

REG MURPHY CENTER
FOR ECONOMIC AND POLICY STUDIES

COLLEGE OF COASTAL GEORGIA

**Supplemental Nutrition Assistance Program
(SNAP) in Brantley, Glynn and McIntosh Counties:
Analyzing the 2007 Recession using Aggregate-level
Data**

*M. Taylor Rhodes, Affiliated Full-time Faculty and
Assistant Professor of Economics**

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*School of Business and Public Management, College of Coastal Georgia, Academic Commons North – 127, One College Drive, Brunswick, GA 31520, mrhodes@ccga.edu (email), (912) 279-4585 (phone). I would like to thank Matthew Rabbitt, Don Mathews and William Mounts for their helpful comments and suggestions.

1 Purpose and Report Summary

Using publicly available aggregate-level data from 1997 to 2010, this report examines SNAP expenditures and participation rates for the US, the state of Georgia and the three counties within the Brunswick, Georgia Metropolitan Statistical Area (MSA)—Brantley, Glynn and McIntosh. The purpose is two-fold: to investigate the impact of the 2007 recession on SNAP participation and to analyze longer-termed trends in SNAP participation with an emphasis on notable cross-regional comparisons.

Following the 2007 recession, average SNAP participation rates increased from 7.4% to 11.8% for the US, from 8.7% to 14.7% Georgia and from 11.7% to 15.4%, 9.8% to 15.1%, and 12.5% to 19.3% for McIntosh, Glynn and Brantley counties, respectively. Also, SNAP benefits per participant increased by approximately \$10 per month, an increase from about \$45 per month per participant to \$55 per month per participant after controlling for inflation. Lastly, while annual SNAP expenditures have increased since 1997, the share of expenditures relative to measures of GDP at the national-, state- and MSA-level remained below 1%.

Comparing the county averages to the national average before and after the 2007 recession, the SNAP participation rate in Brantley, Glynn and McIntosh counties always exceeded the national SNAP participation rate and this gap typically increased. In Brantley county before the 2007 recession, the SNAP participation rate was 5 percentage-points higher than the average national rate—the difference between the local rate of 12.5% and the national rate of 7.4%. After the 2007 recession, this gap grew to 8 percentage-points—the difference between the local rate of 19.3% and the national rate of 11.2%.¹

For Glynn county, the average SNAP participation rate was 9.8% before the 2007 recession and was 2.4 percentage-points higher than the average national rate of 7.4%. After the 2007 recession, the average SNAP participation rate in Glynn County increased to 15%, nearly 4 percentage-points higher than the average national rate of 11.2%.

For McIntosh county, the average SNAP participation rate was 11.7% before the 2007 recession and was 4.3 percentage-points higher than the average national rate of 7.4%. After the 2007 recession, the average SNAP participation rate in McIntosh County increased to 15.4%, about 4 percentage-points higher than the average national rate of 11.2%.

¹For all post-recession county-to-national and county-to-state comparisons, the years in the sample included 2007 to 2011 since county-level data on SNAP participation are available until 2011. For all post-recession national-level and state-level comparisons, the years in the sample included 2007 until 2012 since national and state data on SNAP participation are available until 2012. Lastly, data on county-level SNAP expenditure are available until 2010; data on national- and state-level SNAP expenditure are available until 2012.

Comparing county-level rates to the state-rate, the SNAP participation rate in Brantley county was higher both before and after the 2007 recession. Before the 2007 recession, the local-to-state gap was 3.8 percentage-points—the pre-recession difference between the local rate of 12.5% and the state rate of 8.7%. Afterwards, it increased to 5.5 percentage-points—the post-recession difference between the local rate of 19.3% and the state rate of 13.8%. For Glynn and McIntosh counties, SNAP participation rates exceeded the state-wide average prior to the 2007 recession but were statistically equivalent to the state-wide average of 13.8% after the 2007 recession.

A likely contributing factor for these above-average participation rates at the county-level is the below-average household median income level. Compared to the national-average both before and after the 2007 recession, median household income after adjusting for inflation was lower in Georgia and was substantially lower in each of the three counties in the Brunswick MSA.

Before the 2007 recession, the gap between Georgia and the US was a short-fall of \$415—the pre-recession difference between the state-average of \$23,371 and the national average of \$23,786. Afterwards, this gap increased to a short-fall of \$1,458—the post-recession difference between the state-average of \$21,721 and the national average of \$23,179.

At the county-level, the magnitudes were substantially larger. Before the 2007 recession, median household income for Glynn county was below the national-average with a short-fall of \$1,970—the pre-recession difference between the local average of \$21,817 and the national average of \$23,786. Afterwards, this short-fall increased to \$2,160—the post-recession difference between the local average of \$21,330 and the national average of \$23,409.

Before the 2007 recession, median household income for Brantley county was below the national-average with a short-fall of \$5,880—the pre-recession difference between the local average of \$17,907 and the national average of \$23,786. Afterwards, this short-fall increased to \$6,548—the post-recession difference between the local average of \$16,942 and the national average of \$23,409.

Before the 2007 recession, median household income for McIntosh county was below the national-average with a short-fall of \$7,300—the pre-recession difference between the local average of \$16,410 and the national average of \$23,786. Afterwards, this short-fall remained at about \$6,900—the post-recession difference between the local average of \$16,453 versus the national average of \$23,409.

The results indicate SNAP participation rates in the Brunswick MSA did increase following the 2007 recession. Additionally on an annual-basis, local SNAP participation rates have exceeded the national- and state-rate since 1997. These high local SNAP participation rates are likely driven by below-average household median income levels, which on an annual basis have also persisted since 1997.

To reduce SNAP participation, the challenge at the county-level is to identify and implement policies conducive towards increasing local incomes. The goals of which include increasing full-time employment opportunities with above-average income potential, increasing human capital formation and attracting and retaining high-ability, high-skilled workers and entrepreneurs.

2 SNAP and the 2007 Recession

SNAP is the largest federal in-kind nutrition assistance program that provides low-income households with a monthly-benefit through an Electronic Benefit Transfer (EBT) card that is used to purchase program-eligible food at participating vendors. To qualify, a household must pass a gross monthly income requirement (make below 130% of the monthly federal poverty guideline), a net monthly income requirement (make below 100% of the monthly federal poverty guideline) and an asset test where resources must be below a stated threshold (currently below \$2,250).² Some households may automatically qualify for SNAP by participating in other assistance programs such as the Temporary Assistance for Needy Families (TANF) program or by receiving Supplemental Security Income (SSI).³

Regardless of how a household qualifies for SNAP, the size of the monthly benefit is determined by a formula which depends on the number of people in the household that live, purchase and prepare meals together, the net monthly income level of the household and the maximum SNAP benefit level for the fiscal year.⁴ Consequently, for every dollar of net monthly income the household earns, only a fraction is reduced from the maximum SNAP benefit level. Relative to completely eliminating benefits for each dollar earned, this marginal reduction structure can incentivize labor market participation, particularly for households with low labor market participation rates.⁵ Lastly, SNAP work requirements and benefit time limits apply to able-bodied adults without dependents; however, these restrictions can be waived at the state-level if

²For the complete set of SNAP eligibility rules, see <http://www.fns.usda.gov/snap/eligibility> and <http://www.fns.usda.gov/snap/able-bodied-adults-without-dependents-abawds>. For the SNAP eligibility rules for non-citizens, see <http://www.fns.usda.gov/snap/snap-policy-non-citizen-eligibility>.

³This is referred to as categorical eligibility for SNAP benefits. Typically under categorical eligibility, the asset test is waived. For more details, see <http://dhs.dc.gov/page/chapter-12-categorical-eligibility>.

⁴For details on SNAP benefits for the fiscal year from October 1, 2014 through September 30, 2015, see <http://www.fns.usda.gov/snap/eligibility>.

⁵However, the marginal reduction structure can incentivize a decrease in labor market participation, particularly for households with relatively high labor market participation rates. Ultimately, from economic theory, it depends on the household's tastes and preferences towards time spent working and time spent enjoying leisure.

the area has an unemployment rate above 10% or if the area has insufficient jobs.⁶

At the macroeconomic level, SNAP acts as an automatic stabilizer by following a countercyclical pattern with the performance of the US economy. Specifically, SNAP participation and expenditures are expected to rise during recessions and fall during expansions. Since 1997, the US experienced two recessions: a shallow recession in 2001, lasting 8 months beginning in March of 2001 and ending in November of 2001, and a deep recession in 2007, lasting 18 months beginning in December of 2007 and ending in June of 2009.⁷

As part of the American Recovery and Reinvestment Act (ARRA) of 2009, SNAP benefit levels were increased and eligibility rules were relaxed. These changes included: an additional \$20 billion over 5 years to increase SNAP monthly benefits; a change to a price index for the cost of food that in effect increased the maximum monthly benefit levels; an increase in the minimum monthly benefit from \$14 to \$16; a suspension of time limits, but not work requirements, for able-bodied adults without dependents; and, an increase in administrative funding to state agencies. The waiver on the time limits for able-bodied adults without dependents expired in October of 2010 and subsequent legislation ended the increase in SNAP benefits in October of 2013.⁸

3 Testable Predictions

Combining the automatic stabilizer function of SNAP and the policy changes in the ARRA, the expectation is that SNAP participation rates and expenditures increased from 2007 to 2009 and possibly persist, extending to 2010 or 2013. However, it is possible that SNAP participation rates and expenditures declined as the economy recovered after 2009, provided the rate of households transitioning off SNAP in favor of labor market opportunities exceeded the rate of households beginning or remaining on SNAP due to policy changes in the ARRA.

To statistically examine the impact of the 2007 recession on SNAP participation, publicly available aggregate-level data from various government sources was used.⁹ The focus is on examining how SNAP participation rates and expenditures changed for the US, the state of Georgia and the three counties within the Brunswick MSA.

⁶For details on SNAP work requirements for able-bodied adults without dependents, see <http://www.fns.usda.gov/snap/able-bodied-adults-without-dependents-abawds>.

⁷The National Bureau of Economic Research (NBER) determines the dates for recessions (contractions) and recoveries (expansions). For details, see <https://www.nber.org/cycles.html>.

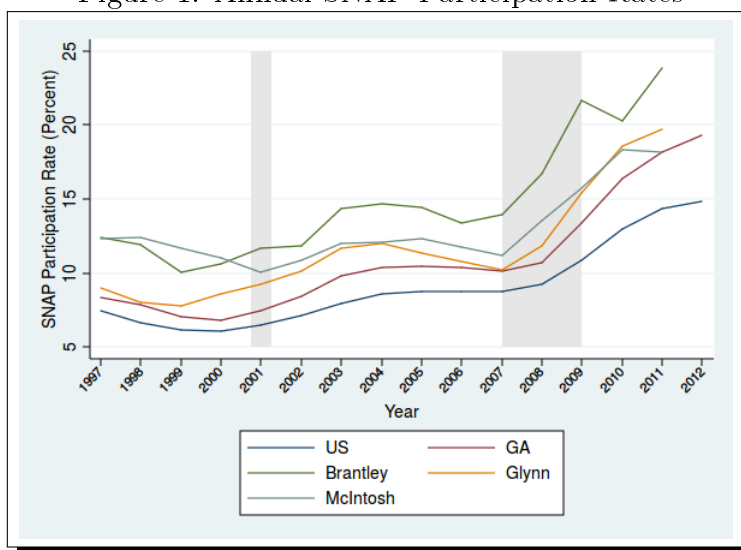
⁸For details on SNAP in relation to the ARRA, see the US Department of Agriculture: Economic Research Service at <http://www.ers.usda.gov/topics/food-nutrition-assistance/supplemental-nutrition-assistance-program-%28snap%29/arra.aspx>.

⁹All data sources are provided; see References for details.

4 Empirical Findings on SNAP Participation in Brantley, Glynn and McIntosh Counties

Annual SNAP participation rates since 1997 are shown in Figure 1 for the US, Georgia and the three counties in the Brunswick MSA. For each, SNAP participation rates have trended upward and significantly increased after the 2007 recession. For the US, the magnitude was an increase in SNAP participation rate by 4.4 percentage-points. For Georgia, the magnitude was larger with an increase of nearly 6 percentage-points. For the three counties in the Brunswick MSA, SNAP participation rates increased by nearly 7 percentage-points in Brantley, 5 percentage-points in Glynn and 4 percentage-points in McIntosh. By 2011, the SNAP participation rate was 24% in Brantley, 20% in Glynn and 18% in McIntosh. By 2012, the SNAP participation rate was 15% for the US and 19% for Georgia.

Figure 1: Annual SNAP Participation Rates



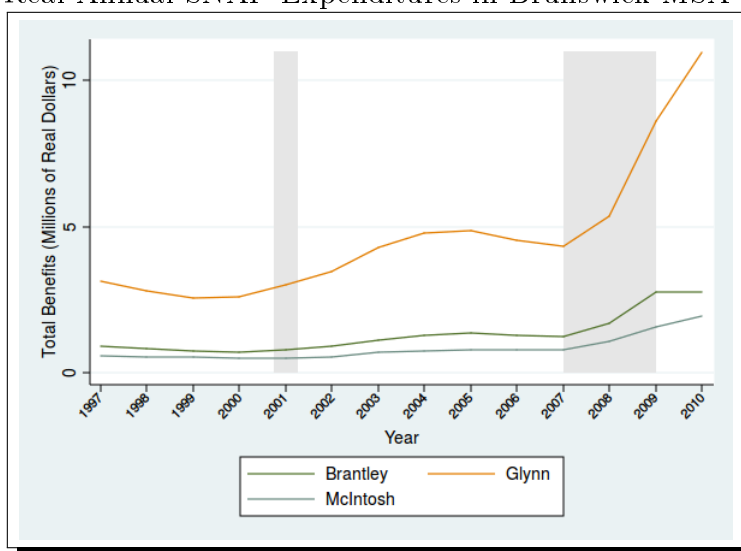
For cross-regional comparisons both before and after the 2007 recession, the SNAP participation rate in each of the three counties in the Brunswick MSA exceeded the national SNAP participation rate. For Brantley, this gap grew from 5 to 8 percentage-points. For Glynn, it grew from 2.4 to nearly 4 percentage-points. For McIntosh, the gap remained at about 4 percentage-points. Lastly, comparing county-level rates to the state-rate, the SNAP participation rate in Brantley was higher both before and after 2007 with the gap growing from 4 to 5.5 percentage-points. For Glynn and McIntosh, SNAP participation rates exceeded the state-wide average prior to 2007 but were statistically equivalent to the state-wide average after

2007.¹⁰

5 Empirical Findings on SNAP Expenditures in Brantley, Glynn and McIntosh Counties

After adjusting for inflation, total annual SNAP expenditures at the county-level for the Brunswick MSA since 1997 are shown in Figure 2. From 1997 until 2010, SNAP expenditures in Glynn county were twice that of Brantley and McIntosh counties combined. In 2000, annual expenditures in Glynn county were \$2.59 million and by 2010 increased to \$10.96 million, representing a near four-fold increase or an annual growth rate of 25%. Comparing 2000 to 2010, SNAP expenditures in Brantley and McIntosh counties experienced a less than four-fold increase with an annual growth rate of about 21%.

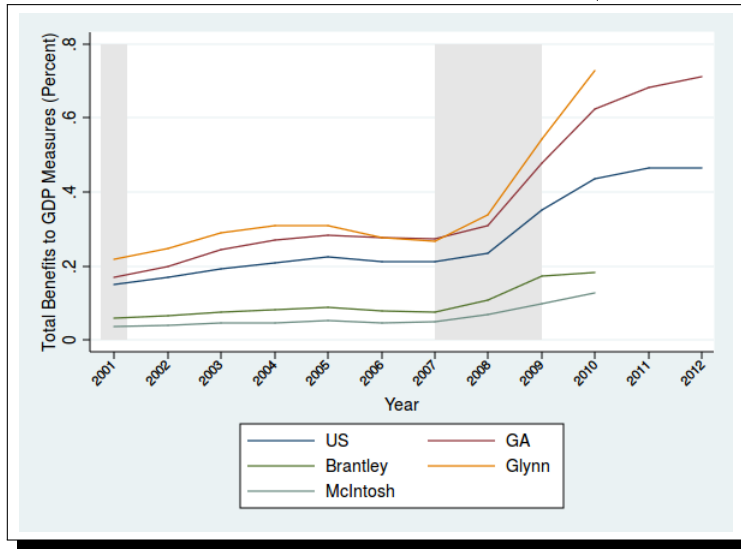
Figure 2: Real Annual SNAP Expenditures in Brunswick MSA by County



Relative to GDP measures at the national-, state- and MSA-level, SNAP expenditures increased but remained low as a share of GDP—below 1%—as shown in Figure 3. However, there are some notable cross-regional comparisons. Since 2001, SNAP expenditures in Georgia as a share of Georgia’s GDP have always exceeded national SNAP expenditures as a share of US GDP. Additionally, the share of expenditures on SNAP for Glynn county as share of GDP for the Brunswick MSA was typically higher than the state-level expenditure share and was always higher than the national-level expenditure share.

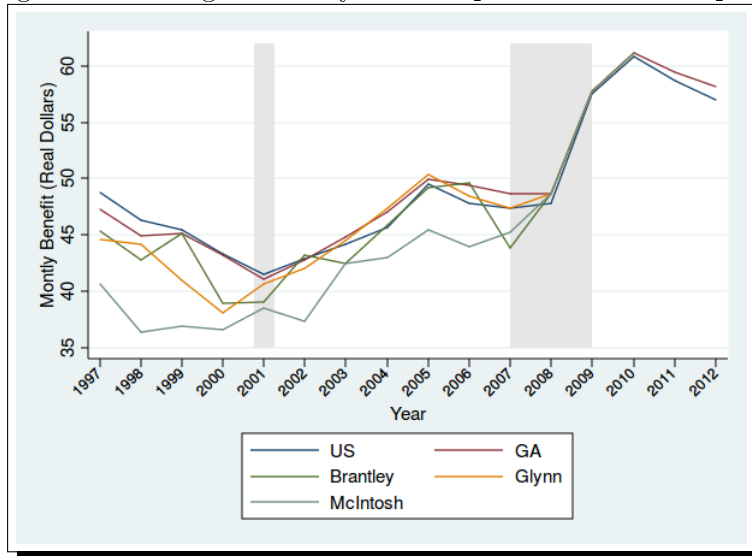
¹⁰See Table A1 in the Technical Appendix for the full results.

Figure 3: SNAP Expenditures Relative to GDP Measures (National, State and MSA)



After adjusting for inflation, Figure 4 shows the average monthly benefits per participant since 1997. Prior to 2001, average monthly benefits in Brantley, Glynn and McIntosh were typically below the national- and state-wide average. Since

Figure 4: Average Monthly Benefit per SNAP Participant



2001, average monthly benefits increased and were volatile across localities, particularly after 2007. In 2010, average SNAP benefits per participant were about \$61

per month for each locality. Since 2010, the average benefit only slightly declined to about \$58 at the national- and state-level.

Comparing averages both before and after the 2007 recession, monthly benefits per SNAP participant statistically increased. At the national- and state-level, the size of the increase was about \$10 per month per SNAP participant. For the three counties in the Brunswick MSA, monthly benefits increased by \$9 for Brantley, \$10 for Glynn and \$13 for McIntosh.¹¹

6 Identifying Future Challenges

While the 2007 recession was associated with a substantial and significant increase in the SNAP participation rate at the national-, state- and county-levels, the recession alone cannot explain the longer-termed trend where SNAP participation rates at the county-level for the Brunswick MSA always exceeded the national- and state-rates. A likely contributing factor may be low median household income at the county-level.

To examine changes and differences in median household income after adjusting for inflation, Table 1 tests for differences in median household income before and after the 2007 recession, for the US, Georgia and the three counties in the Brunswick MSA. The middle panel tests for differences between Georgia and the three counties in the Brunswick MSA relative to the national average. The lower panel tests for differences between the three counties relative to the state average.

When compared to the national average, median household income before and after the 2007 recession was statistically lower in Georgia and was substantially lower in each of the three counties in the Brunswick MSA. For Georgia, average median household income was statistically below the national average both before and after the 2007 recession; where, this gap increased from a short-fall of \$415 to \$1,458. At the county-level, the magnitudes are substantially larger. For Glynn county, the gap increased from a short-fall of \$1,970 to \$2,160. For Brantley county, the gap increased from a short-fall of \$5,880 to \$6,548. Lastly, for McIntosh, the short-fall remained at over \$7,000.

For two of the three counties in the Brunswick MSA, the county-level averages for median household income were well-below the state-average both before and after the 2007 recession. For Brantley county, the gap remained over \$5,000 before and after 2007. For McIntosh county, the gap declined from a short-fall of nearly \$7,000 to a short-fall of \$5,750. For Glynn county, average median household incomes were \$1,500 below the state-average before 2007. After 2007, the difference was statistically equivalent to the state-average.

¹¹See Table A2 in the Technical Appendix for the full results.

Table 1: Differences in Real Median Household Income Before and After 2007

	(1)	(2)	(3)	(4)
<i>A) Median Income</i>	<i>Avg. Before 2007</i>	<i>Avg. After 2007</i>	<i>Difference</i>	<i>One-Tail P-value</i>
US	23,786.41	23,178.90	-607.51	0.062
GA	23,370.82	21,721.04	-1,649.79	0.011
Brantley	17,906.57	16,614.29	-1,292.28	0.007
Glynn	21,817.07	20,629.25	-1,187.83	0.07
McIntosh	16,409.79	16,285.51	-124.28	0.354
<i>B) Versus US Avg.</i>	<i>Diff. Before 2007</i>	<i>Diff. After 2007</i>		
GA	-415.59	-1,457.86		
Brantley	-5,879.84	-6,547.85		
Glynn	-1,969.34	-2,160.06		
McIntosh	-7,376.62	-7,036.96		
<i>C) Versus GA Avg.</i>	<i>Diff. Before 2007</i>	<i>Diff. After 2007</i>		
Brantley	-5,464.25	-5,261.76		
Glynn	-1,553.75	-873.97		
McIntosh	-6,961.03	-5,750.88		

Notes: For Panel A, sample means before and after 2007 are shown in columns 1 and 2; columns 3 and 4 examine if the difference is statistically less than zero. Panels B and C report differences in sample means before and after 2007 relative to the US average and GA average, respectively. Almost all of these cross-locality differences were statistically less than zero. For the full results, see Table A3 in the Technical Appendix.

Given these results, the challenge at the county-level is to identify and implement policies conducive towards increasing local incomes in the face of any changes to SNAP, which typically occur at the federal-level with state involvement. While future research is needed to identify and evaluate specific policies, the outcome goals include increasing full-time employment opportunities with above-average income potential, increasing human capital formation and attracting and retaining high-ability, high-skilled workers and entrepreneurs. The more such policies succeed, the more the local labor market can reduce the incentive to participate in SNAP overall and offset any marginal increases in SNAP participation from rising SNAP benefits.

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Data Sources

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Technical Appendix

Table A1: Average Real Monthly Benefits per SNAP Participant
Before and After 2007

	(1)	(2)	(3)	(4)
	<i>Before 2007</i>	<i>After 2007</i>	<i>Difference</i>	<i>R-T P-value</i>
US	45.55 (2.63)	54.88 (5.82)	9.33 [2.5]	0.005
GA	45.55 (2.86)	55.64 (5.53)	10.09 [2.4]	0.002
Brantley	44.13 (3.65)	52.86 (8.01)	8.73 [4.2]	0.057
Glynn	44.13 (3.83)	53.75 (6.78)	9.62 [3.6]	0.029
McIntosh	40.1 (3.42)	53.21 (7.51)	13.11 [3.9]	0.017

Notes: Sample means with standard deviations are shown in parentheses are in columns 1 and 2. Two-sample t-tests with unequal variances with standard errors in brackets are in column 3. Right-tailed p-values examining if the difference in means exceeds zero are shown in column 4. Lastly, SNAP benefits were deflated to adjust for the price of food to better reflect the purchasing power of benefits at the participant-level given SNAP is an in-kind benefit. The results were not sensitive to this specification.

Table A2: Differences in SNAP Participation Rates Before and After 2007

	(1)	(2)	(3)	(4)
<i>A) SNAP Part. Rate</i>	<i>Avg. Before 2007</i>	<i>Avg. After 2007</i>	<i>Diff.</i>	<i>R-T P-value</i>
US	7.42 (1.07)	11.84 (2.60)	4.42 [1.113]	0.004
GA	8.7 (1.43)	14.68 (3.84)	5.99 [1.632]	0.005
Brantley	12.54 (1.64)	19.29 (3.96)	6.75 [1.844]	0.008
Glynn	9.85 (1.53)	15.14 (4.13)	5.29 [1.909]	0.022
McIntosh	11.67 (0.79)	15.38 (3.07)	3.71 [1.395]	0.026
<i>B) Versus US Avg.</i>	<i>Diff. Before 2007</i>	<i>Diff. After 2007</i>		
GA	1.28 {0.019}	2.84 {0.084}		
Brantley	5.12 {0.000}	8.05 {0.003}		
Glynn	2.43 {0.000}	3.89 {0.057}		
McIntosh	4.25 {0.000}	4.13 {0.023}		
<i>C) Versus GA Avg.</i>	<i>Diff. Before 2007</i>	<i>Diff. After 2007</i>		
Brantley	3.84 {0.000}	5.53 {0.024}		
Glynn	1.15 {0.049}	1.38 {0.292}		
McIntosh	2.98 {0.000}	1.62 {0.229}		

Notes: For Panel A, sample means with standard deviations are shown in parentheses are in columns 1 and 2. Two-sample t-tests with unequal variances with standard errors in brackets are in column 3. Right-tailed p-values examining if the difference in means exceeds zero are shown in column 4. For Panels B and C, shown are differences in sample means via two-sample t-tests with unequal variances with one-tailed p-values examining if the difference in means exceed zero in curly brackets.

Table A3: Differences in Real Median Household Income Before and After 2007
(Full Results)

	(1)	(2)	(3)	(4)
<i>A) Median Income</i>	<i>Avg. Before 2007</i>	<i>Avg. After 2007</i>	<i>Diff.</i>	<i>L-T P-value</i>
US	23,786.41 (420.05)	23,178.90 (864.84)	-607.51 [353]	0.062
GA	23,370.82 (563.77)	21,721.04 (1,440.77)	-1,649.79 [573]	0.011
Brantley	17,906.57 (538.78)	16,614.29 (1,018.45)	-1,292.28 [421]	0.007
Glynn	21,817.07 (806.97)	20,629.25 (1,783.54)	-1,187.83 [720.799]	0.07
McIntosh	16,409.79 (623.00)	16,285.51 (677.95)	-124.28 [323]	0.354
<i>B) Versus US Avg.</i>	<i>Diff. Before 2007</i>	<i>Diff. After 2007</i>		
GA	-415.59 {0.040}	-1,457.86 {0.023}		
Brantley	-5,879.84 {0.000}	-6,547.85 {0.000}		
Glynn	-1,969.34 {0.000}	-2,160.06 {0.019}		
McIntosh	-7,376.62 {0.000}	-7,036.96 {0.000}		
<i>C) Versus GA Avg.</i>	<i>Diff. Before 2007</i>	<i>Diff. After 2007</i>		
Brantley	-5,464.25 {0.000}	-5,261.76 {0.000}		
Glynn	-1,553.75 {0.000}	-873.97 {0.197}		
McIntosh	-6,961.03 {0.000}	-5,750.88 {0.000}		

Notes: For Panel A, sample means with standard deviations are shown in parentheses are in columns 1 and 2. Two-sample t-tests with unequal variances with standard errors in brackets are in column 3. Left-tailed p-values examining if the difference in means is below zero are shown in column 4. For Panels B and C, shown are differences in sample means via two-sample t-tests with unequal variances with one-tailed p-values examining if the difference in means is below zero in curly brackets. Lastly, median income levels were deflated using the Consumer Price Index - All Urban Consumers for all items.