wolfson Index t-statistic p-value				-0.0159 -0.2676 0.789	-0.0091 -0.5709 0.5681	0.0096 0.5918 0.5540	
2008	Realized Change in Wolfson Index t-statistic p-value				-0.0048 -0.3197 0.7492			
2009	Realized Change in Wolfson Index t-statistic p-value					0.0187 1.225 0.2207		
2010	Realized Change in Wolfson Index t-statistic p-value						-0.0422 -2.8603 0.0042	
2011	Realized Change in Wolfson Index t-statistic p-value							0.0418 2.854 0.0043

For example, the outcome for the null-hypothesis of no change in the Wolfson Index between the years of 2006 and 2007 can be found inside the table above by locating of the base year located on the 2nd row (2006) and year 1 on the 2nd column (2007). The realized change is 0.0156 and the associated t-statistic is 0.9866 suggesting that the observed difference is not statistically significant from zero. Accordingly, the null of no change cannot be rejected. This result implies that the observed increase in the level of the Wolfson Index is not a statistically meaningful one.

4.4 Polarization and Income Inequality

Table 4 lists the realized outcome of the Gini Coefficient for the State of Connecticut over the years 2005-2012. The table also includes the standard error and the upper and lower bounds of a 95 percent confidence interval.

Table 4

Income Inequality Based on the Gini Coefficient
State of Connecticut

Year	Gini	Standard Error	LB 95% CI	UB 95% CI
2005	0.454	0.007	0.441	0.467
2006	0.484	0.007	0.471	0.497
2007	0.499	0.007	0.486	0.512
2008	0.485	0.006	0.473	0.498
2009	0.472	0.006	0.461	0.483
2010	0.489	0.005	0.479	0.500
2011	0.472	0.007	0.458	0.486
2012	0.497	0.007	0.483	0.511

Source: Current Population Survey, Bureau of the Census, Connecticut MSA's.
Based on occupant-adjusted family income in 2012 dollars

Figure 6 provides a visual display of the estimated Gini Coefficient for the year between 2005 and 2012. The figure also displays the overlap among the associated 95 percent confidence intervals. One can rely on the graph for a visual determination of the statistical significance of any realized difference in inequality in the State of Connecticut for any two years.

Figure 5

Source: Occupant-Adjusted Family Income, 2012 dollars, CT MSA's, Bureau of the Census
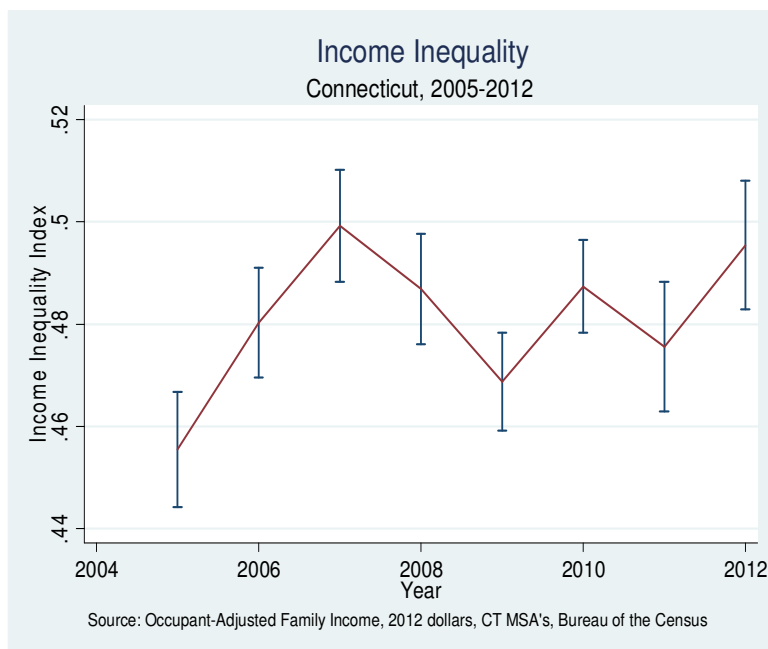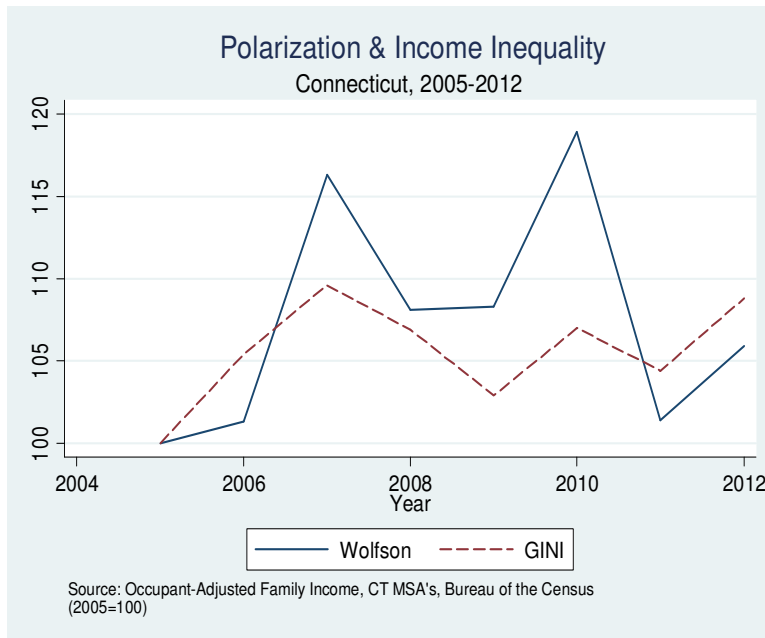
Figure 7 displays the realized trends in the values of the Wolfson Index and the Gini Coefficient. Both indices have been normalized to equal 100 in 2005. The normalized graph allows one to appraise whether the polarization metric is visually distinct from the inequality metric for the time period. It is clear that polarization is noticeably distinct from inequality. Changes in the polarization metric appear to be more dramatic than the changes in the inequality index.

Figure 6

Polarization & Income Inequality
Connecticut, 2005-2012

Source: Occupant-Adjusted Family Income, CT MSA's, Bureau of the Census (2005=100)

Throughout the period there were instances of increases as well decreases in polarization. However, polarization in Connecticut does not increase, and in fact, appears to decline over the recession years: 2007 to 2009.

5.0 Comments

In Connecticut polarization does not increase during the Great Recession – seemingly contrary to the official and public understanding of events and providing no support for allegations of a vanishing middle-class in the state. Why was there no increase in polarization?

We have no conclusive explanation for the results obtained. Our task was a largely exploratory one and limited to establishing the factual record of the impact of the recession on income polarization in the State of Connecticut. Nonetheless, we advance a tentative explanation as to our results.

Income in Connecticut was already polarized, at least compared to other States. Connecticut has a one of the highest per capita incomes in the country. Part of the high income is due to a high level of education and part due to the proximity of New York City and the financial industry. There are many very high income individuals in the State. There are also some significant areas of poverty in inner cities (Hartford, New Haven, and Stamford, for example) and the combination of high income individuals and poverty leads to high levels of polarization. It could be that the level of polarization didn't get worse because it was already high. Further work is necessary to convey a deeper examination into the relevance of this argument as an explanation for the results examined in this paper.

6.0 Conclusion

The popular press often discusses the Great Recession increasing the disparity between "the rich" and "the poor," or the differences between "the haves" and "have-nots" or any number of other popular descriptions alluding to the "disappearance," the "hollowing out" or the "vanishing" of the middle class. These phrases, common in the vernacular, are studied in economics as instances of polarization or sorting. They describe the extent to which society is grouped into two (or more) homogenous clusters around income, race, educational attainment or any other socio-economic characteristic.

In this paper, using Bureau of the Census family income data we formally examine the polarization hypothesis for the State of Connecticut. The data are adjusted for nominal change in income and for variation in household size. We ask and answer two questions. First, did the polarization of income deteriorate over the recent recession? If the observed clustering around two opposite poles that existed in Connecticut prior to the recession increased between the years immediately prior to the recession and immediately after (2006-2010) it would be consistent with the perception that the size of the middle class decreased over this period. Second, have income polarization and income inequality fared differently in the state? Income polarization and income inequality, albeit related, are generally distinct features of income distributions.

Connecticut appears to have escaped the worst of the Great Recession. That is, the real, inflation- adjusted income of middle class households as measured by median family income consistently grew over the period of the Great Recession. Moreover, there is no evidence of a statistically significant polarization of income over the recent recessionary period. We also find that income inequality and income polarization followed distinct and different trajectories over the time period examined. Our results are consistent with recent work with national data showing that "the evidence of a middle decline is far from clear" (Burkhauser, Larrimore, & Simon, 2012).

Why is our appraisal important? The concern over the increase in polarization has moved beyond talk and debate. At both federal and state levels – including the State of Connecticut - policymakers have started to articulate and deploy policies aiming at arresting any further middle-class slippage. Policy in Connecticut appears to be based on an incorrect perception of an increase in income polarization and the sense that the middle class share of the economic pie is declining. Accordingly, establishing the factual record in a statistically robust manner is important for revising current policy and establishing future policy.

References

Araar, A., & Duclos, J.-Y. (2012). *DASP: Distributive Analysis Data Package.*

Autor, D. (2010). *The Polarization of Job Opportunities in the U.S. Labor Market.* The Center for American Progress and the Hamilton Project. Retrieved from http://economics.mit.edu/files/5554

Autor, D. H., Katz, L. F., & Kearney, M. S. (2008). Trends in U.S. Wage Inequality: Revising the Revisionists. *Review of Economics and Statistics, 90*(2), 300-323.

Bello, M., & Overberg, P. (2011, October). Middle Class' share of the nation's income is shrinking. *USA Today*. Retrieved from http://usatoday30.usatoday.com/money/economy/story/2011-10-25/middle-class-disappearing/50914822/1

Brzezinski, M. (2011). Statistical Inference on Changes in Income Polarization in Poland. *Przeglad Statystyczny*, 102-113.

Burkhauser, R. V., Larrimore, J., & Simon, K. I. (2012, March). A "Second Opinion" On the Economic Health of the American Middle Class. *National Tax Journal, 65*(1), 7-32.

Cooper, M. (2011, October 19). *Poll: Most Americans Support Occupy Wall Street.* Retrieved May 17, 2013, from The Atlantic : http://www.theatlantic.com/politics/archive/2011/10/poll-most-americans-support-occupy-wall-street/246963/

Esteban, J. M., & Ray, D. (1994). On the Measurement of Polarization. *Econometrica, 62*(4), 819-851.

Frank, M. W. (2009, January). Inequality and Growth in the United States: Evidence From a New State-Level Panel of Income Inequality Measures. *Economic Inquiry, 47*(1), 55-68.

Gigerenzer, G. (2010). Moral Satisficing: Rethinking Moral Behavior as Bounded Rationality. *Topics in Cognive Science, 2*(3), 528-554.

Gittell, R., & Rudokas, J. (2007). *New England has the Highest Increase in Income Disparity in the Nation.* Carsey Institute. Durham, NH: University of New Hampshire. Retrieved from http://carseyinstitute.unh.edu/sites/carseyinstitute.unh.edu/files/publications/IB_incomeinequality_07.pdf

Hakim, R. A. (2002). Is There Evidence of Polarisation in Malaysia? An Application of Wolfson's Polarisation Index. *Jurnal Pembangunan Sosial*, 61-78.

Hegre, H. (2008). Polarization and Interstate Conflict. *Journal of Peace Research, 45*(2), 261-282.

Hero, J. (2007). *Connecticut Leads the nation in Multiple Measures of Income Inequality.* New Haven: Connecticut Voices for Children.

Kellman, L. (2011, October 23). *Over a Third of Americans Support Occupy Wall Street Protests: Poll.* Retrieved May 17, 2013, from Huffington Post: http://www.huffingtonpost.com/2011/10/23/occupy-wall-street-poll_n_1027109.html

Krzyek, M. (2012, December). Job Polarization in Connecticut. *The Connecticut Economic Digest, 17*(2).

Mankiw, N. G. (2013, June 7). Defending the One Percent. *Journal of Economic Perspectives, forthcoming*, 1-25.

Moretti, E. (2012). *The New Geography of Jobs.* New York: Houghton Mifflin Harcourt.

Mulligan, C. B. (2012). *The Redistribution Recession.* New York, New York: Oxford University Press.

Pazniokas, M. (2011, April 14). Malloy Proposes Easing Tax on the Middle Class. *The CT Mirror*. Retrieved May 15, 2013, from http://www.ctmirror.org/story/malloy-proposes-easing-tax-increase-middle-class

Piketty, T., & Saez, E. (2003, February). Income Inequality in the United States, 1913-1998. *The Quarterly Journal of Economics, 118*(1), 1-39.

Rosch, E. (1978). Principles of Categorization. In E. Rosch, & B. B. Lloyd, *Cognition and Categorization* (pp. 27-48). Hillsdale, N.J.: Erlbaum.

Slottje, D. J., Basman, R. L., & Nieswiadomy, M. (1989). On the Empirical Relationship Between Several Well-Known Equality Measures. *Journal of Econometrics, 42*, 49-66.

Stuart, C. (2011, April 11). Malloy Revises Property Tax Credit; Reduces Middle Class Burden. *CT News Junkie*. Retrieved May 17, 2013, from http://www.ctnewsjunkie.com/ctnj.php/archives/entry/gov._revises_property_tax_credit/

Wolfson, M. C. (1994, May). When Inequality Diverge. *American Economic Review Papers and Proceedings, 84*, 353-358.

Wolfson, M. C. (July 1997). *Divergent Inequalities - Theory and Empirical Results.* Ottawa: Statistics Canada.