**Additional File 2: Characteristics of study by 4 outcome categories and setting:**

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| Author & year (incl. citation)  | Location (national and local if relevant)  | Participants (n, population, age, dataset used, other character-istics) | Design (incl. stats methods)  | Exposure incl. year(s)  | Main outcomes  | Main findings  | Newcastle Ottawa Scale Score |
| Energy Intake  |  |
| Bonaccio et al, 2014Ref:  | National: ItalyLocal: the Molise region | Moli-Sani study. Adults aged over 35 (mean age 54.4); percentage male: 47.30%.Randomly recruited.Total n=21,001.  | Serial cross-sectional study of participants recruited before and after the recession.Means and p-values of calorie intake adjusted for age and sex.  | Exposure: Commence-ment of GR (time)Time point 1: Recruited in 2005-2006 (n=6999)Time point 2: Recruited in 2007-2010 (n=14,002)  | Calorie intake (means + SD) using Italian EPIC food frequency questionnaire.  | Mean calories 2005-2006: 2228 ± 675. Mean calories 2007-2010: 2101 ± 614p-value <0.0001 | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Griffith et al, 2013 | National: UKLocal: n/a | Kantar Worldpanel data. N=15,850.  | Longitudinal. Used three time-period dummies and controlled for month and household fixed effects. Percentage change in calories and real expenditure per calorie controlled formonth effects and permanent differences in real expenditure per calorie across households.The change in calorie density was divided into a ‘between’ component (the change that was due to people substituting between food types) and a ‘within’ component (the change that was due to people substituting within food types).  | Exposure: Commence-ment of GR (time)Time point 1:2005-2007Time point 2: 2008-2009Time point 3:  | Percentage change in calories and real expenditure per calorie from 2005–07 to 2008–09 and 2010–12. Percentage change in calorie density.Participants record spending on all grocery purchases brought into the home via an electronic hand-held scanner in the home.  | **1) Percentage change in calories:** Single non-pensioners: 2008-09: –0.3, 2010-12: 0.2Single pensioners: 2008-09: –3.5, 2010-12: –5.6Couple non-pensioners:2008-0: –1.0, 2010-12: –3.7Couple pensioners: 2008-09: –2.2, 2010-12: –4.1Multi-adult households: 2008-09: –1.1, 2010-12: –4.1Single parents: 2008-09: –5.4, 2010-12: –7.52+ adults, young children: 2008-09: –5.3, 2010-12: –9.82+ adults, older children: 2008-09: –3.6, 2010-12: –8.4All households: 2008-09: –1.8, 2010-12: –3.6All differences are statistically different from zero at the 99% level apart from ‘single non-pensioners’ (2008–09 and 2010–12)**Percentage change in real expenditure per calorie:** Single non-pensioners: 2008-09: –3.0, 2010-12: –5.7Single pensioners: 2008-09: –1.3, 2010-12: –3.6Couple non-pensioners: 2008-09: –2.3, 2010-12: –5.1Couple pensioners: 2008-09: –1.0, 2010-12: –4.1Multi-adult households: 2008-09: –1.5, 2010-12: –4.2Single parents: 2008-09: –2.5 2010-12: –6.62+ adults, young children: 2008-09: –4.3, 2010-12: –9.02+ adults, older children: 2008-09: –2.1, 2010-12: –4.9All households: 2008-09: –2.1, 2010-12: –5.2All changes are statistically different from zero at the 99% level. **Percentage change in calorie density:** Single non-pensioners: Actual: 4.4, between: 2.9, within: 1.6Single pensioners: Actual 5.4, between: 4.6, within: 0.1Couple non-pensioners: Actual 3.7, between: 2.5, within: 1.0Couple pensioners: Actual 4.9, between: 4.1, within: 0.7Multi-adult households: Actual 4.3, between: 3.0, within: 1.1Single parents: Actual 5.3, between: 3.3, within: 1.62+ adults, young children: Actual 6.6, between: 4.6, within: 1.92+ adults, older children: Actual 3.6, between: 1.5, within: 1.9All changes are statistically different from zero at the 99% levelapart from ‘Single pensioner – Within’. | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Griffith et al, 2016a | National: UKLocal: n/a  | Kantar Worldpanel data for UK households.n=14,694.  | Longitudinal study. Change in calories.Price paid per calorie is denoted as P=P (*e*, **z**, φ) Where *e* denotes shopping effort, **z** is the characteristics of the shopping basket (monthly purchases) and φ denotes other factors including common time-varying factors, regional time-varying factors, household level characteristics and time-varying household time-varying character-istics.  | Exposure: Commence-ment of GR (time). Time point 1: 2005-2007, Time point 2: 2010-12  | Calories purchased (per adult equivalent per day) and average price paid per calorie. Outcome data of food purchases from all types of stores using an electronic hand-held scanner in the home.  | **Mean calorie intake:** 2005-2007: 2300, 2010-2012: 2274, percent change: - 1.10.Pre-school children: 2005-7: 2011, 2010-12: 1931, Percentage change: - 3.99School-age children: 2005-7: 2041, 2010-12: 1948, Percentage change: - 4.57Adults: 2005-7: 2288, 2010-12: 2295, Percentage change: 0.29Pensioners:2005-7: 2530, 2010-12: 2497, Percentage change: - 1.32Working high-income: 2005-7: 2028, 2010-12: 2011, Percentage change: - 0.86Working mid-income: 2005-7: 2150, 2010-12: 2099, Percentage change: - 2.37Working low-income: 2005-7: 2170, 2010-12: 2131, Percentage change: - 1.81Unemployed: 2005-7: 2271, 2010-12: 2230, Percentage change: -1.78**Price paid per calorie:** Change in price paid per calorie: 17.74 (log points) (19.4%)Change in price paid per calorie without change in shopping behaviour: 20.34 log points (22.5%)Change in price paid per calorie with changes in within-household behaviour: - 2.59 (3.1% reduction) Contribution made by changes in behaviour:Shopping effort: - 1.06 (40.8% reduction)Number of shopping trips: - 0.02 (0.8% reduction) Number of chains visited: 0.03 (1.2% increase) Savings from discounter: - 0.09 (3.5% reduction) Savings from sales: - 0.97 (37.6% reduction) Changes in nutrient characteristics:Total: - 0.93 (35.8% reduction) Protein: - 0.43 (16.7% reduction) Saturated fat: - 0.22 (8.5% reduction) Unsaturated fat: 0.05 (- 1.9% reduction) Sugar: 0.01 (- 0.4% reduction) Fibre: - 0.39 (15.1% reduction) Salt: 0.06 (- 2.3% reduction) Fruit: 0.28 (- 10.6% reduction) Vegetables: - 0.23 (8.9% reduction) Dairy: 0.00 (0.00% reduction) Cheese and fats: - 0.00 (0.00% reduction) Poultry and fish: - 0.11 (4.3% reduction) Red meat and nuts: 0.04 (- 1.6% reduction) Drinks: - 0.04 (1.6% reduction) Prepared sweets: 0.11 (- 4.3% reduction) Prepared savoury: 0.02 (- 0.8% reduction) Alcohol: - 0.08 (3.1% reduction) | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Hasan, 2019 | National: BangladeshLocal: n/a  | Bangladesh Household Income and Expenditure Survey. Repeated cross-sectional study using two-stage stratified random sampling. Analysis was done for those who buy rice (compared to autarkic households and rice sellers, but there was no significant difference between these types). n=11,722 | Serial cross-sectional design. The study used difference-in-difference framework and OLS models including district fixed effects and employing clustered standard errors (weighted). | Exposure: Commence-ment of GR (time). Time point 1: 2005 (n=4,978), time point 2: 2010 (n=6,744).  | Total calorie intake per day using food composition data to create caloric intake profiles. Weighted based on adult equivalent calorie requirements. | 2010 coefficient: 13.70 (41.47).  | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Iannotti & Robles, 2011  | Setting: GuatemalaLocal: n/a | Encuesta Nacional SobreCondiciones de Vida (ENCOVI) 2006. n= 13,686 | Quadratic Almost Ideal Demand System for food consumption under two different price scenarios. Kernel density estimates used to examine the distributions of calorie intakes (per adult equivalent).  | Exposure: price changes using two scenarios: actual changes between 2006 and 2008, with Scenario B representing a 10% increase across all food groups. Time point: 2006 | Total calorie intake per day using food composition data to create caloric intake profiles. Weighted based on adult equivalent calorie requirements. | NationalTotal: Before: 2,521, after: 2,542, change: –24Wealth quintile 1 (poor): Before: 1,576, after: 1,481, change: –115Wealth quintile 2: Before: 2,281, after: 2,105, change: -123Wealth quintile 3: Before: 2,716, after: 2,595, change: –74Wealth quintile 4: Before: 2,975, after: 3,071, change: 38Wealth quintile 5 (rich): Before: 3,120, after: 3,631, change: 466Households with children <2 years Total: Before: 2,353, after: 2,307, change: –61Wealth quintile 1 (poor): Before: 1,609, after: 1,517, change: -130Wealth quintile 2: Before: 2,383, after: 2,261, change: -102Wealth quintile 3: Before: 2,812, after: 2,667, change: - 60Wealth quintile 4: Before: 3,154, after: 3,307, change: 206Wealth quintile 5 (rich): Before: 3,047, after: 3,797, change: 706 | Selection total: 1Comparability total: 1 Outcomes total: 1**Total score: 3** |
| Iannotti & Robles, 2011  | Setting: Honduras Local: n/a | Encuesta de Condiciones de Vida (ENCOVI) 2004 n= 8175 | Quadratic Almost Ideal Demand System for food consumption under two different price scenarios. Kernel density estimates used to examine the distributions of calorie intakes (per adult equivalent).  | Exposure: price changes using two scenarios: actual changes between 2006 and 2008, with Scenario B representing a 10% increase across all food groups. Time point: 2006 | Total calorie intake per day using food composition data to create caloric intake profiles. Weighted based on adult equivalent calorie requirements. | NationalTotal: Before: 2,370, after: 2,336, change: –32Wealth quintile 1 (poor): Before: 1,986, after: 1,591, change: –330Wealth quintile 2: Before: 2,312, after: 2,135, change: –133Wealth quintile 3: Before: 2,409, after: 2,349, change: –15Wealth quintile 4: Before: 2,632, after: 2,713, change: 55Wealth quintile 5 (rich): Before: 2,705, after: 3,348, change: 651Households with children <2 years Total: Before: 2,418, after: 2,325, change: –110Wealth quintile 1 (poor): Before: 1,997, after: 1,658, change: –357Wealth quintile 2: Before: 2,436, after: 2,274, change: –117Wealth quintile 3: Before: 2,544, after: 2,499, change: –59Wealth quintile 4: Before: 2,863, after: 2,994, change: 55Wealth quintile 5 (rich): Before: 2,955, after: 3,756, change: 767 | Selection total: 1Comparability total: 1 Outcomes total: 1**Total score: 3** |
| Iannotti & Robles, 2011  | Setting: Nicaragua Local: n/a | EncuestaNacional de Hogares Sobre Medición de Nivel de Vida(EMNV) n= 4959 | Quadratic Almost Ideal Demand System for food consumption under two different price scenarios. Kernel density estimates used to examine the distributions of calorie intakes (per adult equivalent).  | Exposure: price changes using two scenarios: actual changes between 2006 and 2008, with Scenario B representing a 10% increase across all food groups. Time point: 2006 | Total calorie intake per day using food composition data to create caloric intake profiles. Weighted based on adult equivalent calorie requirements. | NationalTotal: Before: 2,642, after: 2,496 change: –226Wealth quintile 1 (poor): Before: 1,655, after: 1,242, change: –414Wealth quintile 2: Before: 2,363, after: 1,968, change: –380Wealth quintile 3: Before: 2,803, after: 2,548, change: –280Wealth quintile 4: Before: 3,134, after: 3,036, change: –82Wealth quintile 5 (rich): Before: 3,578, after: 4,328, change: 553Households with children <2 yearsTotal: Before: 2,509, after: 2,287, change: –260Wealth quintile 1 (poor): Before: 1,669, after: 1,240, change: –413Wealth quintile 2: Before: 2,497, after: 2,145, change: –309Wealth quintile 3: Before: 3,253, after: 3,109, change: –169Wealth quintile 4: Before: 3,144, after: 3,166, change: 176Wealth quintile 5 (rich): Before: 4,144, after: 4,214, change: 316 | Selection total: 1Comparability total: 1 Outcomes total: 1**Total score: 3** |
| Iannotti & Robles, 2011  | Setting: PanamaLocal: n/a | Encuesta de Niveles de Vida (ENV) 2003 n= 6158 | Quadratic Almost Ideal Demand System for food consumption under two different price scenarios. Kernel density estimates used to examine the distributions of calorie intakes (per adult equivalent).  | Exposure: price changes using two scenarios: actual changes between 2006 and 2008, with Scenario B representing a 10% increase across all food groups. Time point: 2006 | Total calorie intake per day using food composition data to create caloric intake profiles. Weighted based on adult equivalent calorie requirements. | NationalTotal: Before: 1,904, after: 1,600, change: –261Wealth quintile 1 (poor): Before: 1,276, after: 762, change: –479Wealth quintile 2: Before: 1,809, after: 1,457, change: –314Wealth quintile 3: Before: 2,059, after: 1,690, change: –235Wealth quintile 4: Before: 2,141, after: 1,986, change: –136Wealth quintile 5 (rich): Before: 2,318, after: 2,311, change: –57Households with children <2 yearsTotal: Before: 1,701, after: 1,330, change: –362Wealth quintile 1 (poor): Before: 1,264, after: 621, change: –552Wealth quintile 2: Before: 1,949, after: 1,498, change: –334Wealth quintile 3: Before: 2,233, after: 1,783, change: –282Wealth quintile 4: Before: 2,151, after: 2,078, change: –130Wealth quintile 5 (rich): Before: 2,030, after: 2,671, change: 424 | Selection total: 1Comparability total: 1 Outcomes total: 1**Total score: 3** |
| Iannotti & Robles, 2011  | Setting: HaitiLocal: n/a | EnquêteBudget et Consommation des Ménages 1999-2000 n= 4625 | Quadratic Almost Ideal Demand System for food consumption under two different price scenarios. Kernel density estimates used to examine the distributions of calorie intakes (per adult equivalent).  | Exposure: price changes using two scenarios: actual changes between 2006 and 2008, with Scenario B representing a 10% increase across all food groups. Time point: 2006 | Total calorie intake per day using food composition data to create caloric intake profiles. Weighted based on adult equivalent calorie requirements. | NationalTotal: Before: 1,863, after: 1,661, change: –172Wealth quintile 1 (poor): Before: 1,079, after: 805 change: –249Wealth quintile 2: Before: 1,645, after: 1,357, change: –326Wealth quintile 3: Before: 2,021, after: 1,820, change: –214Wealth quintile 4: Before: 2,689, after: 2,618, change: –53Wealth quintile 5 (rich): Before: 2,633, after: 3,419, change: 290Households with children <2 yearsTotal: Before: 1,635, after: 1,495, change: –165Wealth quintile 1 (poor): Before: 1,095, after: 831, change: –244Wealth quintile 2: Before: 1,659, after: 1,454, change: –237Wealth quintile 3: Before: 1,904, after: 2,159, change: –11Wealth quintile 4: Before: 3,229, after: 3,395, change: –2Wealth quintile 5 (rich): Before: 2,498, after: 3,834, change: 851 | Selection total: 1Comparability total: 1 Outcomes total: 1**Total score: 3** |
| Iannotti & Robles, 2011  | Setting: Ecuador Local: n/a | Encuesta de Condiciones deVida (ECV) 2006 n= 13,018 | Quadratic Almost Ideal Demand System for food consumption under two different price scenarios. Kernel density estimates used to examine the distributions of calorie intakes (per adult equivalent).  | Exposure: price changes using two scenarios: actual changes between 2006 and 2008, with Scenario B representing a 10% increase across all food groups. Time point: 2006 | Total calorie intake per day using food composition data to create caloric intake profiles. Weighted based on adult equivalent calorie requirements. | NationalTotal: Before: 2,105, after: 1,747, change: –318Wealth quintile 1 (poor): Before: 1,296, after: 966, change: –305Wealth quintile 2: Before: 1,992, after: 1,527, change: –437Wealth quintile 3: Before: 2,301, after: 1,870, change: –361Wealth quintile 4: Before: 2,583, after: 2,256, change: –271Wealth quintile 5 (rich): Before: 2,685, after: 2,571, change: –107Households with children <2 years Total: Before: 1,968, after: 1,641, change: –328Wealth quintile 1 (poor): Before: 1,251, after: 912, change: –258Wealth quintile 2: Before: 2,067, after: 1,595, change: –521Wealth quintile 3: Before: 2,424, after: 1,954, change: –420Wealth quintile 4: Before: 2,605, after: 2,434, change: –189Wealth quintile 5 (rich): Before: 2,648, after:2,666, change: 33 | Selection total: 1Comparability total: 1 Outcomes total: 1**Total score: 3** |
| Iannotti & Robles, 2011  | Setting: PeruLocal: n/a | Encuesta Nacional de Hogares (ENAHO) 2006 n= 20,577 | Quadratic Almost Ideal Demand System for food consumption under two different price scenarios. Kernel density estimates used to examine the distributions of calorie intakes (per adult equivalent).  | Exposure: price changes using two scenarios: actual changes between 2006 and 2008, with Scenario B representing a 10% increase across all food groups. Time point: 2006 | Total calorie intake per day using food composition data to create caloric intake profiles. Weighted based on adult equivalent calorie requirements. | NationalTotal: Before: 2,586, after: 2,392, change: –175Wealth quintile 1 (poor): Before: 1,835, after: 1,539, change: –272Wealth quintile 2: Before: 2,412, after: 2,062, change: –326Wealth quintile 3: Before: 2,749, after: 2,489, change: –57Wealth quintile 4: Before: 3,031, after: 2,963, change: –71Wealth quintile 5 (rich): Before: 3,257, after: 3,649, change: 413Households with children <2 years Total: Before: 2,475, after: 2,298, change: –167Wealth quintile 1 (poor): Before: 1,901, after:1,695, change: –229Wealth quintile 2: Before: 2,597, after: 2,332, change: –297Wealth quintile 3: Before: 2,872, after:2,805, change: –142Wealth quintile 4: Before: 3,197, after: 3,465, change: 160Wealth quintile 5 (rich): Before: 3,399, after: 3,659, change: 400 | Selection total: 1Comparability total: 1 Outcomes total: 1**Total score: 3** |
| Marcotte-Chenard | National: USALocal: n/a | National Health and Nutrition Examination Survey. Adults aged between 20-85 (average age 49), 48.1% male. N=38,541 | Serial cross-sectional study. Factorial ANOVAs (post hoc test and contrast) used to compare 1999-2006 intervals to 2006-2007 intervals.  | Exposure: Commence-ment of GR (time). Time point 1: 1999-2006 Time point 2: 2007-2008.  | 24-hr dietary recall used to calculate average total daily calorie intake in men and women.  | Men: 1999-2006: 2318 ± 1013, 2007-2008: 2233 ± 875; P = 0.0001 Women: 1999-2006: 1786 ± 762, 2007-2008: 1688 ± 625 calories/day; P = 0.0001  | Selection total: 3Comparability total: 1 Outcomes total: 2**Total score: 3** |
| Mohseni-Cheraglou, 2016 | Global: 63 countries (and 100 recessions). | Reinhart and Rogoff’s dataset on financial crises; FAOSTAT data 2010. 93 observations.  | Investigating whether growth rates of different variables are affected by financial crises and computing an average of these changes over all crisis episodes in all countries.  | Exposure: value of a currency falling by 15% or more against the US dollar or banking distress including closures, mergers and government takeovers. Data from 1981-2007.  | Calorie Intake per Capita Per Day | Average change in growth rate (t-test): -2.1 (p<0.01)Crises with recessions, average change in growth rate (t-test): -2.8 (p<0.01)Crises without recessions, average change in growth rate (t-test): -1.4 (p<0.05).  | Selection total: 2Comparability total: 0 Outcomes total: 1**Total score: 3** |
| Ng | National: USA Local: n/a | National Health and Nutrition Examination Survey.Children and adults. Multi-stage, stratified-area probability sample of US population. N for children ranges from 2966 to 3778, adults n ranges from 2449 to 3038.  | Cross-sectional. Comparison of calorie intakes over time in adults and children. Statistical difference assessed using 2-sample t tests.  | Exposure: Commence-ment of GR (time)Time point 1: 2003-2004Time point 2:2005-2006Time point 3: 2007-2008Time point 4: 2009-2010 | Total calorie intake per day using food composition data to create caloric intake profiles.  | **Children aged 2-18:** Mean calories consumed per day 2003-4: 2118 (SE 23) Mean calories consumed per day 2005-6: 2027 (SE 33) Mean calories consumed per day 2007-8: 1907 (SE 25) – significantly different from 2003-2004, p<0.01. Mean calories consumed per day 2009-10: 1908 (SE 25) – significantly different from 2003-2004, p<0.01. Mean annualised change: -35 Largest annualised decreases from Mexican American children (-47 kcal/day), children from low-income families (-45 kcal/day) and children whose household head had a high school education (-51 kcal/day). No significant declines observed from 2003-2004 to 2009-2010 in adolescents, non-Hispanic blacks and children whose household head had less than high school education. **Adults aged 19+:** Mean calories consumed per day 2003-4: 2220 (SE 16)Mean calories consumed per day 2005-6: 2201 (SE 33) Mean calories consumed per day 2007-8: 2121 (SE 29) Mean calories consumed per day 2009-10: 2135 (SE 19) – significantly different from 2003-2004, p<0.01. Mean annualised change: -14Few significant declines in energy intake for adults – significant declines only seen in Mexican Americans, women and individuals with some college education.  | Selection total: 4Comparability total: 2Outcomes total: 2**Total score: 8** |
| Shabnam et al., 2016  | National: Pakistan Local: n/a  | Household Integrated Economic Survey (HIES), a nationally representative survey of rural and urban areas (14 big cities and 81 districts in each of the country’s four provinces). Mean age: 45, Female-headed households 7.5% in 2005 and 8.4% in 2010. N= 14,863 and 15,191 | Serial cross-sectional.Demand equation for price elasticity of calories.  | Exposure: Commence-ment of GR (time)Time point 1: 2005-6(n=14,863)Time point 2: 2010-11 n= 15,191 | The data on household food consumption covered a period of 14 days and 30-days call period. Price elasticity of calories. | Price elasticity of calories2005-2006: -0.032010-2011: -0.21  | Selection total: 3Comparability total: 2Outcomes total: 2**Total score: 7** |
| Smed et al., 2017 | National: DenmarkLocal: n/a | GfK Panel Services Scandinavia of households of working age.N=3440  | Longitudinal. Fixed methods econometric methods to control for unobserved heterogeneity. Unemployment, single, location and number of children included in model.If increasing CCI is associated with increasing consumption, an economic downturn is associated with decreasing consumption and vice versa.  | Exposure: Consumer Confidence Interval as a proxy for economic downturn. Time: January 2008 to December 2012.  | Energy in kJ per person per month.Constructed consumption per individual in households by dividing each household’s consumption data with weights constructed from gender- and age-dependent daily energy intake.  | CCI (β1): coefficient: 143·43, P value: 0·637 | Selection total: 4Comparability total: 2Outcomes total: 2**Total score: 8** |
| Todd, 2014  | National: USALocal: n/a | National Health and Nutrition Examination Survey.N=9,839, adults born between 1946-1985 so between the ages of 20 – 64 during the study period. 48-49% male.  | Serial cross-sectional. Multivariate linear regression models were used to estimate the conditional changes in outcome variables.Used weighted ordinary least squares with SE accounting for the complex sample design. Model (conditioning) includes age, household size, and indicators for gender, ethnicity, marital intake, data collected during weekend, and for the older cohort, education as controls. | Exposure: Commence-ment of GR (time)Time point 1: 2005-2006N=3,014Time point 2: 2007-2008N=3,294Time point 3: 2009-2010N=3,531 | Daily calories from one-day dietary recall.  | **Total daily calories**Unconditional and conditional differences in mean outcomes between 2005-06 and 2009- 10: Unconditional: - 117.73Conditional upon age: -90.37 (difference from unconditional is statistically significant with p<0.01) Conditional upon age, other demographics: - 78.45 Conditional upon age, other demographics, and income: -78.79Difference in variable mean between full model (conditional upon age, other demographics and income) and unconditional is statistically significant with p<0.05Conditional changes by subgroups:Born 1946-85, some college or more: 2005-06: 2325.61, change 2005-06 to 2009-10: -85.89 (change is statistically significant at P<0.05) Born 1946-85, no college education: 2005-06: 2333.15, change 2005-06 to 2009-10: -70.15Men, born 1946-85, no college: 2005-06: 2794.45, change 2005-06 to 2009-10: -103.93Adults born before 1946: 2005-06: 1788.48, Change 2005-06 to 2009-10: -2.08 | Selection total: 3Comparability total: 2Outcomes total: 1**Total score: 8** |
| Todd, 2017 | National: USALocal: n/a | National Health and Nutrition Examination Survey. Includes working age adults between 25-65 (n=12,129), and a secondary sample of 15-24 year olds (23-32 year olds in 2013-2014) (n=5197).  | Serial cross-sectional. Used multivariate linear regression models and ordinary least squares. Adjusted for age, household income relative to poverty, household size, and indicators for gender, ethnicity, marital intake, data collected during weekend, and for the older cohort, education as controls. | Exposure: Commence-ment of GR (time)Time point 1: 2005-2006Time point 2: 2007-2008Time point 3: 2009-2010Time point 4: 2013-2014 | Daily calories from one-day recall using Automated Multiple Pass Method (log total energy)  | Conditional differences with their standard errors, and percentage change in estimated difference from unconditional difference in log total energy intake: 2007-08: β −0·03, SE: 0·02 2009-10: β −0·03, SE: 0·02 (estimate is statistically significant P<0·05), percentage change: - 40 2011-12: β 0.00, SE: 0·02 2013-14 β −0·03, SE: 0·02, percentage change: - 57 Constant: β 7.59, SE: 0.00 (estimate is statistically significant P<0·05) | Selection total: 4Comparability total: 2Outcomes total: 2**Total score: 8** |
| Dietary Quality |
| Bonaccio et al., 2014 | National: Italy Local: the Molise region | Moli-Sani study. Adults aged over 35 (mean age 54.4); percentage male: 47.30%. Randomly recruited.Total n=21,001.  | Serial cross-sectional study of participants recruited before and after the recession.Multivariable binomial (Poisson) regression with log link function. Covariates included total energy intake, total physical activity, BMI, smoking, hypertension, hypercholesterol-aemia and diabetes. Used an interaction term to test for a difference between two time periods.  | Exposure: Commence-ment of GR (time). Time point 1: Recruited in 2005-2006 (n=6999)Time point 2: Recruited in 2007-2010 (n=14,002)  | Mediterranean Diet Adherence using Italian EPIC food frequency questionnaire and Italian Mediterranean Index (higher number indicates higher adherence to Mediterranean diet, with a score of more than 5 indicating high adherence).  | High adherence (IMI score ≥ 5): 2005-2006: 31.1%, 2007-2010: 18.3% (difference -13.0, p-value for difference between time periods <0.000).Prevalence ratios (95% CI) of high adherence to Med diet according to SE indicators over time. **Age groups:** 2005-2006: 35-43: ref; 44-53: 1.21 (1.09-1.35); 54-59: 1.35 (1.19–1.53); 60-70: 1.50 (1.32–1.70); 70+: 1.35 (1.14–1.59)2007-2010: 35-43: ref; 44-53: 1.01 (0.91–1.12); 54-59: 1.30 (1.15–1.47); 60-70: 1.27 (1.12–1.45); 70+: 1.12 (0.94–1.34)**Sex:** 2005-2006: Women: ref, men 0.77 (0.71–0.83)2007-2010: Women: ref, men 0.75 (0.69–0.82)**Wealth Score:** 2005-2006: Low: ref, Medium: 1.04 (0.94–1.16), High: 1.05 (0.94–1.16), Non-respondent: 1.03 (0.92–1.15)2007-2010: Low: ref, Medium: 1.10 (0.98–1.22), High: 1.31 (1.18–1.46), non-respondent: 1.00 (0.91–1.11)**Education:**2005-6: ≤8 years of study: ref,9-13 years of study:1.02 (0.93–1.11), >13 years of study: 1.16 (1.04–1.31)2007-10: ≤8 years of study: ref, 9-13 years of study: 1.24 (1.14–1.35), >13 years of study: 1.32 (1.17–1.50) | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Brinkman et al., 2010 | National: Haiti Local: 5 villages (Acul Samedi,Ferrier, Beau Roc, GrisonGarde, and Dupity) | World Food Programme conducted household-level food security assessments. N=517 | Regression model and Ordinary Least Squares estimates linking changes in Food Consumption Score with changes in food prices.  | Exposure: changes in food prices (price variable: rice). Time point 1: January, June and September 2006Time point 2: January, June and September 2007 | Food Consumption Score, calculated using eight different food groups (main staples, pulses, vegetables, fruit, meat and fish, milk, sugar, oil) over seven days and multiplying frequency by food weight and summing all groups to create a consumption score, with a score of over 35 being considered as an acceptable diet | Intercept: 2.90 (significant at 1%)Prices: -0.23 (significant at 5%) | Selection total: 2 Comparability total: 0 Outcomes total: 0**Total score: 2** |
| Brinkman et al., 2010 | National: Nepal Local: 3 zones (mountains,Terai, and Hill districts) | World Food Programme conducted household-level food security assessments. N=600 | Regression model and Ordinary Least Squares estimates linking changes in Food Consumption Score with changes in food prices.  | Exposure: changes in food prices (price variable: weighted commodity index). Time point 1: July - September 2008Time point 2: October – December 2008  | Food Consumption Score (see above) | Intercept: 4.09 (significant at 1%)Prices: -0.05 (significant at 10%) | Selection total: 2 Comparability total: 0 Outcomes total: 0**Total score: 2** |
| Brinkman et al., 2010 | National: NigerLocal: 357 villages  | World Food Programme conducted household-level food security assessments. N=4376 | Regression model and Ordinary Least Squares estimates linking changes in Food Consumption Score with changes in food prices.  | Exposure: changes in food prices (price variable: millet). June, August, November, December 2007.  | Food Consumption Score (see above)  | Intercept: 4.13 (significant at 1%)Prices: -0.08 (significant at 1%) | Selection total: 2 Comparability total: 0 Outcomes total: 0**Total score: 2** |
| Dave et al., 2012  | National: USA Local: n/a  | Behavioural Risk Factor Surveillance System. Adults aged between 26-58. N=56,354 (answered all healthy/ unhealthy food questions)  | Serial cross-sectional.Reduced-form cross-equation (fixed effects) estimates of the average effect of state unemployment on healthy and unhealthy food consumption seemingly unrelated regression. Controlled for gender, education, age, marital status, ethnicity and state indicators.  | Exposure: Area-level unemploy-ment rates. Time: 1990 – 2009 (excluding 2004, 2006 and 2008).  | How often do you eat (FOOD) with options of times per day, week, month, or year? Healthy foods: carrots, fruit, fruit juice, green salad, and vegetables.Unhealthy food: snacks, hamburgers, hot dogs, French fries, fried chicken, and doughnuts | **Healthy food consumption:** All: −0.0057 (0.0014) [0.000]Ages 26–58: −0.0048 (0.0013) [0.000]Ages 44–58: −0.0030 (0.0011) [0.009]Ages 65+: −0.0004 (0.0015) [0.767]Males: −0.0062 (0.0012) [0.000]Females: −0.0035 (0.0015) [0.015]Married: −0.0058 (0.0018) [0.001]Unmarried: −0.0029 (0.0008) [0.000]Less than college: −0.0055 (0.0011) [0.000]College plus: −0.0033 (0.0025) [0.187]**Unhealthy food consumption:** All: 0.0074 (0.0065) [0.261]Ages 26–58: 0.0106 (0.0076) [0.161]Ages 44–58: 0.0137 (0.0104) [0.185]Ages 65+: −0.0066 (0.0058) [0.253]Males: −0.0022 (0.0073) [0.766]Females: 0.0160 (0.0079) [0.043]Married: 0.0121 (0.0073) [0.099]Unmarried: −0.0022 (0.0103) [0.830]Less than college: 0.0099 (0.0080) [0.216]College plus: −0.0011 (0.0080) [0.895]  | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Foscolou, 2017 | 20 Mediterranean islands: the Republic of Malta (n=250), Sardinia (n=60) and Sicily (n=50) in Italy, the Republic of Cyprus (n=300), Gökçeada (n=55) in Turkey and the Greek islands of Lesbos (n=142), Samothraki (n=100), Cephalonia (n=115), Crete (n=131), Corfu (n=149), Limnos (n=150), Ikaria (n=76), Syros (n=151), Naxos (n=145), Zakynthos (n=103), Salamina (n=147), Kassos (n=52), Rhodes and Karpathos (n=149), Tinos (n=129), as well as the rural region of east Mani (n=295).  | MEDIS Study. People above 65, 50% male. N=2749 | Serial Cross-sectional study of participants recruited before and after the recession.Scores compared before and after 2009 using independent samples t-test.  | Exposure: Commence-ment of GR (time). Time point 1: Recruited between 2005-2008 (n=1220).Time point 2: recruited between 2009-2015 (n=1529) | Adherence to Mediterranean Diet using MedDietScore (ranging from 0-55; 0-29 low adherence, 30-37 medium adherence, 38-55 high adherence). Dietary habits assessed through a food frequency questionnaire. | **Enrolled before 2009:** MedDietScore: 34 ± 4Low adherence: n=174 (14%), Medium adherence: n=868 (72%) High adherence: n=173 (14%)**Enrolled after 2009:** MedDietScore: 32 ± 5 Low adherence: n=524 (36%)Medium adherence: n=721 (50%)High Adherence: n=213 (14%). **Difference in MedDietScore:**P-value <0.001 (independent samples t-test)**Difference in low adherence:** P-value <0.001 (Pearson chi-squared test) | Selection total: 2 Comparability total: 0 Outcomes total: 1**Total score: 3** |
| Griffith et al, 2016a | National: UKLocal: n/a  | Kantar Worldpanel data for UK households.n=14,694.  | Longitudinal study. HEI scores and percentage change.  | Exposure: Commence-ment of GR (time). Time point 1: 2005-2007, Time point 2: 2010-12  | Healthy Eating (HEI) index. The HEI gives a score between 0 and 100 based on amount per 1000 calories of different food groups and nutrients (fruit, vegetables, grains, milk, meat, oils, sodium, and saturated fat).Outcome data of food purchases from all types of stores using an electronic hand-held scanner in the home. | **All Households:** Max score: 100 Mean in 2005-7: 49.0Change to 2010-12: 0.72% change to 2010-12: 1.5'Good' change: change to 2010-12: 1.45, % change to 2010-12: 3.0'Bad' change: change to 2010-12: - 0.72, % change to 2010-12: 1.5**Pre-school children:** Mean in 2005-7: 48.7Change to 2010-12: 1.52% change to 2010-12: 3.1%'Good' change: 3.02, 'Bad' change: - 1.51**School-age children:** Mean in 2005-7: 46.1Change to 2010-12: 1.03% change to 2010-12: 2.2'Good' change: 1.90, 'Bad' change: - 0.87**Adults:**Mean in 2005-7: 47.8Change to 2010-12: 1.46% change to 2010-12: 3.1'Good' change: 1.93, 'Bad' change: - 0.46**Pensioners:** Mean in 2005-7: 51.5Change to 2010-12: - 0.23% change to 2010-12: - 0.4'Good' change: 0.91, 'Bad' change: - 1.14**Working high-income**: Mean in 2005-7: 49.6Change to 2010-12: 0.87% change to 2010-12: 1.8'Good' change: 1.78, 'Bad' change: - 0.91**Working mid-income:**Mean in 2005-7: 48.0Change to 2010-12: 1.03% change to 2010-12: 2.1'Good' change: 1.78, 'Bad' change: - 0.75**Working low-income:**Mean in 2005-7: 46.6Change to 2010-12: 2.01% change to 2010-12: 4.3'Good' change: 2.44, 'Bad' change: - 0.43**Unemployed:**Mean in 2005-7: 46.7Change to 2010-12: 1.11% change to 2010-12: 2.4'Good' change: 1.67, 'Bad' change: - 0.56 | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Griffith et al, 2013 | National: UKLocal: n/a | Kantar Worldpanel data. N=15,850.  | Longitudinal. Regressed variables on three time-period dummies and controlled for month and household fixed, estimating regression separately by household.   | Exposure: Time point 1:2005-2007Time point 2: 2008-2009Time point 3:  | 1) Nutrient Profile Model.Based on a food item’s energy density, saturated fat, sodium, sugar content (all of which contribute negatively), protein, fibre, and fruit and vegetable content (which contribute positively). They constructed a weighted average for each household in each month across all the products purchased.2) Healthy Eating Index - constructed based on the amounts per 1000 calories of produce of 12 components, including both food types (fruit, vegetables, grains, milk, meat and oils) and nutrients (saturated fat, sodium, added sugar, solid fat and alcohol).Participants record spending on all grocery purchases via an electronic hand-held scanner in the home (purchases brought into the home). | **1) NPM** Single non-pensioners: 2008-09: – 0.16, 2010-12: – 0.20, Single pensioners: 2008-09: – 0.26, 2010-12: – 0.31, Couple non-pensioners: 2008-09: – 0.12, 2010-12: – 0.13, Couple pensioners: 2008-09: – 0.15, 2010-12: – 0.24, Multi-adult households: 2008-09: – 0.05, 2010-12: – 0.07, Single parents: 2008-09: – 0.12, 2010-12: – 0.242+ adults, young children: 2008-09: – 0.14, 2010-12: – 0.262+ adults, older children: 2008-09: – 0.01, 2010-12: – 0.05All households: 2008-09: – 0.13, 2010-12: –0.18All the changes are statistically different from zero at the 99% level, apart from ‘2+ adults, older children (2008–09)’. The NPM score ranges from –6.1 to 21.6, with a mean of 1.45 across all households and months.**2) HEI** Single non-pensioners: 2008-09: – 1.25, 2010-12: – 1.57, Single pensioners: 2008-09: – 1.97, 2010-12: – 2.74, Couple non-pensioners: 2008-09: – 1.02, 2010-12: – 1.13, Couple pensioners: 2008-09: – 1.39, 2010-12: – 2.40, Multi-adult households: 2008-09: – 0.40, 2010-12: – 0.88Single parents: 2008-09: – 1.21, 2010-12: – 2.482+ adults, young children: 2008-09: – 0.56, 2010-12: – 1.282+ adults, older children: 2008-09: – 0.40, 2010-12: – 1.19All households: 2008-09: – 1.00, 2010-12: – 1.64. All changes were statistically significant from zero at the 99% level. The HEI ranges from 2.9 to 100, with a mean of 50.5 across all households and months.  | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Hasan, 2019 | National: BangladeshLocal: n/a  | Bangladesh Household Income and Expenditure Survey. Repeated cross-sectional study using two-stage stratified random sampling. Analysis was done for those who buy rice (compared to autarkic households and rice sellers, but there was no significant difference between these types). n=11,722 | Serial cross-sectional design. The study used difference-in-difference framework and OLS models including district fixed effects and employing clustered standard errors (weighted).  | Exposure: Commence-ment of GR (time)Time point 1: 2005 (n=4,978), time point 2: 2010 (n=6,744).  | 1) Household Dietary Diversity Score which involves counting the number of nutritional food groups consumed by the household in a day to come up with a score that is a number between 0 and 12, determined whether you consumed foods in 12 pre-defined groups (cereals, roots and tubers, pulses and nuts, vegetables, fruit, meat, eggs, fish and seafood, milk and dairy products, oil and fats, sugar and miscellaneous (for example, condiments).2) Food Consumption Score - calculated using eight different food groups (main staples, pulses, vegetables, fruit, meat and fish, milk, sugar, oil) over seven days and multiplying frequency by food weights (based on energy, protein and micro-nutrient density of food). Summed to create a consumption score, with a score of over 35 being considered as an acceptable diet.3) Number of food groups consumed | 1) Household Dietary Diversity Score: Year 2010 coefficient: 0.19 (0.08) P<0.052) Food Consumption Score: Year 2010 coefficient: −0.22 (0.88)3) Number of food groups consumed: Year 2010 coefficient: 0.60 (0.17) P<0.01 | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Kuhns, 2014 | National: USALocal: n/a  | Neilson Homescan Data.N=4.2 million observations  | Panel survey.Multivariate panel regression analysis with healthfulness of monthly shopping baskets modelled as a function of macroeconomic conditions. Controlled for unobserved time-invariant geographic fixed effects.  | Exposure: Commence-ment of GR (time)Time: 2004-2010 (dummy variable used for 2007-2009).  | The USDA scores are squared-error loss functions, designed to assign penalties for household expenditure shares that deviate from USDA recomm-endations. 1) USDAScore1 is the simplest and operates on the assumption that the Homescan households report 100% food at home purchases to Nielsen. Input an expenditure share of zero for those food groups for which households report no purchases.2) USDAScore2 assumes that households simply have not recordedpurchases for completely empty food categories.. Therefore, USDAScore2 is calculated based only on those food categories with recorded purchases and expenditure shares greater than zero.3) USDAScore3 assigns penalties only whenhouseholds exceed recommendations for limited categories or falls short of recommendations for recommended categories. | **1) USDA Score 1** Overall: mean: 5.949, St. Dev.: 2.357, min: 0.898, max.: 16.364Recession: mean: 5.996, St. Dev.: 2.395, min: 0.898, max.: 16.365Not Recession: mean: 5.932, St. Dev.: 2.343, min: 0.898, max.: 16.364Regression results: Recession: monthly average: 0.120 (0.222); household FE: 0.451 (0.005) (Significant at the 0.01 level);**2) USDA Score 2**Overall: mean: 7.996, St. Dev.: 3.440, min: 0.971, max.: 22.808Recession: mean: 8.059, St. Dev.: 3.483, min: 0.971, max.: 17.874Not Recession: mean: 7.972, St. Dev.: 3.424, min: 0.990, max.: 22.808Regression results: Recession: monthly average: 0.074 (0.139); household FE: 0.286 (0.009) (Significant at the 0.01 level);**3) USDA Score 3**Overall: mean: 6.430, St. Dev.2.685, min: 0.915, max.: 17.875Recession: mean: 6.487, St. Dev.: 2.728, min: 0.915, max.: 17.874Not Recession: mean: 6.410, St. Dev.: 2.669, min: 0.915, max.: 17.875Regression results: Recession: monthly average: 0.122 (0.205); household FE: 0.425 (0.006) (Significant at the 0.01 level);Dietary quality 4-8% better during recession.  | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Martin-Prevel et al, 2012  | National: Burkina FasoLocal: Ouaga-dougou  | Households randomly selected from Ouagadougou census. Average age of household head: 42, household head 86.8% (2007) and 87.8% (2008) male.  | Serial cross-sectional. General linear mixed model. Model 0: no adjustment,Model 1: comparison adjusted for age and gender of the head of household, residency in the compound, size of household, youth ratio, dependency ratio, economic score, salary + interaction terms: year × economic scoreModel 2: same as model 1 + adjustment for household food expenditure/adult equivalent.All analyses took into account the sampling design by including a random EA effect. | Exposure: Commence-ment of GR (time)Time Point 1: July 2007 (n=3017)Time Point 2: July 2008(n=3002)  | Index member Dietary Diversity Score (preceding 24 hours)14 food groups [cereals, vitamin A (VA)-rich vegetables and tubers, white tubers/roots, green leafy vegetables, other vegetables, VA-rich fruits, other fruits, offal, meat, eggs, fish, legumes/nuts/seeds, milk/dairy product, oils/fats]. A point allocated for each group consumed and the index-member dietary diversity score (IDDS) was the sum of these points, theoretically ranging from 0 (no food consumed the previous day) to 14 (maximum diversity). | 2007 score mean 2007 (n=2970): 5.7 ± 1.7 2008 score mean (n=2962): 5.2 ± 1.5 P < 0.0001Tertiles 2007 (n=2970): low 24.2%, medium 44.9%, high 30.9%.Tertiles 2008 (n=2962): low 31.1%, medium 52.4%, high 16.5% P < 0.0001Raw and adjusted changes in dietary diversity between 2007 and 2008:Model 0: 2007: 5.59 ± 0.08, 2008: 5.20 ± 0.07, <0.0001 Model 1: 2007: 5.63 ± 0.08, 2008: 5.20 ± 0.07, <0.0001 Model 2: 2007: 5.65 ± 0.08, 2008: 5.15 ± 0.07, <0.0001 | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Norte et al, 2019 | National: SpainLocal: n/a | Spanish National Health Survey. Stratified random sampling (tri-stage sample). Data were collected by personal interviews and all the information included was self-reported.Adults only.49.1% (2006) and 50.1% (2011). N= 28,296 in 2006/2007 and 20,920 in 2011/12  | Serial cross-sectional.Logistic regression adjusted by age and sex.  | Exposure: Commence-ment of GR (time)Time point 1: 2006/2007 (=28,296) Time point 2: 2011/2012(n=20,920) | Odds of poor diet, using Spanish Healthy Eating Index (odds of score of <51). Scored out of 100 based on 10 equally weighted components: consumption of cereals and derivatives; vegetables; fruits; milk and derivatives; meat, fish and eggs; pulses; sausages and cold meats; sweets; soft drinks with sugar; and variety of the diet, based on the Spanish Healthy Eating Guide. This was then made into a categorical variable with a ‘good’ diet as a score over 80, a ‘needs improvement’ diet as 51-80, and a ‘poor’ diet as less than 50. | **SHEI by education level:** 2006University (ref)Secondary AOR: 1.79 (95% CI 1.45 - 2.22), p<0.001No studies/primary AOR: 2.16 (95% CI 1.76–2.63), p=0.2272012University (ref)Secondary AOR: 1.96 (95% CI 1.42–2.71), p<0.001No studies/primary AOR: 2.86 (95% CI 2.12–3.87), p<0.001**SHEI by social class:**2006Skilled manual work: refUnskilled manual work AOR: 1.54 (95% CI 1.32–1.79), p<0.0012012Skilled manual work: refUnskilled manual work AOR: 1.81 (95% CI 1.50–2.18), p<0.001**SHEI by employment situation**2006Paid worker (ref)Unemployed AOR: 0.74 (95% CI 0.62–0.90), p<0.005Homemakers AOR: 0.36 (95% CI 0.28–0.47), p<0.0012012Paid worker (ref)Unemployed AOR: 1.27 (95% CI 1.05–1.55), p<0.005Homemakers AOR: 1.11 (95% CI 0.85–1.45), p=0.443 | Selection total: 3 Comparability total: 1Outcomes total: 2**Total score: 6** |
| Todd, 2014 | National: USALocal: n/a  | National Health and Nutrition Examination Survey (NHANES – Consumer Behaviour Adult follow-up survey). Adults born between 1946 and 1985 (aged 20-59 in 2005-6 and 25-64 2009-10)N=9829  | Serial Cross-sectional.Weighted means reported and Person Chi-Squared test accounting for complex survey design.  | Exposure: Commence-ment of GR (time)Time point 1: 2005-2006(n=3,014) Time point 2: 2007-2008(n= 3,294) Time point 3: 2009-2010(n=3,531) | Self-reported dietary quality (excellent, very good, good, fair or poor). Collected in the Diet Behaviour dataset.  | **Born 1946-85**Excellent - 2007-08: 7.6%, 2009-10: 7.9% Very good - 2007-08: 22.1%, 2009-10: 21.2% Good - 2007-08: 40.1%, 2009-10: 44.0% Fair - 2007-08: 23.0%, 2009-10: 22.5% Poor - 2007-08: 7.1%, 2009-10: 4.5% Pearson Chi-squared = 2.63, p=0.053**Born before 1946**Excellent - 2007-08: 15.3%, 2009-10: 16.3% Very good - 2007-08: 30.0%, 2009-10: 31.4% Good - 2007-08: 38.2%, 2009-10: 40.4% Fair - 2007-08: 13.2%, 2009-10: 9.3% Poor - 2007-08: 3.3%, 2009-10: 2.5% Pearson Chi-squared = 1.565, p=0.194 | Selection total: 3 Comparability total: 2 Outcomes total: 1**Total score: 6** |
| Food Groups  |
| Alves, 2019Ref:  | National: Portugal Local: n/a | National Health Interview Survey. Regional and multistage stratified sampling.Adults aged 25-79, 46% male.N=43,273 (28,144 in 2005/2006).  | Serial cross-sectional. Used logistic regression to model consumption as a function of year, controlling for age, sex and education. | Exposure: Commence-ment of GR (time)Time point 1: 2005/2006Time point 2: 2014 | Dichotomised consumption of food on the previous day (yes/no) for meat, soup, fish, potatoes/ rice/ pasta, bread, legumes, sweets, fruits and vegetables.  | Meat: 2005/06: 79% yes, 2014: 29% AOR: 1.004Soup: 2005/6: 68% yes, 2014: 64%, AOR: 0.779 (P<0.01)Fish: 2005/6: 52% yes, 2014: 49%, AOR: 0.811 (P<0.01) Potatoes/ rice/ pasta: 2005/6: 90% yes, 2014: 89%, AOR: 0.973Bread: 2005/6: 93% yes, 2014: 92%, AOR: 0.912Legumes: 2005/6: 27% yes, 2014: 32%, AOR: 1.336 (P<0.01) Sweets: 2005/6: 26% yes, 2014: 37%, AOR: 1.536Fruits: 2005/6: 82% yes, 2014: 73%, AOR: 0.502 (P<0.01)Vegetables: 2005/6: 78% yes, 2014: 52%, AOR: 0.446 (P<0.01).**Only significant change across subpopulation was for potatoes/rice/pasta in ages 40-64:** All groups: 0.95No/pre-primary education: 0.92Primary/secondary education: 1.15Tertiary education: 0.89*Note that Alves considered these changes to be reflective of long-term declines in the Mediterranean diet rather than due to the GR.*  | Selection total: 3 Comparability total: 1Outcomes total: 1**Total score: 5** |
| Antelo, 2017 | National: Spain Local: n/a | National household budget survey. Households with an active breadwinner over 16. Male dominated households went from a mean of 0.81 to 0.70.N= 12,480 in 2006 and 14,215 in 2013.  | Longitudinal survey. Used Propensity Score Matching with Gaussian kernel methods and a difference-in-difference approach to examine the impact of the economic crisis on Unemployment Effect on Food Expenditure (UEFE). Controlled for age, sex, household size, marital status, education, home ownership, residential area, other houses, number of home-cooked meals, and region. | Exposure: time (boom and crisis periods).Time point 1: 2006 (boom)Time point 2: 2013 (crisis)Investigated Unemployment Effect on Food Expenditure in boom and crisis periods (unemployment rate was 4.8% in 2006 and 15.5% in 2013).  | Data on food expenditure by household collected for two weeks. Expenditure on: bread, cereals, rice and pasta; meat; fish; milk, cheese and eggs; oils and fats; fruits; vegetables, pulses, potatoes and other root crops; sugar, jam, honey, chocolate, sweets and ice cream.  | DiD estimates with Gaussian kernel Matching for crisis impact/UEFE: Bread, cereals, rice and pasta crisis effect: −0.164 (−6.13) (p at 1% level)Meat crisis effect: − 0.158 (− 3.55) (p at 1% level)Fish crisis effect: − 0.192 (− 2.91) (p at 1% level)Milk, cheese and eggs crisis effect: - 0.082 (- 2.19) (p at 5% level)Oils and fats crisis effect: − 0.073 (− 1.03)Fruits crisis effect: − 0.304 (- 6.20) (p at 1% level)Vegetables, pulses, potatoes and other root crops crisis effect: − 0.173 (− 4.10) (p at 1% level) Sugar, jam, honey, chocolate, sweets and ice cream crisis effect: − 0.106 (− 1.83) (p at 10% level) | Selection total: 3 Comparability total: 2Outcomes total: 2**Total score: 7** |
| Asgeirs-dottir, 2014  | National: IcelandLocal: n/a  | (Icelandic) Health and Wellbeing survey, weighted and using stratified random sampling. Adults aged 18 – 79. Unweighted: 48.9% male completed 2009 survey, 46.6% when weighted. N = 7688. Response rate 60.8% in 2007 and 69.3% in 2009.  | Longitudinal. Used fixed effects models using pooled data. Time-varying covariates are married, cohabiting, lives with adult other than partner, and lives in rural area.  | Exposure: Commence-ment of GR (time)Time point 1: 2007Time point 2: 2009 | Outcome variables: daily sugared soft drink, daily sweets, weekly consumption of fast food (either at a fast food restaurant or by taking home prepared foods), daily consumption of fruit or berries, daily consumption of cooked or raw vegetables.  | Excluding cases with missing data (n=5616) and including time-varying covariates:Soft drink: - 0.016 (p<0.01)Sweets: - 0.023 (p<0.01)Fast food: - 0.048 (p<0.01)Fruit/berries: - 0.018 (p<0.1)Vegetables: - 0.028 (p<0.01)Working age subset: Soft drink: - 0.017 (p<0.01)Sweets: - 0.024 (p<0.01)Fast food: - 0.067 (p<0.01)Fruit/berries: - 0.013 (p<0.1)Vegetables: - 0.025 (p<0.01) | Selection total: 3 Comparability total: 2Outcomes total: 2**Total score: 7** |
| Asgeirs-dottir, 2016 | National: IcelandLocal: n/a  | (Icelandic) Health and Wellbeing survey. Stratified random sampling.Aged 18 – 79 but generally older than Icelandic population so sample weights applied. 46% of those who completed all three surveys were male. 33% of those who completed the 2007 survey also completed the 2009 and 2012 surveys, N=3238.  | Longitudinal.Fixed effects models, covariates included married, cohabiting, lives with adult other than partner, lives in rural area, and homeowner.  | Exposure: Commence-ment of GR (time)Time point 1: 2007Time point 2: 2009Time point 3: 2012  | Outcome variables: daily sugared soft drink, daily sweets, weekly consumption of fast food (either at a fast food restaurant or by taking home prepared foods), daily consumption of fruit or berries.  | Analysis sample with time-varying covariates:**Soft drink:** Effect of 2009 indicator: -0.013 (p < 0.01) Effect of 2012 indicator: - 0.027 (p < 0.10) p-Value for difference between 2009 and 2012: 0.056R-squared: 0.009**Sweets:** Effect of 2009 indicator: -0.021 (p < 0.10) Effect of 2012 indicator: - 0.008 p-Value for difference between 2009 and 2012: 0.109R-squared: 0.008**Fast food:** Effect of 2009 indicator: - 0.053 (p < 0.10) Effect of 2012 indicator: - 0.071 (p < 0.10) p-Value for difference between 2009 and 2012: 0.126 R-squared: 0.023**Fruit/berries:** Effect of 2009 indicator: -0.029 (p < 0.05) Effect of 2012 indicator: 0.049 (p < 0.1) p-Value for difference between 2009 and 2012: <0.001R-squared: 0.015 | Selection total: 3 Comparability total: 2Outcomes total: 2**Total score: 7** |
| Bartoll, 2015  | National: Spain Local: n/a | Spanish National Health Survey Adults aged 25-64. N=47,156. Response rates among eligible units in the last three waves were 77.0 %, 70.3 %, 71.8 % | Repeated cross-sectional. Before-after model (linear probability regression model). All models are adjusted by age, age2, marital status, region of residence (autonomous community), type of residential area (rural/urban), occupation and linear time trend.a Significance of t-test of the interaction between economic recession dummy and employment statusb Significance of likelihood ratio of the model with and without interaction between economic recession and education level.Robust standard errors in parentheses.  | Exposure: Commence-ment of GR (time) Time point 1: 2001(n=9,252)Time point 2: 2003/2004(n=10,840) Time point 3: 2006/2007(n=15,470) Time point 4: 2011/2012(n=11,594)  | Daily consumption (yes/no) of vegetables, fruit.Binary variable for consumption three or more times a week of legumes, fish, meat, processed meat (eg. salami, sausages), sweet foods (eg. jam, cookies).  | **Vegetables:** MEN*Overall:* -0.002 (0.0141) *Employment status* Employed: 0.009 (0.0150), unemployed -0.063 (0.0448), p (a) 0.004*Education level*University -0.004 (0.0316), High secondary 0.038 (0.0289), Lower secondary or primary - 0.013 (0.0194), without any qualification - 0.068 (0.0734), p (b) 0.385. WOMEN*Overall:* −0.024 (0.0150)*Employment status* Employed: −0.017 (0.0166), unemployed −0.043 (0.0364), p (a) 0.065*Education level*University −0.013 (0.0287), High secondary 0.034 (0.0313), Lower secondary or primary −0.030 (0.0222), without any qualification −0.271 (0.0795) p<0.01, p (b) 0.004**Fruit:** MEN*Overall*: −0.091 (0.0146) p<0.01*Employment status* Employed: −0.074 (0.0154) p<0.01, unemployed −0.121 (0.0498) p<0.05, p (a) 0.041*Education level*University − 0.045 (0.0319), High secondary − 0.061 p<0.05 (0.0289), lower secondary or primary − 0.114 (0.02040 p<0.01, without any qualification − 0.218 p<0.01 (0.0729), p (b) 0.060. WOMEN*Overall*: − 0.079 (0.0144) p<0.01*Employment status* Employed: −0.071 (0.0159) p<0.01, unemployed −0.106 (0.0345) p<0.01, p (a) 0.315*Education level*University −0.058 (0.0268) p<0.05, High secondary −0.048 (0.0301), lower secondary or primary −0.092 (0.0216) p<0.01, without any qualification −0.151 (0.0781) p<0.1, p (b) 0.429**Legumes:** MEN*Overall:* 0.034 (0.0135) p<0.05*Employment status* Employed: 0.038 (0.0142) p<0.01, unemployed −0.074 (0.0479), p (a) 0.041*Education level*University 0.040 (0.0281), High secondary 0.010 (0.0280), Lower secondary or primary 0.038 (0.0194) p<0.05, without any qualification −0.035 (0.0681), p (b) 0.621. WOMEN*Overall*: 0.043 (0.0136) p<0.01*Employment status* Employed: 0.039 (0.0151) p<0.05, unemployed 0.057 (0.0325) p<0.1, p (a) 0.392*Education level*University 0.051 (0.0256) p<0.1, High secondary 0.038 (0.0274), Lower secondary or primary 0.045 (0.0207) p<0.05, without any qualification −0.105 (0.0781), p (b) 0.314**Fish:** MEN*Overall*: −0.001 (0.0144) *Employment status* Employed: 0.012 (0.0152), unemployed −0.068 (0.0501), p (a) 0.055*Education level*University −0.020 (0.0319), High secondary 0.001 (0.0293), Lower secondary or primary 0.004 (0.0200), without any qualification −0.003 (0.0728), p (b) 0.937WOMEN*Overall:* −0.000 (0.0149) *Employment status*Employed: 0.002 (0.0166), unemployed −0.007 (0.0354), p (a) 0.437 *Education level*University 0.042 (0.0287), High secondary −0.006 (0.0307), Lower secondary or primary −0.013 (0.0222), without any qualification −0.048 (0.0840), p (b) 0.570**Meat:** MEN*Overall*: −0.097 (0.0125) p<0.01*Employment status* Employed: −0.093 (0.0131) p<0.01, unemployed −0.110 (0.0457) p<0.05, p (a) 0.229*Education level*University −0.093 (0.0281) p<0.01, High secondary −0.079 (0.0251) p<0.01, Lower secondary or primary −0.092 (0.0175) p<0.01, without any qualification −0.268 (0.0705) p<0.01, p (b) 0.092WOMEN*Overall:* −0.100 (0.0135) p<0.01*Employment status* Employed: −0.097 (0.0149) p<0.01, unemployed −0.109 (0.0328) p<0.01, p (a) 0.567*Education level*University −0.093 (0.0258) p<0.01, High secondary −0.089 (0.0287) p<0.01, Lower secondary or primary −0.104 (0.0197) p<0.01, without any qualification −0.211 (0.0808) p<0.01, p (b) 0.541**Cold Meat:** MEN*Overall:* −0.047 (0.0148) p<0.01Employment status Employed: −0.047 (0.0157) p<0.01, unemployed −0.003 (0.0496), p (a) 0.341*Education level*University −0.085 (0.0323) p<0.01, High secondary −0.026 (0.0304), Lower secondary or primary −0.036 (0.0205) p<0.1, without any qualification −0.173 (0.0806) p<0.05, p (b) 0.203WOMEN*Overall*: −0.037 (0.0145) p<0.05*Employment status* Employed: −0.029 (0.0161) p<0.1, unemployed −0.065 (0.0344) p<0.1, p (a) 0.836*Education level*University −0.054 (0.0276) p<0.1, High secondary −0.058 (0.0297) p<0.1, Lower secondary or primary −0.019 (0.0218), without any qualification −0.099 (0.0777), p (b) 0.558**Sweets:** MEN*Overall*: 0.012 (0.0149) *Employment status* Employed: 0.007 (0.0158), Unemployed 0.011 (0.0491), p (a) 0.272*Education level*University −0.017 (0.0325), High secondary 0.025 (0.0306),Lower secondary or primary 0.031 (0.0208), without any qualification −0.169 (0.0785) p<0.05, p (b) 0.067WOMEN*Overall:* 0.001 (0.0152)*Employment status* Employed: 0.002 (0.0168), unemployed −0.004 (0.0361), p (a) 0.921*Education level*University 0.024 (0.0289), High secondary −0.011 (0.0312), Lower secondary/ primary 0.001 (0.0226), without any qualification −0.039 (0.0848), p (b) 0.806 | Selection total: 3 Comparability total: 2Outcomes total: 2**Total score: 7** |
| Bonaccio et al, 2014Ref:  | National: ItalyLocal: the Molise region | Moli-Sani study. Adults aged over 35 (mean age 54.4); percentage male: 47.30%.Randomly recruited.Total n=21,001.  | Serial cross-sectional study of participants recruited before and after the recession.Means and p-values of intake in grams/day adjusted for age and sex.  | Exposure: Commence-ment of GR (time). Time point 1: Recruited in 2005-2006 (n=6999)Time point 2: Recruited in 2007-2010 (n=14,002)  | Animal proteins, vegetarian proteins, animal fats and vegetable fats in grams/day (means + SD) using Italian EPIC food frequency questionnaire.  | Animal proteins: 2005/6: 55.1 (18.7), 2007-2010: 56.4 (17.0), p-value <0.0001Vegetarian proteins:2005/6: 29.6 (11.1), 2007-2010: 28.7 (9.9), p-value <0.0001Animal fats: 2005/6: 44.2 (18.8), 2007-2010: 45.3 (17.0), p-value <0.0001Vegetarian fats: 2005/6: 33.1 (11.8), 2007-2010: 32.5 (10.6), p-value <0.0001 | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Colman & Dave, 2018  | National: USA Local: n/a | National Longitudinal Survey of Youth-1979. A nationally representative sample of 12,686 young men and women who were 14–22 years old when they were first surveyed in 1979 (food and drink data collected from 2008). N=7100 in 2014.  | Longitudinal.Separate fixed-effect regressions controlling for age, marital status, state of residence, and month.  | Exposure: Unemploy-ment (own). Time point 1: 2008Time point 2: 2010Time point 3: 2012Time point 4: 2014  | Fast food per week (In the past seven days, how many times did you eat food from a fast food restaurant such as McDonalds, Kentucky Fried Chicken, Pizza Hut, or Taco Bell?), snacks per week, soft drinks per week  | **Fast food:** MEANS: 2008: 1.7, 2010: 1.5, 2012: 1.5, 2014: 1.3EFFECTS OF UNEMPLOYMENT BY REASON FOR UNEMPLOYMENT: Nonemployed: All: −0.37 (0.070) (significant at 1%), Non-movers: −0.34 (0.084) (significant at 1%), Unemployed: All: −0.49 (0.14) (significant at 1%), Non-movers: −0.44 (0.16) (significant at 1%), Laid off: All: −0.29 (0.22), Non-movers: −0.34 (0.27)Plant closed: All: −0.50 (0.44), Non-movers: −0.59 (0.51)**Snacks:** MEANS: 2008: 6.3, 2010: 6.2, 2012: 6.1, 2014: 6.6EFFECTS OF UNEMPLOYMENT BY REASON FOR UNEMPLOYMENT: Nonemployed: All: 0.18 (0.25), Non-movers 0.18 (0.28), Unemployed: All: −0.26 (0.43), Non-movers: −0.11 (0.51), Laid off: All: 0.45 (0.59), Non-movers: 0.91 (0.67)Plant closed: All: −0.14 (1.06), Non-movers: −0.66 (1.18)**Soft drinks:** MEANS: 2008: 3.9, 2010: 3.4, 2012: 3.1, 2014: 2.9EFFECTS OF UNEMPLOYMENT BY REASON FOR UNEMPLOYMENT: Nonemployed: All: −0.15 (0.19), Non-movers −0.22 (0.22), Unemployed: All: 0.0001 (0.40), Non-movers: −0.18 (0.46), Laid off: All: −0.74 (0.50), Non-movers: −0.99 (0.61)Plant closed: All: 0.061 (0.60), Non-movers: −0.15 (0.70) | Selection total: 4 Comparability total: 1 Outcomes total: 2**Total score: 7** |
| Çirakli & Yildirim, 2019 | National: Turkey Local: n/a  | OECD data.  | Used ARDL bounds testing and cointegration analysis including OLS: unit root tests, Augmented Dickey-Fuller Test, Unrestricted Error Correction Model using OLS and Wald test, estimation of long-term coefficients and creation of Error Correction Model.  | Exposure: Commence-ment of GR (time), using real GDP, unemploy-ment rates, inflation rate as indicators of crises.Time: 1974-2015 (42 time points), covering economic crises in 1994, 2001, 2009). | Used OECD data on annual per capita vegetable and fruit consumption (kg)  | Result of ADF Unit Root Test: level values t: -2.43, p 0.138; first difference values: t: -7.16 (significant at 1% level), p: 0.000. Result of ARDL correction model: Change D 2009: coefficient: 0.051, t: 2.139, p: 0.042(significant positive impact on fruit and vegetable consumption).  | Selection total: 3Comparability total: 1 Outcomes total: 1**Total score: 5** |
| Dave et al., 2012  | National: USA Local: n/a  | Behavioural Risk Factor Surveillance System. Adults aged between 26-58. N (fruit) = 1,354,093N (fruit juice) = 1,357,023 N (carrots) = 1,344,014 N (green salad) = 1,357,023N (vegetables) = 1,349, 973 N (snacks) = 56,376 N hamburgers) = 56,742N (hot dogs) = 56,586N (French fries) = 56,467 N (fried chicken) = 56,528N (doughnuts) = 56,428 | Serial cross-sectional.Reduced-form cross-equation (fixed effects) estimates of the average effect of state unemployment on healthy and unhealthy food consumption seemingly unrelated regression. Controlled for gender, education, age, marital status, ethnicity and state indicators.  | Exposure: Area-level unemploy-ment rates. Time: 1990 – 2009 (excluding 2004, 2006 and 2008).  | How often do you eat (FOOD) with options of times per day, week, month, or year for fruit, fruit juice, carrots, green salad, vegetables, snacks, hamburgers, hot dogs, French fries, fried chicken, and doughnuts.  | **Fruit:**State unemployment: −0.1494 (0.0451) (p<0.01)Male: −6.6536 (0.2100) (p<0.01)Some high school: −2.9580 (0.4090) (p<0.01)High School: −1.5104 (0.4957) (p<0.01)Some college: 1.2394 (0.5265) (p<0.05) College: 6.3012 (0.5294) (p<0.01)Age: −0.1147 (0.0316) (p<0.01)Age squared: 0.0033 (0.0004) (p<0.01)Black: 0.3630 (0.3553)Hispanic: 3.2468 (0.4478) (p<0.01)Other race: 1.0008 (0.5885) (p<0.1)**Fruit juice:**State unemployment: −0.1406 (0.0492) (p<0.01)Male: 1.9020 (0.1619) (p<0.01)Some high school: −1.5162 (0.3097) (p<0.01)High School: −1.3282 (0.4140) (p<0.01)Some college: −0.0554 (0.4594) College: 0.8333 (0.4808) (p<0.1)Age: −0.8824 (0.0273) (p<0.01)Age squared: 0.0098 (0.0003) (p<0.01)Black: 7.3910 (0.2541) (p<0.01)Hispanic: 5.6835 (0.4354) (p<0.01)Other race: 3.7315 (0.3987) (p<0.01) **Carrots:**State unemployment: −0.1051 (0.0222) (p<0.01)Male: −1.7989 (0.0555) (p<0.01)Some high school: −1.2052 (0.2242) (p<0.01)High School: −0.8552 (0.2666) (p<0.01)Some college: 0.1453 (0.2863) College: 1.0244 (0.2945) (p<0.01)Age: 0.2381 (0.0161) (p<0.01)Age squared: −0.0020 (0.0002) (p<0.01)Black: −0.8415 (0.1054) (p<0.01)Hispanic: 1.6735 (0.1748) (p<0.01)Other race: 0.7720 (0.2129) (p<0.01)**Green salad:** State unemployment: −0.0894 (0.0321) (p<0.01)Male: −2.9886 (0.0687) (p<0.01)Some high school: 0.1686 (0.1331)High School: 1.5524 (0.1578) (p<0.01)Some college: 3.3623 (0.1964) (p<0.01)College: 5.2470 (0.2051) (p<0.01)Age: 0.2560 (0.0196) (p<0.01)Age squared: −0.0015 (0.0002) (p<0.01)Black: −0.7445 (0.1536) (p<0.01)Hispanic: 1.5114 (0.2731) (p<0.01)Other race: 0.0837 (0.2419)**Vegetables:** State unemployment: −0.0997 (0.0712)Male: −6.8483 (0.2285) (p<0.01)Some high school: 2.1519 (0.3098) (p<0.01)High School: 4.4294 (0.3490) (p<0.01)Some college: 8.3667 (0.3556) (p<0.01) College: 12.2960 (0.3824) (p<0.01)Age: 0.0737 (0.0266) (p<0.01)Age squared: −0.0004 (0.0003)Black: −2.8057 (0.4086) (p<0.01)Hispanic: −7.4141 (0.7634) (p<0.01)Other race: 0.7997 (0.7680)**Snacks:**State unemployment: 0.1860 (0.1061) (p<0.1)Male: 0.6343 (0.1160) (p<0.01)Some high school: 2.0369 (0.4282) (p<0.01)High School: 1.6495 (0.4167) (p<0.01)Some college: 1.0825 (0.4678) (p<0.05) College: 0.5646 (0.4752)Age: 0.0768 (0.0777) Age squared: −0.0026 (0.0009) (p<0.01)Black: −0.7003 (0.3244) (p<0.05) Hispanic: −1.6512 (0.3306) (p<0.01)Other race: −1.4626 (0.3809) (p<0.01)**Hamburgers:**State unemployment: 0.0370 (0.0697)Male: 1.8570 (0.0766) (p<0.01)Some high school: 0.4917 (0.3082) High School: 0.0888 (0.2864)Some college: −0.3641 (0.2857)College: −1.4603 (0.3362) (p<0.01)Age: −0.0280 (0.0294) Age squared: −0.0008 (0.0004) (p<0.05)Black: −0.6633 (0.1932) (p<0.01)Hispanic: −0.8492 (0.1274) (p<0.01)Other race: −0.1696 (0.3522)**Hot dogs:**State unemployment: 0.0766 (0.1567) Male: 3.3519 (0.1798) (p<0.01)Some high school: 1.0307 (0.4678) (p<0.05)High School: −0.3194 (0.3365)Some college: −1.1975 (0.3859) (p<0.01) College: −2.4662 (0.3513) (p<0.01)Age: −0.2279 (0.0775) (p<0.01)Age squared: 0.0014 (0.0009)Black: −0.8830 (0.2041) (p<0.01)Hispanic: −0.8022 (0.2380) (p<0.01)Other race: −0.6258 (0.4391)**French fries**State unemployment: 0.0116 (0.1021) Male: 2.3808 (0.1188) (p<0.01)Some high school: −0.5574 (0.3325) High School: −1.3748 (0.3650) (p<0.01)Some college: −2.0336 (0.3693) (p<0.01) College: −2.7835 (0.3672) (p<0.01)Age: −0.1912 (0.0288) (p<0.01)Age squared: 0.0007 (0.0003) (p<0.05)Black: −0.5871 (0.2280) (p<0.05)Hispanic: −0.1536 (0.1992) Other race: −0.0350 (0.1671)**Fried chicken:** State unemployment: 0.0782 (0.0591)Male: 0.9190 (0.1060) (p<0.01)Some high school: 0.0258 (0.3215) High School: −0.8157 (0.1851) (p<0.01)Some college: −1.2040 (0.2094) (p<0.01)College: −1.8284 (0.2314) (p<0.01)Age: 0.0371 (0.0370)Age squared: −0.0006 (0.0005)Black: 3.1662 (0.1238) (p<0.01)Hispanic: 1.0068 (0.1875) (p<0.01)Other race: 1.4597 (0.2047) (p<0.01)**Doughnuts:** State unemployment: 0.1079 (0.1434)Male: 0.5286 (0.1785) (p<0.01)Some high school: −0.0171 (0.4621) High School: −0.8243 (0.4170) (p<0.1)Some college: −1.0546 (0.5096) (p<0.05) College: −1.1150 (0.4393) (p<0.05)Age: 0.1816 (0.0998) (p<0.1)Age squared: −0.0024 (0.0012) (p<0.1)Black: −1.1121 (0.2311) (p<0.01)Hispanic: −1.2748 (0.3503) (p<0.01)Other race: −1.6652 (0.5399) (p<0.01) | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Di Pietro, 2018 | National: Italy Local: n/a | Italian Multipurpose Household Survey on Everyday Life Issues.Age 25-54. Maximum n=189.631 | Serial cross-sectional. Reduced form demand function (linear probability models estimated with OLS). All Equations include fixed effects for region and year in addition to controls for education, age, marital status and gender. Eq. (2) contains region-specific linear time trends. Eq. (3) contains linear time trends in age group by gender specific to each region and fixed effects for the interaction between year and region. | Two measures of unemploy-ment rate are used: a general unemploy-ment and unemploy-ment rate by age group and gender is used. Data on both unemploy-ment rates come from the ISTAT. Time: 2005-2012 | Dichotomous variable - whether respondent regularly consumes at least 5 daily servings of fruits and/or vegetables or snacks high in salt (eg. French fries, popcorn). | **Fruit & vegetables:**Eq. 1 general unemployment rate: 0.0048 (0.0036)Eq. 2 general unemployment rate: 0.0052 (0.0036)Eq. 3: unemployment rate by gender and age group:− 0.0017 (0.0007) (p<0.05) n= 160,060 **Snacks:** Eq. 1 general unemployment rate: − 0.0003 (0.0007)Eq. 2 general unemployment rate: − 0.0007 (0.0008)Eq. 3: unemployment rate by gender and age group: − 0.0006 (0.0003) (p<0.5) n= 158,844 | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Díaz-Méndez & García-Espejo, 2019 | National: SpainLocal: n/a | National Health Survey.Adults aged 16 and above. 2006 (n=29,478) 2011 n=21,007). All data weighted using original weighting variable for each year.  | Serial Cross-sectional.Logistic regression. Age, sex, education, parental occupation (for SES), size of community, nationality, marital status, presence of minors in the household, employment situation, BMI, being on a diet and physical activity included in model.  | Exposure: Commence-ment of GR (time)Time point 1: 2006Time point 2: 2011 | Daily consumption of fruit and vegetables (Y/N), three times a week or more consumption of meat or fish, Less than once a week/seldom or never (vs. more frequent) consumption of cookies, pastries, sweetened cereals, jelly and candy (based on healthy diet guidelines).  | **Fruit:**Time Trend 2006-2011: diverging from the guidelines, with frequency of consumption falling.Logistic Regression: Sex (base: woman) 2006: - 0.513 (p<0.01). 2011: -0.412 (p<0.01)Age (base: under 30 years old) 30-44: 2006: 0.385 (p<0.01). 2011: 0.295 (p<0.01)45-59: 2006: 1.018 (p<0.05). 2011: 0.858 (p<0.01)60-74: 2006: 1.571 (p<0.01). 2011: 1.198 (p<0.01)Over 74: 2006: 1.770 (p<0.01). 2011: 1.401 (p<0.01) Education level (base: none) Primary education: 2006 0.112, 2011: 0.272 (p<0.01)General secondary: 2006 0.122 (p<0.1), 2011: 0.269 (p<0.01)Vocational training: 2006 0.187 (p<0.05), 2011: 0.263 (p<0.01)University: 2006 0.282 (p<0.01), 2011: 0.427 (p<0.01)Unemployed (base: employed)2006: -0.184 (p<0.01), 2011: -0.213 (p<0.01)Social class of breadwinner (base: non-skilled workers)Public administration directors and directors of companies with 10 or more workers and professionals associated with a graduate degree: 2006: 0.192 (p<0.05), 2011: 0.254 (p<0.01)Executives of public administration and of companies with fewer than 10 or more workers, professionals associated with university degrees 2006: 0.079, 2011: 0.178 (p<0.05)Administrative support and professionals 2006: 0.100 (p<0.1), 2011: 0.122 (p<0.1)Skilled manual workers 2006: 0.076, 2011: 0.107 (p<0.1)Semi-skilled manual workers 2006: 0.035, 2011: 0.102 (p<0.1)**Vegetables:** Time Trend 2006-2011: diverging from the guidelines, with frequency of consumption falling.Logistic Regression: Sex (base: woman): 2006: - 0.510 (p<0.01). 2011: -0.507 (p<0.01)Age (base: under 30 years old) 30-44: 2006: 0.276 (p<0.01). 2011: 0.356 (p<0.01)45-59: 2006: 0.628 (p<0.01). 2011: 0.692 (p<0.01)60-74: 2006: 0.768 (p<0.01). 2011: 0.982 (p<0.01)Over 74: 2006: 0.735 (p<0.01). 2011: 1.037 (p<0.01)Education level (base: none) Primary education: 2006: 0.031, 2011: 0.253 (p<0.01)General secondary: 2006: 0.061, 2011: 0.444 (p<0.01)Vocational training: 2006 0.007, 2011: 0.473 (p<0.01)University: 2006: 0.168, 2011: 0.604 (p<0.01)Unemployed (base: employed)2006: -0.006, 2011: -0.219 (p<0.01)Social class of breadwinner (base: non-skilled workers)Public administration directors and directors of companies with 10 or more workers and professionals associated with a graduate degree2006: 0.388 (p<0.01), 2011: 0.385 (p<0.01)Executives of public administration and of companies with fewer than 10 or more workers, professionals associated with university degrees 2006: 0.286 (p<0.01), 2011: 0.197 (p<0.01)Administrative support and professionals: 2006: 0.233 (p<0.01), 2011: 0.201 (p<0.01)Skilled manual workers: 2006: 0.192 (p<0.01), 2011: 0.153 (p<0.01)Semi-skilled manual workers 2006: 0.204 (p<0.01), 2011: 0.114 (p<0.05) **Meat:** Time Trend 2006-2011: most of the population still within guidelines, but the % of those reducing consumption is on the rise. Logistic Regression: Sex (base: woman) 2006: 0.044, 2011: 0.152 (p<0.01)Age (base: under 30 years old) 30-44: 2006: -0.057, 2011: -0.07745-59: 2006: -0.229 (p<0.01). 2011: -0.231 (p<0.01)60-74: 2006: -0.150 (p<0.1). 2011: -0.407 (p<0.01)Over 74: 2006: - 0.206 (p<0.05). 2011: -0.435 (p<0.01)Education level (base: none) Primary education: 2006: 0.221 (p<0.01), 2011: 0.289 (p<0.01)General secondary: 2006: 0.209 (p<0.01), 2011: 0.104 (p<0.1)Vocational training: 2006: 0.170 (p<0.01), 2011: 0.160 (p<0.05)University: 2006 0.319 (p<0.01), 2011: 0.210 (p<0.01)Unemployed (base: employed)2006 -0.080 2011: - 0.072 Social class of breadwinner (base: non-skilled workers)Public administration directors and directors of companies with 10 or more workers and professionals associated with a graduate degree 2006: 0.038, 2011: 0.043Executives of public administration and of companies with fewer than 10 or more workers, professionals associated with university degrees 2006: 0.060, 2011: -0.023Administrative support and professionals: 2006: 0.050, 2011: 0.109 (p<0.05)Skilled manual workers: 2006: 0.152 (p<0.01), 2011: 0.121 (p<0.05)Semi-skilled manual workers: 2006: 0.057, 2011: 0.088 (p<0.1)**Fish:** Time Trend 2006-2011: diverging from the guidelines, with frequency of consumption falling.Logistic Regression: Sex (base: woman) 2006: - 0.216 (p<0.01). 2011: - 0.170 (p<0.01)Age (base: under 30 years old) 30-44: 2006: 0.398 (p<0.01). 2011: 0.265 (p<0.01)45-59: 2006: 0.720 (p<0.01). 2011: 0.539 (p<0.01)60-74: 2006: 0.939 (p<0.01). 2011: 0.813 (p<0.01)Over 74: 2006: 0.964 (p<0.01). 2011: 0.747 (p<0.01)Education level (base: none) Primary education: 2006: 0.350 (p<0.01), 2011: 0.070General secondary: 2006: 0.250 (p<0.01), 2011: 0.107 (p<0.1)Vocational training: 2006: 0.349 (p<0.001), 2011: 0.076University: 2006: 0.423 (p<0.01), 2011: 0.203 (p<0.01)Unemployed (base: employed)2006: - 0.051, 2011: - 0.151 (p<0.01)Social class of breadwinner (base: non-skilled workers)Public administration directors and directors of companies with 10 or more workers and professionals associated with a graduate degree 2006: 0.025, 2011: 0.091Executives of public administration and of companies with fewer than 10 or more workers, professionals associated with university degrees 2006: 0.055, 2011: -0.000Administrative support and professionals 2006: 0.023, 2011: -0.028Skilled manual workers 2006: 0.024, 2011: -0.036Semi-skilled manual workers 2006: 0.045, 2011: -0.100**Sweets:** Time trend 2006-2011: Approaching closer to the guidelines with frequency of consumption falling. Logistic Regression: Sex (base: woman) 2006: 0.092 (p<0.01). 2011: 0.033Age (base: under 30 years old) 30-44: 2006: 0.275 (p<0.01). 2011 0.252 (p<0.01)45-59: 2006: 0.479 (p<0.01). 2011: 0.582 (p<0.01)60-74: 2006: 0.393 (p<0.01). 2011: 0.685 (p<0.01)Over 74: 2006: 0.046. 2011: 0.455 (p<0.01)Education level (base: none) Primary education: 2006: -0.188 (p<0.01), 2011: -0.271 (p<0.01)General secondary: 2006: -0.063, 2011: -0.314 (p<0.01)Vocational training: 2006: -0.149 (p<0.05), 2011: -0.429 (p<0.01)University: 2006 -0.150 (p<0.05), 2011: -0.382 (p<0.01)Unemployed (base: employed)2006: 0.077, 2011: 0.083 (p<0.1)Social class of breadwinner (base: non-skilled workers)Public administration directors and directors of companies with 10 or more workers and professionals associated with a graduate degree 2006: 0.112, 2011: 0.157 (p<0.05)Executives of public administration and of companies with fewer than 10 or more workers, professionals associated with university degrees 2006: 0.027, 2011: 0.107Administrative support and professionals 2006: 0.051, 2011: 0.135 (p<0.05)Skilled manual workers 2006: -0.019, 2011: 0.033Semi-skilled manual workers 2006: -0.001, 2011: -0.001 | Selection total: 3 Comparability total: 2 Outcomes total: 1**Total score: 6** |
| Duquenne, 2014 | National: Greece Local: Thessaly  | Stratified random sample of Greek households. N=932 | Exploratory factor analysis and hierarchical cluster analysis. 1 corresponds to no change nor reduction in the consumption, 2: limited reduction (less than 10 per cent), 3: relatively important reduction (more than 10 per cent), 4: change of food brand (less expensive) and 5: abandonment of consumption or abandonment of supply through the market, following alternative supply modes (own production, especially in case of vegetables).Reporting pattern matrix of factor analysis and % of behaviour change. Component 1: relatively limited impact of crisis on consumers behaviour.Component 2: component 2, more impacted by crisis, >60% of houses have changed their behaviour & abandonment is quite significant.  | Exposure: change over time Time point: not stated  | Questionnaire which asked about impact of Great Recession on diet. Change for pasta, potatoes, olive oil, rice, bread, vegetables, milk, fruits, beef, sheep and goat, pork, cold cuts, chicken, fish, sweets, cheese, feta. | **Pasta:** 0.777 (component 1)Type of consumption behaviours: no change 43%, limited reduction 10%, high reduction 7%, change of brand 37%, abandonment 2%**Potatoes:** 0.775 (component 1)Type of consumption behaviours: no change 47%, limited reduction 11%, high reduction 9%, change of brand 28%, abandonment 4%**Olive oil:** 0.750 (component 1)Type of consumption behaviours: no change 43%, limited reduction 15%, high reduction 10%, change of brand 28%, abandonment 4%**Rice**: 0.747 (component 1)Type of consumption behaviours: no change 40%, limited reduction 11%, high reduction 8%, change of brand 39%, abandonment 3%**Bread:** 0.707 (component 1)Type of consumption behaviours: no change 52%, limited reduction 13%, high reduction 11%, change of brand 19%, abandonment 5%**Vegetables:** 0.638 (component 1)Type of consumption behaviours: no change 47%, limited reduction 14%, high reduction 12%, change of brand 22%, abandonment 5%**Milk:** 0.591 (component 1)Type of consumption behaviours: no change 51%, limited reduction 11%, high reduction 6%, change of brand 28%, abandonment 5%**Fruits:** 0.590 (component 1)Type of consumption behaviours: no change 42%, limited reduction 15%, high reduction 15%, change of brand 23%, abandonment 5%**Beef:** 0.664 (component 2)Type of consumption behaviours: no change 35%, limited reduction 14%, high reduction 18%, change of brand 18%, abandonment 16%**Sheep and goat:** 0.618 (component 2)Type of consumption behaviours: no change 26%, limited reduction 9%, high reduction 17%, change of brand 15%, abandonment 33% **Pork:** 0.615 (component 2)Type of consumption behaviours: no change 37%, limited reduction 15%, high reduction 18%, change of brand 19%, abandonment 11%**Cold cuts:** 0.607 (component 2)Type of consumption behaviours: no change 28%, limited reduction 8%, high reduction 17%, change of brand 26%, abandonment 22% **Chicken:** 0.594 (component 2)Type of consumption behaviours: no change 47%, limited reduction 16%, high reduction 11%, change of brand 21%, abandonment 5%**Fish:** 0.563 (component 2)Type of consumption behaviours: no change 36%, limited reduction 12%, high reduction 20%, change of brand 20%, abandonment 12%**Sweets:** 0.547 (component 2)Type of consumption behaviours: no change 26%, limited reduction 9%, high reduction 21%, change of brand 21%, abandonment 24%**Cheese**: 0.545 (component 2)Type of consumption behaviours: no change 28%, limited reduction 8%, high reduction 15%, change of brand 27%, abandonment 22%**Feta:** 0.508 (component 2)Type of consumption behaviours: no change 38%, limited reduction 13%, high reduction 11%, change of brand 30%, abandonment 8% | Selection total: 2Comparability total: 2 Outcomes total: 2**Total score: 6** |
| Filippidis et al, 2014  | National: GreeceLocal: n/a | Hellas Health surveys. Adults aged between 18 – 69. Random sampling.Percentage male and N: 2006: n =1005, male: 48.1%,2008: n=1490, male: 47.6%2011: n=1008, male: 48.0%  | Serial Cross-sectional.Outcome-specific trends and differences between surveys were assessed by using linear coefficients in a binary logistic regression model. Polynomials were developed to accountfor variations in time between survey years. Results were adjusted for gender and age. | Exposure: Commence-ment of GR (time)Time point 1: 2006Time point 2: 2008Time point 3: 2011  | 5 or more fruit and vegetables per day (self-reported) | Proportion of Greek adults who reported consumption of at least five portions of fruit and vegetables per day, by demographic and socio-economic variables (%, 95% CI) **Total** 2006: 21.2 (18.6–23.7); 2008: 9.1 (7.6–10.6); 2011: 7.1 (5.6–8.7). 2006-08 % change: −57.01% (p<0.001), 2008-2011 % change: −21.54% 2006-11: −66.27% (p<0.001)**Gender** Male: 2006: 23.2 (19.4–27.0); 2008: 8.4 (19.4–27.0); 2011: 5.6 (3.5–7.6). 2006-08 % change: −63.86% (p<0.001), 2008-2011 % change: −33.33%, 2006-11: −75.91% (p<0.001) Female: 2006: 19.3 (15.9–22.7; 2008: 9.8 (7.7–11.9); 2011: 8.6 (6.2–11.0). 2006-08 % change: −49.48% (p<0.001), 2008-2011 % change: −12.08%, 2006-11: −55.58% (p<0.001)**Socio-economic status** Higher: 2006: 27.0 (20.2–33.7); 2008: 8.0 (5.2–10.7) 2011: 8.4 (4.7–12.1). 2006-08 % change: −70.43% (p<0.001), 2008-2011 % change: +5.23%, 2006-11: −68.79% (p<0.001) Middle: 2006: 18.1 (14.5–21.6); 2008: 9.8 (7.5–12.1);2011: 8.9 (6.2–11.5). 2006-08 % change: −45.68% (p<0.001), 2008-2011 % change: −9.58%,2006-11: −50.89% (p<0.001) Lower: 2006: 22.4 (18.1–26.6); 2008: 9.0 (6.5–11.6); 2011: 4.1 (2.0–6.2). 2006-08 % change: −59.63% (p<0.001), 2008-2011 % change: −54.82% (p<0.01), 2006-11: −81.76% (p<0.001) | Selection total: 2Comparability total: 2 Outcomes total: 2**Total score: 6** |
| Filippidis et al, 2017  | National: GreeceLocal: n/a | Hellas Health surveys. Adults (over 18). Percentage male and N: 2006: n= 1005, male: 48.1%,2008: n=1490, male: 47.6%2010: n= 1000, male: 50.6% 2011: n=1008, male: 48.0%2015: n=1001, male: 48.0%  | Serial Cross-sectional.Interrupted time series analysis (2010 as “intervention” year. Risk Ratio (RR) adjusted for age, gender, area of residence, education, occupation and SES. | Exposure: Commence-ment of GR (time)Time point 1: 2006Time point 2: 2008Time point 3: 2010Time point 4: 2011Time point 5: 2015 | Low fruit and vegetable consumption (two or less servings a day) | 2008: 52.1% (49.6 to 54.7)2010: n/a2011: 51.3% (48.2 to 54.4)2015: 51.2% (47.9 to 54.6) RR (2015 vs pre-crisis): 1.00 (0.92 to 1.09) | Selection total: 2Comparability total: 2 Outcomes total: 2**Total score: 6**  |
| Florkowski, 2012  | National: PolandLocal: n/a | The study is based on data obtained from annual Glowny Urzad Statystyczny surveys of Polish households. | Serial cross-sectional.Households average yearly expenditure.  | Exposure: Commence-ment of GR (time)Time point 1: 2004Time point 2: 2005Time point 3: 2006Time point 4: 2007Time point 5: 2008 | Average expenditure on bread, pasta and flour, offal and offal products, barley, pork, chicken, seafood, freshwater fish, milk, farmers cheese, hard cheese, eggs, margarine, vegetable oil, animal fat, citrus, apples and potatoes (in zloty).  | Bread: 2006:All households, n= 6794, average expenditure: 47.60Households above minimum income, n= 3900, average expenditure: 51.59Households at or below minimum income, n= 2894, average expenditure: 42.232007:All households, n= 5897, average expenditure: 53.66Households above minimum income, n= 3484, average expenditure: 58.14Households at or below minimum income, n= 2413, average expenditure: 47.202008:All households, n= 5789, average expenditure: 58.48Households above minimum income, n= 3505, average expenditure: 63.65 Households at or below minimum income, n= 2284, average expenditure: 50.56**Pasta and flour:** 2006:All households, n= 12466 average expenditure: 12.73Households above minimum income, n= 6299, average expenditure: 12.93 Households at or below minimum income, n=6167, average expenditure: 12.522007:All households, n= 11036, average expenditure: 14.23 Households above minimum income, n= 5873, average expenditure: 14.68Households at or below minimum income, n= 5163, average expenditure: 13.732008:All households, n= 967, average expenditure: 16.79 Households above minimum income, n= 720, average expenditure: 17.25Households at or below minimum income, n= 247, average expenditure: 15.47**Offal and offal products:** 2004 (not available for 2005-2007):All households, n= 3377, average expenditure: 78.35Households above minimum income, n= 1822, average expenditure: 84.64Households at or below minimum income, n=1555, average expenditure: 70.98 2008:All households, n= 1579, average expenditure: 82.83 Households above minimum income, n= 935, average expenditure: 88.93Households at or below minimum income, n= 644, average expenditure: 73.98**Barley:**2006:All households, n= 8065, average expenditure: 3.37Households above minimum income, n= 3754, average expenditure: 3.27Households at or below minimum income, n= 4311, average expenditure: 3.46 2007:All households, n= 6971, average expenditure: 3.82 Households above minimum income, n= 3404, average expenditure: 3.82Households at or below minimum income, n= 2567, average expenditure: 3.83**Pork:**2006:All households, n= 17754, average expenditure: 47.00Households above minimum income, n= 9171, average expenditure: 49.79Households at or below minimum income, n= 8583, average expenditure: 44.032007:All households, n= 15996, average expenditure: 51.40Households above minimum income, n= 8645, average expenditure: 54.76Households at or below minimum income, n= 7351, average expenditure: 47.452008:All households, n= 16100, average expenditure: 53.01Households above minimum income, n= 9079, average expenditure: 56.28Households at or below minimum income, n=8021, average expenditure: 48.78**Chicken:** 2006:All households, n= 18799, average expenditure: 26.52Households above minimum income, n= 9604, average expenditure: 28.52Households at or below minimum income, n= 9195, average expenditure: 24.432007:All households, n= 16754, average expenditure: 30.93 Households above minimum income, n= 8956, average expenditure: 33.78Households at or below minimum income, n= 7798, average expenditure: 27.652008:All households, n= 16866, average expenditure: 31.61Households above minimum income, n= 7467, average expenditure: 34.29Households at or below minimum income, n= 7399 average expenditure: 28.19**Seafood:**2006:All households, n= 9202, average expenditure: 16.32Households above minimum income, n= 4909, average expenditure: 17.29Households at or below minimum income, n= 4293, average expenditure: 15.212007:All households, n= 8285, average expenditure: 17.16Households above minimum income, n= 4522, average expenditure: 18.16Households at or below minimum income, n= 3763 average expenditure: 15.962008:All households, n= 8156, average expenditure: 17.31Households above minimum income, n= 4628, average expenditure: 18.14Households at or below minimum income, n= 3528, average expenditure: 16.22**Freshwater fish:** 2006:All households, n= 1633, average expenditure: 25.21 Households above minimum income, n= 860, average expenditure: 26.43Households at or below minimum income, n= 773, average expenditure: 23.842007:All households, n= 1932, average expenditure: 24.90Households above minimum income, n= 1107, average expenditure: 25.96Households at or below minimum income, n= 825, average expenditure: 23.482008:All households, n= 2475, average expenditure: 23.27Households above minimum income, n= 1431, average expenditure: 24.15 Households at or below minimum income, n= 1044, average expenditure: 22.06**Milk:**2006:All households, n= 13541, average expenditure: 18.65Households above minimum income, n= 6967, average expenditure: 18.00Households at or below minimum income, n= 6574, average expenditure: 19.332007:All households, n= 12317, average expenditure: 19.68Households above minimum income, n= 6631, average expenditure: 19.32Households at or below minimum income, n= 5686, average expenditure: 20.102008:All households, n= 12330, average expenditure: 21.10 Households above minimum income, n= 6901, average expenditure: 21.09Households at or below minimum income, n= 5429, average expenditure: 21.10**Farmers cheese:** 2006:All households, n= 19227, average expenditure: 17.13 Households above minimum income, n= 9943, average expenditure: 18.63Households at or below minimum income, n= 9284, average expenditure: 15.532007:All households, n= 16961, average expenditure: 17.55Households above minimum income, n= 9176, average expenditure: 18.93Households at or below minimum income, n= 7785, average expenditure: 15.932008:All households, n= 16910, average expenditure: 18.87 Households above minimum income, n= 9486, average expenditure: 20.22Households at or below minimum income, n= 7424, average expenditure: 17.14**Hard cheese:** 2006:All households, n= 19053, average expenditure: 18.67 Households above minimum income, n= 10264, average expenditure: 22.00Households at or below minimum income, n= 8789, average expenditure: 14.792007:All households, n= 16867, average expenditure: 20.15Households above minimum income, n= 9459, average expenditure: 23.81Households at or below minimum income, n= 7408, average expenditure: 15.48 2008:All households, n= 16965, average expenditure: 21.40Households above minimum income, n= 9876, average expenditure: 24.91Households at or below minimum income, n= 7089, average expenditure: 16.51**Eggs:** 2006:All households, n= 19566, average expenditure: 15.42Households above minimum income, n= 9868, average expenditure: 16.16Households at or below minimum income, n= 9698, average expenditure: 14.672007:All households, n= 17236 average expenditure:16.32Households above minimum income, n=9070, average expenditure: 17.15Households at or below minimum income, n= 8166, average expenditure: 15.412008:All households, n= 17042, average expenditure: 16.76Households above minimum income, n= 9396, average expenditure: 17.73Households at or below minimum income, n= 7646, average expenditure: 15.57**Margarine:** 2006:All households, n= 17602, average expenditure: 10.19 Households above minimum income, n= 8972, average expenditure: 10.89Households at or below minimum income, n= 8630, average expenditure: 9.462007:All households, n= 15713, average expenditure: 10.60Households above minimum income, n= 8423, average expenditure: 11.44 Households at or below minimum income, n= 7290, average expenditure: 9.632008:All households, n= 15463, average expenditure: 11.95Households above minimum income, n= 8721, average expenditure:12.91Households at or below minimum income, n=6742, average expenditure: 10.71 **Vegetable oil:** 2006:All households, n= 14636, average expenditure: 8.16Households above minimum income, n= 7449, average expenditure: 8.39 Households at or below minimum income, n= 7187, average expenditure: 7.92 2007:All households, n= 13073, average expenditure: 8.86 Households above minimum income, n= 7041, average expenditure: 9.22Households at or below minimum income, n= 6032, average expenditure: 8.432008:All households, n= 13036, average expenditure: 10.69 Households above minimum income, n= 7300, average expenditure: 11.14 Households at or below minimum income, n= 5736, average expenditure: 10.11Animal fat:2006:All households, n= 8494, average expenditure: 7.37Households above minimum income, n= 3910, average expenditure: 7.34Households at or below minimum income, n= 4584, average expenditure: 7.402007:All households, n= 7440, average expenditure: 7.65Households above minimum income, n= 3595, average expenditure: 7.64Households at or below minimum income, n= 3845, average expenditure: 7.662008:All households, n= 6920, average expenditure: 7.86Households above minimum income, n= 3502, average expenditure: 7.85Households at or below minimum income, n= 3418, average expenditure: 7.86**Citrus:**2006:All households, n= 14591, average expenditure: 9.38 Households above minimum income, n= 7644, average expenditure: 10.18Households at or below minimum income, n= 6947, average expenditure: 8.50 2007:All households, n= 13293, average expenditure: 10.70Households above minimum income, n=7206, average expenditure: 11.63Households at or below minimum income, n= 6087, average expenditure: 9.602008:All households, n= 13106, average expenditure: 11.32Households above minimum income, n= 7388, average expenditure: 12.26Households at or below minimum income, n= 5718, average expenditure: 10.11**Apples:**2006:All households, n= 16751, average expenditure: 10.80Households above minimum income, n= 8605, average expenditure: 11.40Households at or below minimum income, n= 8146, average expenditure: 10.17 2007:All households, n=14439, average expenditure: 12.48Households above minimum income, n= 7710, average expenditure: 13.02Households at or below minimum income, n= 6729, average expenditure: 11.852008:All households, n= 14120, average expenditure: 12.37 Households above minimum income, n= 7797, average expenditure: 12.79 Households at or below minimum income, n= 6323, average expenditure: 11.86**Potatoes:**2006:All households, n= 17347, average expenditure: 21.31Households above minimum income, n= 8632, average expenditure: 21.96Households at or below minimum income, n= 8715, average expenditure: 20.67 2007:All households, n= 15302, average expenditure: 23.01Households above minimum income, n= 7975, average expenditure: 23.98Households at or below minimum income, n= 7327, average expenditure: 21.972008:All households, n= 15035, average expenditure: 18.02 Households above minimum income, n= 8192, average expenditure: 18.88Households at or below minimum income, n= 6843, average expenditure: 17.00 | Selection total: 2Comparability total: 0Outcomes total: 1**Total score: 3** |
| Griffith et al, 2016a  | National: UKLocal: n/a  | Kantar Worldpanel data for UK households.n=14,694.  | Longitudinal study. HEI scores and percentage change.  | Exposure: Commence-ment of GR (time)Time point 1: 2005-2007, Time point 2: 2010-12  | Healthy Eating (HEI) score for fruit, vegetables, grains, milk, meat, oils. Share of calories from fruit, vegetables, grains, dairy, cheese and fats, poultry and fish, red meat and nuts, drinks, prepared sweet and prepared savoury. Outcome data of food purchases from all types of stores using an electronic hand-held scanner in the home. | **Healthy Eating (HEI) score**Total fruit: Max score: 5Mean in 2005-7: 3.06Change to 2010-12: - 0.02% change to 2010-12: - 0.7Whole fruit: Max score: 5Mean in 2005-7: 3.36Change to 2010-12: 0.08% change to 2010-12: 2.4Total vegetables: Max score: 5Mean in 2005-7: 3.20Change to 2010-12: - 0.13% change to 2010-12: - 4.1Dark green/orange vegetables: Max score: 5Mean in 2005-7: 1.61Change to 2010-12: 0.00% change to 2010-12: 0.00Total grains: Max score: 5Mean in 2005-7: 3.69Change to 2010-12: - 0.03% change to 2010-12: - 0.8Whole grains: Max score: 5Mean in 2005-7: 1.55Change to 2010-12: - 0.11% change to 2010-12: - 7.1MilkMax score: 10Mean in 2005-7: 5.28Change to 2010-12: -0.05% change to 2010-12: -0.9MeatMax score: 10Mean in 2005-7: 7.96Change to 2010-12: -0.22% change to 2010-12: - 2.8OilsMax score: 10Mean in 2005-7: 4.93Change to 2010-12: - 0.18% change to 2010-12: -3.7**Share of calories** Fruit2005-7: 5.082010-12: 5.28Change: 0.20, % change: 3.86Vegetables2005-7: 6.972010-12: 6.43Change: - 0.54, % change: - 7.81Grains2005-7: 16.402010-12: 16.65Change: 0.24, % change: 1.48Dairy2005-7: 9.532010-12: 9.49Change: - 0.04, % change: - 0.46Cheese and fats2005-7: 11.732010-12: 11.73Change: 0.01, % change: 0.06Poultry and fish2005-7: 3.092010-12: 3.30Change: 0.21, % change: 6.87Red meat and nuts 2005-7: 8.342010-12: 7.84Change: - 0.51, % change: - 6.07Drinks2005-7: 1.872010-12: 1.82Change: - 0.04, % change: - 2.36Prepared sweet2005-7: 19.062010-12: 19.53Change: 0.47, % change: 2.47Prepared savoury2005-7: 14.782010-12: 14.82Change: 0.04, % change: 0.30 | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Griffith et al, 2016b | National: UKLocal: n/a | National Food Survey, Family Expenditure Survey/ Living Costs and Food Survey. Households. N not stated.  | Serial cross-sectionalChange in calories and expenditure. Calorie density calculated using backcasting: Backcast 1 captures the cross-household variation by including the household characteristics (employment status, age, household structure, interactions between time effects and age and time effects and employment status) and assumes that variation is entirely driven by changes in these characteristics. Backcast 2 includes seasonal variation and changes in the prices of food at home and food group, and includes a second-order polynomial in log total expenditures for all food and drink, as well as for food at home | Exposure: Commence-ment of GR (time)Time point 1:1980 – 2007Time point 2: 2007 - 2013 | Calories percentage change and expenditure percentage change over two time periods on eating out and fast food (food eaten at restaurants, cafes, bars, bistros, fast food outlets and takeaways), confectionary and soft drinks (in and outside the home). Also for foods eaten inside the home: grains, meat, cooking oil and fats, fruits and vegetables, dairy products, sugary products and preserves (e.g. jams etc.), fruit and vegetables, cheese, eggs, other (including ready meals) and fish. Expenditure is equivalized using the OECD Oxford scale. Calories are reported per person per day, they are individually allocated using daily recommended calorie intake by age and gender of the household members.  | **Eating out and fast food:** Equivalised daily expenditure: 1980: 1.17, 2007: 1.61, 2013: 1.53, % change: 1980-2007: 37.5%, % change 2007-13: -4.9%Backcast calorie density 1: demographic variation in calorie density:1980: 220, 2007: 279, 2013: 256, % change: 1980-2007: 27.1%, % change 2007-13: −8.3% Backcast calorie density 2: demographic variation & time variation in calorie density:1980: 267, 2007: 268, 2013: 255, % change: 1980-2007: 0.6%, % change 2007-13: −1.0%Calorie shares: 1980: 7.9, 2007: 12.4, 2013: 11.7, % change: 1980-2013: +3.8**Confectionary and soft drinks:**Equivalised daily expenditure: 1980: 0.26, 2007: 0.37, 2013: 0.33, % change: 1980-2007: 39.4%, % change 2007-13: −10.4%Backcast calorie density 1: demographic variation in calorie density:1980: 88, 2007: 117, 2013: 106, % change: 1980-2007: 32.9%, % change 2007-13: −9.3% Backcast calorie density 2: demographic variation & time variation in calorie density:1980: 78, 2007: 113, 2013: 118, % change: 1980-2007: 44.2%, % change 2007-13: 5.1%Calorie shares: 1980: 3.2, 2007: 5.2, 2013: 4.9, % change: 1980-2013: +1.7**Grains (at home):** Calories, % change: 1980: 845, 1980-2007: −14.8%, 2007-13: −2.6% Expenditure shares, % change: 1980: 0.18, 1980-2007: −8.9%, 2007-13: 4.9%**Meat (at home):** Calories, % change: 1980: 413, 1980-2007: −28.9%, 2007-13: −9.0% Expenditure shares, % change: 1980: 0.28, 1980-2007: −17.3%, 2007-13: −0.5%**Fats and oils (at home):** Calories, % change: 1980: 397, 1980-2007: −51.1%, 2007-13: −0.7% Expenditure shares, % change: 1980: 0.04, 1980-2007: −47.4%, 2007-13: 10.5%.**Fruit & Vegetables (at home):** Calories, % change: 1980: 301, 1980-2007: 5.7%, 2007-13: −2.9% Expenditure shares, % change: 1980: 0.18, 1980-2007: 44.9%, 2007-13: −3.3%**Dairy (at home):** Calories, % change: 1980: 285, 1980-2007: −32.7%, 2007-13: −5.9% Expenditure shares, % change: 1980: 0.13, 1980-2007: −22.1%, 2007-13: −7.5%**Sugary products and preserves (at home):** Calories, % change: 1980: 278, 1980-2007: −73.7%, 2007-13: −1.8% Expenditure shares, % change: 1980: 0.03, 1980-2007: −62.1%, 2007-13: 6.7%**Cheese (at home):** Calories, % change: 1980: 68, 1980-2007: 0.0%, 2007-13: −0.3% Expenditure shares, % change: 1980: 0.03, 1980-2007: 13.8%, 2007-13: 4.4%**Eggs (at home):** Calories, % change: 1980: 40, 1980-2007: −50.6%, 2007-13: −4.3% Expenditure shares, % change: 1980: 0.02, 1980-2007: −46.1%, 2007-13: 14.5%**Other (at home, including ready meals):** Calories, % change: 1980: 27, 1980-2007:114.2%, 2007-13: 7.2% Expenditure shares, % change: 1980: 0.03, 1980-2007: 92.2%, 2007-13: 2.5%**Fish (at home):**Calories, % change: 1980: 23, 1980-2007: 43.0%, 2007-13: −3.5% Expenditure shares, % change: 1980: 0.03, 1980-2007: 37.9%, 2007-13: −2.6% | Selection total: 3 Comparability total: 2 Outcomes total: 1**Total score: 6** |
| Griffith et al, 2013 | National: UKLocal: n/a | Kantar Worldpanel data. N=15,850.  | Longitudinal. Regressed variables on three time-period dummies and controlled for month and household fixed, estimating regression separately by household.  | Exposure: Commence-ment of GR (time)Time point 1:2005-2007Time point 2: 2008-2009Time point 3:  | Change in share of calories from fruit and vegetables (g per 100g). Participants record spending on all grocery purchases via an electronic hand-held scanner in the home (purchases brought into the home). | Single non-pensioners: 2008-09: – 1.05, 2010-12: – 1.08, Single pensioners: 2008-09: – 1.16, 2010-12: – 1.11Couple non-pensioners: 2008-09: – 0.93, 2010-12: – 0.90Couple pensioners: 2008-09: – 0.82, 2010-12: – 1.10Multi-adult households: 2008-09: – 0.51, 2010-12: – 0.64Single parents: 2008-09: – 0.82, 2010-12: – 1.222+ adults, young children: 2008-09: – 0.85, 2010-12: – 1.202+ adults, older children: 2008-09: – 0.43, 2010-12: – 0.71All households: 2008-09: – 0.80, 2010-12: – 0.94All the changes are statistically different from zero at the 99% level.  | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Hasan, 2019 | National: BangladeshLocal: n/a  | Bangladesh Household Income and Expenditure Survey. Repeated cross-sectional study using two-stage stratified random sampling. Analysis was done for those who buy rice (compared to autarkic households and rice sellers, but there was no significant difference between these types). n=11,722 | Serial cross-sectional design. The study used difference-in-difference framework and OLS models including district fixed effects and employing clustered standard errors (weighted). | Exposure: Commence-ment of GR (time)Time point 1: 2005 (n=4,978), time point 2: 2010 (n=6,744).  | Consumed rice (kg) and calorie intake from grain, non-rice grain, pulses (general), high value pulses (Lentil, Chickling vetch and Green Gram), low value pulses (Pea Gram, Mashkalai and other types of pulse), fruits, high value fish, low value fish and other items (all in kcal per capita per day).  | Consumed rice: 2010 coefficient: 1.14 (0.23) P<0.01Calorie intake from grain2010 coefficient: − 45.92 (27.92)Calorie intake from non-rice grain: 2010 coefficient: 82.90 (11.20) P<0.01Calorie intake from pulses (general), 2010 coefficient: 2.61 (2.92)Calorie intake from high value pulses: 2010 coefficient: 1.05 (2.25)Calorie intake from low value pulses:2010 coefficient: 1.56 (1.75) Calorie intake from fruits: 2010 coefficient: 17.35 (7.09) P<0.05Calorie intake from proteins: 2010 coefficient: 8.31 (5.38)Calorie intake from high value fish: 2010 coefficient: −3.10 (1.50) P<0.05Calorie intake from low value fish: 2010 coefficient: 9.75 (1.80) P<0.01Calorie intake from other items: 2010 coefficient: 28.50 (8.32) P<0.01 | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Jofre-Bonet et al., 2016 | National: UKLocal: England | Health Survey for England.Adults over 16, 44.78% male. N=91,045 | Serial cross-sectional. Non-linear estimation methods (Tobit and probit), reporting Average Marginal Effects. Impact of recession examined using the AME of the total effect of 2008 dummy variable, which involves the effect of the d08 coefficient plus its effect through the interaction with UR. | Exposure: annual unemployment rate (UR) by Government Office Region. Plus, dummy variable for 2008 onwards (d08). Time: 2001-2013 (excluding 2012).  | Portions of fruits/vegetables eaten the day before being surveyed.  | **Fruits:** Association of UR and vegetable consumption: 0.0073 (0.014)Interaction between UR and d08: −0.1962 (0.068) (p <0.01), suggesting that fruit consumption decreased by 0.196 portions on average. **Vegetables:**Association of UR and vegetable consumption: −0.0090 (0.010). Interaction between UR and d08: 0.0916 (0.051) (p <0.1), suggesting that vegetable consumption increased by 0.092 portions.Suggests that the recession had an impact on fruit and vegetable consumption that did not originate in change in UR. | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Kim & Cubbin, 2019  | National: USA Local: California | The Geographic Research on Wellbeing (GROW) study is a follow-up survey of postpartum women 2012-2013. N=1359 households.  | Cross-sectional outcome with longitudinal exposure. 1) Bivariate analyses to examine food environment by individual-level and neighbourhood level characteristics separately. 2) Logistic regression for odds ratios for dependent variables for poor families: a “sociodemographic” model (Model 1); “neighbourhood economic change” models (Models 2-4), which added variables of neighbourhood economic change one at a time to the sociodemographic model; and a fully adjusted model (Model 5), which added all three variables of neighbourhood economic change to the socio-demographic model. | Exposure: changes in three neighbour-hood-level indicators before/after the Great Recession: (1) median household income, (2) proportions of vacant housing units, and (3) median housing value (economic changes between 2000 and 2009-2013).Time: 2000-2013 | Binary variable relating to mother-reported availability of fruit or vegetables (excluding potatoes) in the home (very often = 1; otherwise = 0) | **Fruits:** 1) Bivariate analysis for fruit very often in the homeTotal - poor families: 81.0%, non-poor families: 93.8% Difference in median household income <$0 - poor families: 69.4%, non-poor families: 98.5%$0-$100,000 - poor families: 80.4%, non-poor families: 95.4%$100,000-$149,999 - poor families: 86.4%, non-poor families: 93.9%$150,000+: poor families: 85.2%, non-poor families: 90.4%Difference in % of vacant housing units <0.00%: poor families: 77.2%, non-poor families: 92.8%0.00% - 2.99%: poor families: 81.8%, non-poor families: 94.1%3.00-4.99%: poor families: 86.7%, non-poor families: 92.5%>5.00%: poor families: 79.8%, non-poor families: 95.9%Difference in median housing values: <$100,000: poor families: 77.0%, non-poor families: 90.2%$100,000 - $149,000: poor families: 83.9%, non-poor families: 95.1%$150,000 - $249,999: poor families: 79.0%, non-poor families: 92.6%$250,000+: poor families: 87.9%, non-poor families: 95.2%2) Logistic regressionDifference in median household income <$0 - ref, all 1.00 $0-$100,000: Model 2: 2.04 [1.07, 3.90] (p<0.05), Model 5: 1.92 [0.99, 3.73]$100,000-$149,999: Model 2: 3.32 [1.52, 7.27] (p < .01), Model 5: 3.13 [1.42, 6.94] (p < .01)$150,000+: Model 2: 2.88 [1.30, 6.39] (p < .01), Model 5: 2.70 [1.19, 6.12] (p < 0.05)Difference in % of vacant housing units <0.00%: Model 3: 0.96 [0.47, 1.93], Model 5: 0.99 [0.48, 2.03]0.00% - 2.99%: Model 3: 1.22 [0.62, 2.39], Model 5: 1.13 [0.55, 2.31]3.00-4.99%: Model 3: 1.69 [0.73, 3.93], Model 5: 1.73 [0.74, 4.06]>5.00%: ref, all 1.00 Difference in median housing values <$100,000: ref, all 1.00 $100,000 - $149,000: Model 4: 1.57 [0.83, 2.99], Model 5: 1.33 [0.69, 2.56]$150,000 - $249,999: Model 4: 1.17 [0.63, 2.18], Model 5: 1.00 [0.53, 1.91]$250,000+: Model 4: 1.97 [0.81, 4.79], Model 5: 1.54 [0.61, 3.88]**Vegetables**Total - poor families: 78.5%, non-poor families: 91.1%Difference in median household income <$0: poor families: 65.5%, non-poor families: 93.6%$0-$100,000: poor families: 78.4%, non-poor families: 89.7%$100,000-$149,999 - poor families: 83.7%, non-poor families: 91.6%$150,000+: poor families: 83.3%, non-poor families: 90.7%Difference in % of vacant housing units <0.00%: poor families: 76.2%, non-poor families: 91.3%0.00% - 2.99%: poor families: 79.9%, non-poor families: 93.3%3.00-4.99%: poor families: 83.7%, non-poor families: 88.2%>5.00%: poor families: 74.6%, non-poor families: 88.5%Difference in median housing values <$100,000: poor families: 78.1%, non-poor families: 91.3%$100,000 - $149,000: poor families: 79.8%, non-poor families: 89.7%$150,000 - $249,999: poor families: 76.1%, non-poor families: 90.3%$250,000+: poor families: 83.5%, non-poor families: 92.3%2) Logistic regressionDifference in median household income <$0 - ref, all 1.00 $0-$100,000: Model 2: 2.15 [1.17, 3.94] (p<0.05), Model 5: 2.14 [0.38, 1.90] (p<0.05)$100,000-$149,999: Model 2: 3.23 [1.55, 6.71] (p < .01), Model 5: 3.31 [1.57, 6.97] (p < .01)$150,000+: Model 2: 3.10 [1.43, 6.70] (p < .01), Model 5: 3.26 [1.50, 7.09] (p < .01)Difference in % of vacant housing units <0.00%: Model 3: 1.17 [0.61, 2.25], Model 5: 1.23 [0.63, 2.39]0.00% - 2.99%: Model 3: 1.45 [0.78, 2.70], Model 5: 1.39 [0.73, 2.62]3.00-4.99%: Model 3: 1.86 [0.85, 4.04], Model 5:1.87 [0.86, 4.06]> 5.00%: ref, all 1.00 Difference in median housing values <$100,000: ref, all 1.00 $100,000 - $149,000: Model 4: 1.12 [0.60, 2.10], Model 5: 0.92 [0.49, 1.70]$150,000 - $249,999: Model 4: 0.94 [0.51, 1.74], Model 5: 0.76 [0.41, 1.40]$250,000+: Model 4: 1.32 [0.55, 3.20], Model 5: 0.98 [0.39, 2.43] | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Kotel-nikova & Radaev, 2017  |  | Russian Longitudinal Monitoring Survey (RLMS–HSE). The RLMS–HSE is a nationally representative annual panel survey of households. Multistage probability sampling. Aged 14+. N= between 3,317 and 6,180.  | Longitudinal. Median changes in per capita food expenditures (percentage change to previous year).  | Exposure: Commence-ment of GR (time)Time point 1: 1995 (n=3,317) Time point 2: 1998 (n=3,248)Time point 3: 2009 (n=4,900) Time point 4: 2014 (n=6180) | Food expenditure in the previous week on: bread, cereals, and canned food; fresh vegetables;fresh meat and fish; milk and dairy products; and berries and other fresh fruits: | Bread, cereals and canned food: 1995: 4.8 1998: -41.4, 2009: -5.2, 2014: -8.6 (not significant in 2009 and 2014). Fresh vegetables: 1995: -69.3, 1998: -41.3, 2009: -43.6, 2014: -46.4Fresh meat and fish: 1995: -29.9, 1998: -100.0, 2009: -4.8, 2014: -7.7Milk and dairy products: 1995: -23.7, 1998: -52.7, 2009: -7.1, 2014: -5.2Berries and other fresh fruits: 1995: -74.3, 1998: -100.0, 2009: -37.1, 2014: -23.7 | Selection total: 3 Comparability total: 1Outcomes total: 1**Total score: 5** |
| Martin-Prevel et al, 2012  | National: Burkina FasoLocal: Ouaga-dougou  | Households randomly selected from Ouagadougou census. Average age of household head: 42, household head 86.8% (2007) and 87.8% (2008) male.  | Serial cross-sectional. Changes in food-related indicators between 2007 and 2008 were analysed using chi-square tests for proportions.  | Exposure: Commence-ment of GR (time)Time Point 1: July 2007 (n=3017)Time Point 2: July 2008(n=3002)  | Daily food expenditure. Obtain a food basket price per item per day calculating by summing mean price per kilogram and prices multiplied by daily consumption of that food item. Weighted prices were also summed by type of food to obtain the basket price of cereals, meat/fish, and fruit/vegetables per day. For cereals, vitamin A (VA)-rich vegetables and tubers, white tubers/roots, green leafy vegetables, other vegetables, VA-rich fruits, other fruits, offal, meat, eggs, fish, legumes/nuts/seeds, milk/dairy product, oils/fats | Changes in proportion of people consuming food groups in the preceding 24 hours: Cereals: 2007 to 2008: 0% increaseRoots and tubers: 2007 to 2008: 34% increaseVitamin A rich fruits/vegetables consumption: 2007 to 2008: 31% decreaseGreen leafy vegetables: 2007 to 2008: 2% increaseOther vegetables: 2007 to 2008: 2% decreaseVA-rich fruits: 2007 to 2008: 69% decreaseOther fruits: 2007 to 2008: 31% decreaseLiver/offal: 2007 to 2008: 25% decrease Other offals: 2007 to 2008: 40% decrease Meat and poultry: 2007 to 2008: 18% decreaseEggs: 2007 to 2008: 42% increaseFish: 2007 to 2008: 4% decreaseNuts/seeds: 2007 to 2008: 15% decreaseBeans: 2007 to 2008: 8% increaseMilk/dairy product: 2007 to 2008: 21% decreaseOils/fats: 2007 to 2008: 6% decreaseVitamin A rich oil (red palm oil): 2007 to 2008: 221% increaseCondiments: 2007 to 2008: 1% increase | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Mattei et al, 2017  | National: ItalyLocal: n/a | Italian Institute of Statistics database, aged over 3.Age: 11 and above.  | Serial Cross-sectional. Linear Regression Models including a dummy variable for before/after 2008. 95% confidence intervals (CIs) were estimated for all coefficients onthe basis of heteroscedasticity-robust standard errors. | Exposure: Commence-ment of GR (time)Time point 1: 2000-2007Time point 2:2008-2015 | Percentage of people who eat meat sometimes in the week, eat fish sometimes in the week, eat cheese at least once a day, eat vegetables at least once a day.  | **Eating meat sometimes in the week:** β: -1.19, p: 0.60, 95% CI: -6.12, 3.73, R2: 0.42; Time-trend association: not significant**Eating fish sometimes in the week:** β: -1.64, p: 0.22, 95% CI: -4.44, 1.16, R2: 0.29; Time-trend association: not significant**Eating cheese at least once a day:** β: 0.67, p: 0.47, 95% CI: -1.29, 2.64, R2: 0.94; Time-trend association: non-significant negative time trend. **Eating vegetables at least once a day:** β: -1.05, p: 0.35, 95% CI: -3.41, 1.30, R2: 0.81; Time-trend association: non-significant positive trend. | Selection total: 1Comparability total: 0Outcomes total: 2**Total score: 3** |
| Ng et al., 2014  | National: USA Local: n/a | Neilson Homescan data. Weighted to be nationally representative.N= 57,298 households (602, 389 observations).  | Cross-sectional and longitudinal data. Maximum likelihood random effect models with clustering by household. Controlled for household composition, income, household head’s age and education, race-ethnicity, market, seasonality, and year and market-level price and includes interactions between market and year, unemployment and year, unemployment and race-ethnicity, and race-ethnicity and year.  | Exposure: unemploy-ment rate (monthly market and quarter-specific rates from Bureau of Labour Statistics’ Local Area Unemployment Statistics, time Time: 2000-2011 | Calories from Consumer Packaged Goods (CPG) and beverages.  | **Households with children:** Coefficient for one-percentage point increase in unemploymentFoods & beverages: 4.05 ± 0.85p<0.001 Foods: 3.83 ± 0.75 p<0.001 Beverages: -0.02 ± 0.18 **Households with adults only:** Coefficient for one-percentage point increase in unemployment: Foods & beverages: 1.64 ± 0.85Foods: 1.08 ± 0.63 Beverages: 0.42 ± 0.16 p<0.01 Great Recession – proxied by unemployment – associated with small increases in caloric purchases, where one percentage-point increase in unemployment rate in the local market was associated with a 1.6-4.1-kcal/day/capita increase in total calories purchased.  | Selection total: 4Comparability total: 2Outcomes total: 2**Total score: 8** |
| Nour et al., 2019  | National: CanadaLocal: n/a | Canadian Community Health Survey (CCHS), a nationally representative survey. 2-month data collection period. Aged 15-64. N=281,421 | Serial cross-sectional.Logistic Regression model. Covariates included: age, gender, marital status and education, household income distribution, dwelling ownership and employment status. | Exposure: Commence-ment of GR (time) (periods determined by GDP and employment indicators). Time point 1: Pre-crisis Jan. 2007 – Aug. 2008Time point 2:CrisisSept. 2008 – July 2009Time point 3: Stimulus July 2009 – Feb 2011Time point 4: Austerity March 2011 – December 2013 | Consuming 5 or more servings of fruit and vegetables per day.  | Adjusted ORs (95% CI) - all estimates weighted and 95% Cis derived using bootstrap resampling methods. Pre-crisis period: 1.00 (ref)Crisis period: 1.03 (0.97 to 1.08) Stimulus period: 0.98 (0.94 to 1.02)Austerity period: 0.88 (0.85 to 0.91) (P<0.001) | Selection total: 4Comparability total: 1Outcomes total: 2**Total score: 7** |
| Rajmil et al, 2013  | National: SpainLocal: Catalonia  | Catalan Health Survey. Multistage probability sample. Aged 3-15. 48.5% male in 2006 and 49.3% male in 2010-2012. Total n=3982.  | Serial cross-sectional.Multiple linear regression, adjusted for other factors in table (sex, maternal education, survey, employment).  | Exposure: Commence-ment of GR (time)Time point 1: 2006 (n=2220) Time point 2:2010-2012 (n=1967)  | Junk food consumption assessed using 4 items from the Child Health and Illness profile. Higher scores reflect less junk food consumption | Boys: ref, girls: 0.53 (−0.12 to 1.18)Age: -0.3 (−0.4 to −0.21) (statistically significant) Maternal educationPrimary maternal education: −4.64 (−6.07 to −0.21) (statistically significant) Secondary maternal education: −2.25 (−3.37 to −1.13) (statistically significant) Survey 2006: ref, 2010: -12: 0.89 (−0.27 to 2.06) Employed: ref, Unemployed: 0.4 (−1.45 to 2.27)Interaction terms: Primary education by survey: 2.85 (0.83 to 4.88) (statistically significant) Secondary education by survey: 1.22 (−0.22 to 2.67) | Selection total: 3Comparability total: 2Outcomes total: 2**Total score: 7** |
| Regidor et al., 2019  | National: Spain Local: n/a  | The data on fruit and vegetable consumption are from the survey ‘Panel of Food Consumption’ carried out by the Ministry of Food in a representative sample of homes.Sample size not stated.  | Serial cross-sectional.Segmented linear regression models, where the outcomes were the natural logarithms of GDP, health behaviours indicators and mortality rates | Macro-economic fluctuations characterised by the annual gross domestic product (GDP) from the World Bank. The economic decline in Spain was greater in the second part of the economic crisis. Commence-ment of GR (time) (annual percentage change in GDP in brackets) Time point 1: 2004–2007 (4.1)Time point 2:2008–2010 (-0.9) Time point 3: 2011–2013 (-2.1) Time point 4: 2014–2016 (2.7).  | Intake of fruit and vegetables (annual kg purchased per household). This survey consists of daily collection, using an optical reader, of products that are purchased or enter the home. The results are published and broken down by food groups per household. | Average annual intake: 2004: 174.2, 2005: 173.8, 2006: 171.6, 2007: 175.9, 2008: 175.6, 2009: 178.2, 2010: 186.1, 2011: 186.8, 2012: 189.2, 2013: 191.3, 2014:187.8, 2015: 180.8, 2016:182.2.The Annual Percentage Change for fruits and vegetables consumption in the different time intervals:2004 - 2007 (before crisis): −0.1 (p value 0.831), 2008 - 2010 (during crisis): 2.1 (p-value <0.001) 2011 - 2013 (during crisis): 1.2 (p-value 0.026)2014 - 2016 (after crisis): −1.9 (p-value 0.003) | Selection total: 2Comparability total: 0Outcomes total: 1**Total score: 3** |
| Shabnam et al., 2016  | National: Pakistan Local: n/a  | Household Integrated Economic Survey (HIES), a nationally representative survey of rural and urban areas (14 big cities and 81 districts in each of the country’s four provinces). Mean age: 45, Female-headed households 7.5% in 2005 and 8.4% in 2010. N= 14,863 and 15,191 | Serial cross-sectional.Food budget shares of households across the years and quartiles of the expenditure distribution.Quantile regression on demand equation including per capita monthly expenditure, price and household demographic characteristics. and employment status), gender composition, regional and provincial dummiesand district fixed effects. | Exposure: Commence-ment of GR (time) Time point 1: 2005-6(n=14,863)Time point 2: 2010-11 n= 15,191 | The data on household food consumption covered a period of 14 days and 30-days call period. Food items are aggregated into budget share for 11 food groups: milk & milk products (litres), meat, poultry and fish (kg),fresh fruits (kg), vegetables (kg), spices & condiments (kg), wheat & wheat flour (kg), rice (kg), pulses (whole and split) (kg), edible oils and fats (litres), other foods (kg).Price elasticity of changes in calorie intake by food group:  | **Budget share:** Milk & milk products budget share (litres) (% of expenditure): 2005 – 2006: All: 16.49, Q1: 13.31, Q3: 18.642010-2011:All: 20.75, Q1: 17.09, Q3: 24.59Meat, poultry and fish budget share (kg) (% of expenditure): 2005 - 2006All: 8.56, Q1: 6.19, Q3: 11.352010-2011:All: 10.04, Q1: 6.75, Q3: 13.74Fresh fruits budget share (kg) (% of expenditure): 2005 - 2006All: 2.61, Q1: 1.56, Q3: 3.932010-2011:All: 2.93, Q1: 1.79, Q3: 4.51Vegetable budget share (kg) (% of expenditure): 2005 - 2006All: 7.56, Q1: 8.78, Q3: 6.142010-2011:All: 9.64, Q1: 10.42, Q3: 8.21Spices & condiments budget share (kg) (% of expenditure)2005 - 2006All: 2.72, Q1: 2.92, Q3: 2.462010-2011:All: 3.63, Q1: 3.69, Q3: 3.44Wheat & wheat flour budget share (kg) (% of expenditure)2005 - 2006All: 14.65, Q1: 20.1, Q3: 8.632010-2011:All: 17.54, Q1: 23.31, Q3: 11.52Rice budget share (kg) (% of expenditure)2005 - 2006All: 2.92, Q1: 3.41, Q3: 2.372010-2011:All: 3.79, Q1: 3.99, Q3: 3.34Pulses (whole and split) budget share (kg) (% of expenditure)2005 - 2006All: 2.09, Q1: 2.32, Q3: 1.732010-2011:All: 2.91, Q1: 3.04, Q3: 2.57Edible oils and fats budget share (litres) (% of expenditure)2005 - 2006All: 7.44, Q1: 8.16, Q3: 6.372010-2011:All: 10.96, Q1: 11.99, Q3: 9.5Other foods budget share (kg) (% of expenditure)2005 - 2006All: 4.69, Q1: 4.28, Q3: 5.592010-2011:All: 7.77, Q1: 6.2, Q3: 10.44**Quantile regression of changes in calorie intake to variation in prices**Log price milk & milk products: Estimate: –0.146 (SE 0.005) (p < 0.10)θ = 0.10: –0.197 (SE 0.022) (p < 0.01); θ = 0.50: –0.203 (0.021) (p < 0.01); θ = 0.90: –0.165 (SE 0.030) (p < 0.01), p = 0.0517Log price meat, poultry and fish: Estimate: 0.004 (SE 0.004) (p < 0.10) θ = 0.10: –0.021 (SE 0.017); θ = 0.50: –0.008 (SE 0.010); θ = 0.90: –0.061 (SE 0.023) (p < 0.01), p = 0.820Log price fresh fruits: Estimate: 0.012 (0.002) (p < 0.01)θ = 0.10: –0.115 (SE 0.016) (p < 0.01); θ = 0.50: –0.082 (SE 0.007) (p < 0.01); θ = 0.90: –0.116 (SE 0.014) (p < 0.01) p = 0.0197Log price vegetables: Estimate: –0.172 (0.011) (p < 0.10)θ = 0.10: –0.008 (SE 0.050); θ = 0.50: –0.083 (SE 0.031) (p < 0.01); θ = 0.90: –0.007 (SE 0.070), p = 0.3138Log price spices & condiments: Estimate: –0.006 (0.001) (p < 0.10)θ = 0.10: 0.041 (SE 0.011) (p < 0.01); θ = 0.50: 0.005 (SE 0.008); θ = 0.90: –0.032 (SE 0.012) (p < 0.01), p = 0.000Log price wheat & wheat flour: Estimate: 0.447 (0.006) (p < 0.01)θ = 0.10: 0.147 (SE 0.027) (p < 0.01); θ = 0.50: 0.206 (SE 0.023) (p < 0.01); θ = 0.90: 0.150 (SE 0.043) (p < 0.01), p = 0.0865Log price rice: Estimate: –0.315 (0.005) (p < 0.01)θ = 0.10: –0.224 (SE 0.027) (p < 0.01); θ = 0.50: –0.205 (SE 0.014) (p < 0.01); θ = 0.90: –0.159 (SE 0.030) (p < 0.01), p =0.2301Log price pulses (whole and split):Estimate: –0.076 (0.013) (p < 0.01)θ = 0.10: –0.166 (SE 0.037) (p < 0.01); θ = 0.50: –0.251 (SE 0.028) (p < 0.01); θ = 0.90: –0.293 (SE 0.075) (p < 0.01), p = 0.0585Log price edible oils and fats: Estimate: 0.279 (0.018) (p < 0.05)θ = 0.10: –0.014 (SE 0.043); θ = 0.50: –0.022 (SE 0.034); θ = 0.90: –0.147 (SE 0.088) (p < 0.10), p = 0.2486Log price other foods: Estimate: –0.022 (0.000) (p < 0.01)θ = 0.10: 0.011 (SE 0.004) (p < 0.01); θ = 0.50: 0.018 (SE 0.004) (p < 0.01); θ = 0.90: 0.028 (SE 0.008) (p < 0.01), p = 0.0925Log price milk & milk products\*Y2010 θ = 0.10: 0.085 (SE 0.036) (p < 0.01); θ = 0.50: 0.115 (SE 0.026) (p < 0.01); θ = 0.90: 0.156 (SE 0.044) (p < 0.01), p = 0.4875Log price meat, poultry and fish\*Y2010θ = 0.10: 0.131 (SE 0.019) (p < 0.01); θ = 0.50: 0.094 (SE 0.013) (p < 0.01); θ = 0.90: 0.152 (SE 0.028) (p < 0.01), p = 0.0254Log price fresh fruits\*Y2010θ = 0.10: 0.101 (SE 0.018) (p < 0.01); θ = 0.50: 0.069 (SE 0.010) (p < 0.01); θ = 0.90: 0.103 (SE 0.015) (p < 0.01), p = 0.0150Log price vegetables\*Y2010θ = 0.10: –0.224 (SE 0.049) (p < 0.01); θ = 0.50: –0.130 (SE 0.040) (p < 0.01); θ = 0.90: –0.084 (SE 0.079) (p < 0.01), p = 0.2986Log price spices & condiments\*Y2010 θ = 0.10: –0.029 (SE 0.012) (p < 0.01); θ = 0.50: –0.007 (SE 0.009); θ = 0.90: 0.022 (SE 0.015), p = 0.0135Log price wheat & wheat flour\*Y2010 θ = 0.10: 0.120 (SE 0.040) (p < 0.10); θ = 0.50: 0.061 (SE 0.031) (p < 0.05); θ = 0.90: 0.000 (SE 0.056) (p < 0.01), p = 0.0292Log price rice \* Y2010: θ = 0.10: –0.054 (SE 0.028) (p < 0.05); θ = 0.50: –0.057 (SE 0.021) (p < 0.01); θ = 0.90: –0.037 (SE 0.036), p = 0.8515Log price pulses\*Y2010 θ = 0.10: 0.199 (SE 0.054) (p < 0.01); θ = 0.50: 0.071 (SE 0.032) (p < 0.01); θ = 0.90: 0.056 (SE 0.091), p=0.0269Log price edible oils and fats\*Y2010: θ = 0.10: 0.296 (SE 0.059) (p < 0.01); θ = 0.50: 0.314 (SE 0.059) (p < 0.01); θ = 0.90: 0.433 (SE 0.127) (p < 0.01), p = 0.4815Log price other foods \* Y2010:θ = 0.10: –0.037 (SE 0.004) (p < 0.01); θ = 0.50: –0.051 (SE 0.005) (p < 0.01); θ = 0.90: - 0.048 (SE 0.012) (p < 0.01), p = 0.0814The positive prices of wheat and sugar indicate that these commodities are the main source of calories. A vast majorities of elasticities decreased in 2010 after the food crisis, with the exception of milk and fruit, which have become less sensitive to price changes and wheat whose positive price elasticity has not changed. Quintile regression reveals that changes in what elasticity are more relevant for low income prices. Heterogeneous elasticities are also found for milk and oil, with meat, rice, fruit and vegetables and sugar particularly sensitive in lower income groups.  | Selection total: 3Comparability total: 2Outcomes total: 2**Total score: 7** |
| Smed et al., 2017  | National: DenmarkLocal: n/a | GfK Panel Services Scandinavia of households of working age.N=3440  | Longitudinal. Fixed methods econometric methods to control for unobserved heterogeneity. Unemployment, single, location and number of children included in model and controlled for energy consumption.If increasing CCI is associated with increasing consumption, an economic downturn is associated with decreasing consumption and vice versa.  | Exposure: Consumer Confidence Interval as a proxy for economic downturn. Time: January 2008 to December 2012.  | Constructed consumption per individual in households by dividing each household’s consumption data with weights constructed from gender- and age-dependent daily energy intake. Monthly purchases at brand level amalgamated into food categories: Canned and processed fish, fresh fish, frozen vegetables, fresh vegetables, fresh fruit, poultry, beef, pork, soft drinks (syrup, ice-tea, soft drinks, juice), carbonated soft drinks, processed meat (sausages and bacon), sliced meat (liver-pate, cold cuts, cold cuts salad), fats (margarine, butter and butter blends), oils, snacks (chips, salty and rice-based snacks, dairy snacks, sweets, pastilles and chewing-gum chocolate, marzipan and nougat), cheese (dessert cheese, block cheese), dairy (milk, yoghurt and similar products, cream), eggs,bread, flour, carbohydrates (Brown bread, white bread, crisp bread, flour, pasta and rice, cereals), processed food (Tinned dinners, Asian and Mexican food, pizza, pasta- and rice-meals, soup, desserts) and sugar products (Sugar, honey and syrup, ice cream, biscuits and cookies, marmalade, cakes, laying on chocolate and Nutella) | Canned and processed fishCCI (β1): coefficient: 1·40, P value: 0·0000 Fresh fishCCI (β1): coefficient: 2·11, P value: 0·0000Frozen VegetablesCCI (β1): coefficient: 0·37, P value: 0·5640Fresh vegetablesCCI (β1): coefficient: −61·96, P value: 0·1880Fresh FruitCCI (β1): coefficient: 5·93, P value: 0·0700PoultryCCI (β1): coefficient: 6·57, P value: 0·0000BeefCCI (β1): coefficient: 1·38, P value: 0·1090PorkCCI (β1): coefficient: −2·13, P value: 0·0340Soft drinksCCI (β1): coefficient: 2·08, P value: 0·2300 Carbonated soft drinksCCI (β1): coefficient: 3·61, P value: 0·3960Processed meatCCI (β1): coefficient: 1·18, P value: 0·0050Sliced meat CCI (β1): coefficient: 0·59, P value: 0·0220Fats CCI (β1): coefficient: 1·09, P value: 0·0050 OilsCCI (β1): coefficient: 0·01, P value: 0·9500SnacksCCI (β1): coefficient: −3·09, P value: 0·0000 Cheese CCI (β1): coefficient: 1·30, P value: 0·0160 Dairy CCI (β1): coefficient: 7·08, P value: 0·0490 EggsCCI (β1): coefficient: 0·84, P value: 0·1010Bread, flour, carbohydrates CCI (β1): coefficient: −0·58, P value: 0·6930Processed food CCI (β1): coefficient: 0·14, P value: 0·7550 Sugar productsCCI (β1): coefficient: 2·47, P value: 0·0020 | Selection total: 4Comparability total: 2Outcomes total: 2**Total score: 8** |
| Todd, 2014  | National: USALocal: n/a | National Health and Nutrition Examination Survey.Adults born between 1946-1985 so between the ages of 20 – 64 during the study period. 48-49% male. N=9,839 | Serial cross-sectional. multivariate linear regression models were used to estimate the conditional changes in outcome variables.β estimated via weighted ordinary least squares with SE accounting for the complex sample design. Model (conditioning) includes age, household size, and indicators for gender, ethnicity, marital intake, data collected during weekend, and for the older cohort, education as controls. | Exposure: Commence-ment of GR (time)Time point 1: 2005-2006N=3,014Time point 2: 2007-2008N=3,294Time point 3: 2009-2010N=3,531 | Calories from fast foods (total and %) and total/away from home snacks. From 1-day dietary recall.  | **Calories from fast food:** Unconditional and conditional differences in mean outcomes between 2005-06 and 2009- 10 calories from fast food: Unconditional: - 83.95Conditional upon age: -58.46 (difference from unconditional is statistically significant with p<0.01) Conditional upon age, other demographics: -53.27Conditional upon age, other demographics, and income: -52.89Difference in variable mean between full model (conditional upon age, other demographics and income) and unconditional is statistically significant with p<0.01Conditional changes by subgroups (calories from fast food):Born 1946-85, some college or more: 2005-06: 347.56, Change 2005-06 to 2009-10: -75.92 (change is statistically significant at P<0.01) Born 1946-85, no college education: 2005-06: 357.37, Change 2005-06 to 2009-10: - 17.53Men, born 1946-85, no college:2005-06: 420.12, Change 2005-06 to 2009-10: -22.30Adults born before 1946:2005-06: 102.13, Change 2005-06 to 2009-10: 5.87 (estimate is different from that for the group with at least some college education, with p<0.10).**Percentage calories from fast food:** Unconditional and conditional differences in mean outcomes between 2005-06 and 2009- 10: Unconditional: -2.92Conditional upon age: -1.98 (difference from unconditional is statistically significant with p<0.01) Conditional upon age, other demographics: -1.83Conditional upon age, other demographics, and income: -1.83Difference in variable mean between full model (conditional upon age, other demographics and income) and unconditional is statistically significant with p<0.01Conditional changes by subgroups (% calories from fast food):Born 1946-85, some college or more: 2005-06: 14.52, Change 2005-06 to 2009-10: -2.78 (change is statistically significant at P<0.01) Born 1946-85, no college education: 2005-06: 14.31, Change 2005-06 to 2009-10: -0.35 (estimate is different from that for the group with at least some college education, with p<0.10)Men, born 1946-85, no college: 2005-06: 14.07, Change 2005-06 to 2009-10: -0.36Adults born before 1946:2005-06: 5.69, Change 2005-06 to 2009-10: 0.00 (estimate is different from that for the group with at least some college education, with p<0.10)**Total snacks:** Unconditional and conditional differences in mean outcomes between 2005-06 and 2009- 10:Unconditional: -0.01Conditional upon age: 0.04 (difference from unconditional is statistically significant with p<0.01) Conditional upon age, other demographics: -0.02Conditional upon age, other demographics, and income: -0.02Conditional changes by subgroups (total snacks):Born 1946-85, some college or more:2005-06: 2.36, Change 2005-06 to 2009-10: 0.02 Born 1946-85, no college education: 2005-06: 2.09, Change 2005-06 to 2009-10: -0.08Men, born 1946-85, no college: 2005-06: 2.18, Change 2005-06 to 2009-10: -0.12Adults born before 1946:2005-06: 2.05, Change 2005-06 to 2009-10: - 0.11**Snacks away from home:** Unconditional and conditional differences in mean outcomes between 2005-06 and 2009- 10: Unconditional: -0.06Conditional upon age: -0.06 Conditional upon age, other demographics: -0.05Conditional upon age, other demographics, and income: -0.06 (difference from conditional upon age, other demographics is statistically significant with p<0.05)Conditional changes by subgroups (FAFH snacks):Born 1946-85, some college or more: 2005-06: 0.46, Change 2005-06 to 2009-10: - 0.07 (change is statistically significant at P<0.05) Born 1946-85, no college education: 2005-06: 0.34, Change 2005-06 to 2009-10: -0.03 Men, born 1946-85, no college: 2005-06: 0.41, Change 2005-06 to 2009-10: -0.12 (change is statistically significant at P<0.05) Adults born before 1946:2005-06: 0.23, Change 2005-06 to 2009-10: -0.01 | Selection total: 3Comparability total: 2Outcomes total: 1**Total score: 8** |
| Todd, 2017 | National: USALocal: n/a | National Health and Nutrition Examination Survey. Includes working age adults between 25-65 (n=12,129), and a secondary sample of 15-24 year olds (23-32 year olds in 2013-2014) (n=5197).  | Serial cross-sectional. Used multivariate linear regression models and ordinary least squares. Adjusted for age, household income relative to poverty, household size, and indicators for gender, ethnicity, marital intake, data collected during weekend, and for the older cohort, education as controls. | Exposure: Commence-ment of GR (time)Time point 1: 2005-2006Time point 2: 2007-2008Time point 3: 2009-2010Time point 4: 2013-2014 | Dietary intake for one 24 h period is collected using the Automated Multiple Pass Method: Percentage energy from fast foods and total/away from home snacks. | **Percentage energy from fast foods:** Conditional differences with their standard errors, and percentage change in estimated difference from unconditional difference in % energy from fast foods: 2007-08: β −0·95, SE: 1·072009-10: β - 1·83, SE: 0·99, percentage change: - 392011-12: β 0·42, SE: 0·952013-14 β 1·85, SE: 0·92 (estimate is statistically significant P<0·05)Constant: β 23·51, SE: 0.03 (estimate is statistically significant P<0·01)**Total Snacks:** 2005-06: mean 2·28, SE: 0·042007-08: mean 2·23, SE: 0·032009-10: mean 2·24, SE: 0·052011-12: mean 2·23, SE: 0·082013-14: mean 2·24, SE: 0·08**FAFH snacks:**2005-06: mean 0·40, SE: 0·022007-08: mean 0·35, SE: 0·022009-10: mean 0·34, SE: 0·02 (Mean value was significantly different from that in 2005–06: P <0·05)2011-12: mean 0·45, SE:0·03 (Mean value was significantly different from that in 2009–10: P <0·05)2013-14: mean 0·38, SE: 0·03 | Selection total: 4Comparability total: 2Outcomes total: 2**Total score: 8** |
| Yang et al, 2019 | National: USALocal: n/a | Consumer Expenditure Survey (CES). Sample size not stated.  | The Bai and Perron test applied to examine trend changes. Time-Varying AIDS used to estimate the protein demand system. Iterated Seemingly Unrelated Regression (ITSUR) method used to estimatetime-varying demand systems with centred prices. TV-AIDS used to calculate expenditure and price elasticities for protein sources are calculated before and after the breakdate.  | Exposure: Commence-ment of GR (time) (before/after 2009)Time: January 1998 and December 2016.  | Estimated average weekly expenditures for each household by protein source category and multiplied these expenditures by the number of weeks in each month to obtain average monthly household expenditure.Expenditure ($) on protein products: beef, pork, poultry, fish & seafood, eggs, dairy, dried beans and other meat.  | Bai & Perron’s test indicated a structural bread in protein source expenditure near October 2009, indicative that protein expenditure patterns were affected by the Great Recession. **Beef**Time trend estimate from Time-Varying AIDS estimation across U.S. household income quintiles.Average household: −0.0002 (0.0000) (significant at 1%)Statistical comparison of own price elasticities of demand for protein sources across different U.S. Income Strata, Pre- and Post-October 2009.Average household: pre-2009: −0.6041 (0.1494), post-2009: −0.5421 (0.1733) (significant at 1% level) Income quintile 1: pre-2009: −0.7606 (0.3032), post-2009: −0.7263 (0.3457)Income quintile 2: pre-2009: −0.4560 (0.3212), post-2009: −0.4012 (0.3618) Income quintile 3: pre-2009: −0.9018 (0.2318), post-2009: −0.8867 (0.2654)Income quintile 4: pre-2009: −0.6912 (0.3147), post-2009: −0.6434 (0.3711)Income quintile 5: pre-2009: −0.4100 (0.2614), post-2009: −0.2960 (0.3116) (significant at 5% level) Statistical comparison of expenditure elasticities of demand for protein sources across different U.S. income strata, pre- and post-October 2009.Average household: pre-2009: 1.4060 (0.0728), post-2009: 1.4555 (0.0817) (time difference significant at 1% level) Income quintile 1: pre-2009: 1.3101 (0.0683), post-2009: 1.3449 (0.0760)(time difference significant at 1% level) Income quintile 2: pre-2009: 1.4369 (0.0858), post-2009: 1.4745 (0.0932)(time difference significant at 1% level) Income quintile 3: pre-2009: 1.2293 (0.0718), post-2009: 1.2575 (0.0806) (significant at 1% level) Income quintile 4: pre-2009: 1.5825 (0.1060),post-2009: 1.6535 (0.1189) (time difference significant at 1% level) Income quintile 5: pre-2009: 1.5698 (0.0909), post-2009: 1.6486 (0.1035) (time difference significant at 1% level) **Pork** Time trend estimate from Time-Varying AIDS estimation across U.S. household income quintiles.Average household: −0.0001 (0.0000) Statistical comparison of own price elasticities of demand for protein sources across different U.S. Income Strata, Pre- and Post-October 2009.Average household: pre-2009: −0.7140 (0.2076), post-2009: −0.6890 (0.2211) (time difference significant at 10% level) Income quintile 1: pre-2009: −0.6760 (0.4027), post-2009: −0.6372 (0.4381)Income quintile 2: pre-2009: −1.1869 (0.4249), post-2009: −1.1948 (0.4593)Income quintile 3: pre-2009: −1.3935 (0.3665), post-2009: −1.4310 (0.4011)Income quintile 4: pre-2009: −0.6596 (0.4272), post-2009: −0.6441 (0.4408)Income quintile 5: pre-2009: 0.0751 (0.4123), post-2009: −0.1484 (0.4386) (time difference significant at 1% level) Statistical comparison of expenditure elasticities of demand for protein sources across different U.S. income strata, pre- and post-October 2009.Average household: pre-2009: 1.3650 (0.0676), post-2009: 1.3932 (0.0728) (time difference significant at 1% level) Income quintile 1: pre-2009: 1.2193 (0.0620), post-2009: 1.2405 (0.0680) (time difference significant at 1% level) Income quintile 2: pre-2009: 1.3000 (0.0768), post-2009: 1.3278 (0.0839) (time difference significant at 1% level) Income quintile 3: pre-2009: 1.1723 (0.0765), post-2009: 1.1895 (0.0841) (time difference significant at 5% level) Income quintile 4: pre-2009: 1.2316 (0.0938), post-2009: 1.2409 (0.0976) (time difference significant at 5% level) Income quintile 5: pre-2009: 1.1462 (0.0908), post-2009: 1.1562 (0.0970)**Poultry** Time trend estimate from Time-Varying AIDS estimation across U.S. household income quintiles.Average household: −0.0001 (0.0001) Statistical comparison of own price elasticities of demand for protein sources across different U.S. Income Strata, Pre- and Post-October 2009.Average household: pre-2009: −0.7641 (0.3076), post-2009: −0.7701 (0.3004)Income quintile 1: pre-2009: −0.1358 (0.5678), post-2009: −0.1883 (0.5342)Income quintile 2: pre-2009: −1.4817 (0.5544), post-2009: −1.4548 (0.5215)Income quintile 3: pre-2009: −0.1674 (0.5484), post-2009: −0.1851 (0.5323)Income quintile 4: pre-2009: −0.9748 (0.5758), post-2009: −0.9781 (0.5759)Income quintile 5: pre-2009: −0.8643 (0.4926),post-2009: −0.8673 (0.4942)Statistical comparison of expenditure elasticities of demand for protein sources across different U.S. income strata, pre- and post-October 2009.Average household: pre-2009: 0.9774 (0.0782), post-2009: 0.9779 (0.0763)Income quintile 1: pre-2009: 0.9471 (0.0676),post-2009: 0.9503 (0.0636)Income quintile 2: pre-2009: 1.0904 (0.0848), post-2009: 1.0852 (0.0799) Income quintile 3: pre-2009: 1.2497 (0.0886), post-2009: 1.2430 (0.0862) (significant at 1% level) Income quintile 4: pre-2009: 0.9029 (0.1006), post-2009: 0.9030 (0.1004)Income quintile 5: pre-2009: 0.8755 (0.0901), post-2009: 0.8754 (0.0902)**Fish and seafood** Time trend estimate from Time-Varying AIDS estimation across U.S. household income quintiles.Average household: 0.0001 (0.0000) (significant at 10%) Statistical comparison of own price elasticities of demand for protein sources across different U.S. Income Strata, Pre- and Post-October 2009.Average household: pre-2009: −1.6979 (0.1884), post-2009: −1.7217 (0.1949) (time difference significant at 1% level) Income quintile 1: pre-2009: −1.5358 (0.4892), post-2009: −1.5438 (0.4882)Income quintile 2: pre-2009: −1.7316 (0.4272), post-2009: −1.7620 (0.4465)Income quintile 3: pre-2009: −2.0454 (0.3689), post-2009: −2.0847 (0.3836) (time difference significant at 1% level) Income quintile 4: pre-2009: −1.8858 (0.3658), post-2009: −1.9411 (0.3886)(time difference significant at 5% level) Income quintile 5: pre-2009: −1.4240 (0.3158), post-2009: -1.4365 (0.3256)Statistical comparison of expenditure elasticities of demand for protein sources across different U.S. income strata, pre- and post-October 2009.Average household: pre-2009: 1.0899 (0.0940), post-2009: 1.0927 (0.0970)Income quintile 1: pre-2009: 1.3160 (0.1189), post-2009: 1.3136 (0.1179) (time difference significant at 1% level) Income quintile 2: pre-2009: 0.9174 (0.1167), post-2009: 0.9136 (0.1221)Income quintile 3: pre-2009: 1.2136 (0.1154), post-2009: 1.2212 (0.1195) (time difference significant at 10% level) Income quintile 4: pre-2009: 1.0206 (0.1336), post-2009: 1.0219 (0.1419)Income quintile 5: pre-2009: 1.0571 (0.1164), post-2009: 1.0588 (0.1198)**Eggs**Time trend estimate from Time-Varying AIDS estimation across U.S. household income quintiles.Average household: 0.0001 (0.0000) (significant at 1%)Statistical comparison of own price elasticities of demand for protein sources across different U.S. Income Strata, Pre- and Post-October 2009.Average household: pre-2009: −0.1657 (0.0598), post-2009: −0.3660 (0.0454) (time difference significant at 1% level) Income quintile 1: pre-2009: −0.0681 (0.1242), post-2009: −0.2561 (0.0995)(time difference significant at 1% level) Income quintile 2: pre-2009: −0.3828 (0.1150), post-2009: −0.5173 (0.0903) (time difference significant at 1% level) Income quintile 3: pre-2009: −0.0679 (0.1331), post-2009: −0.2808 (0.1027) (time difference significant at 1% level) Income quintile 4: pre-2009: −0.0232 (0.1220), post-2009: −0.2732 (0.0909) (time difference significant at 1% level) Income quintile 5: pre-2009: −0.2898 (0.1160), post-2009: −0.4888 (0.0833) (time difference significant at 1% level)Statistical comparison of expenditure elasticities of demand for protein sources across different U.S. income strata, pre- and post-October 2009.Average household: pre-2009: 0.9406 (0.0762), post-2009: 0.9549 (0.0579)Income quintile 1: pre-2009: 0.7447 (0.0747),post-2009: 0.7958 (0.0598) (time difference significant at 1% level) Income quintile 2: pre-2009: 0.6984 (0.0848), post-2009: 0.7637 (0.0664) (time difference significant at 1% level) Income quintile 3: pre-2009: 0.9371 (0.1111), post-2009: 0.9515 (0.0858)Income quintile 4: pre-2009: 0.8624 (0.1079), post-2009: 0.8976 (0.0803)Income quintile 5: pre-2009: 0.7619 (0.1078), post-2009: 0.8291 (0.0774) (time difference significant at 5% level) **Dairy products** Time trend estimate from Time-Varying AIDS estimation across U.S. household income quintiles.Average household: 0.0001 (0.0000) (significant at 1%) Statistical comparison of own price elasticities of demand for protein sources across different U.S. Income Strata, Pre- and Post-October 2009.Average household: pre-2009: 0.0640 (0.0869), post-2009: 0.0306 (0.0846) (time difference significant at 1% level) Income quintile 1: pre-2009: 0.0908 (0.2120), post-2009: 0.0668 (0.2080)(time difference significant at 1% level) Income quintile 2: pre-2009: −0.3613 (0.1810), post-2009: −0.3871 (0.1769) (time difference significant at 1% level) Income quintile 3: pre-2009: −0.3235 (0.1761), post-2009: −0.3502 (0.1698) (time difference significant at 1% level) Income quintile 4: pre-2009: 0.1264 (0.1605), post-2009: 0.1004 (0.1577) (time difference significant at 1% level) Income quintile 5: pre-2009: 0.2733 (0.1428),post-2009: 0.2362 (0.1392) (time difference significant at 1% level) Statistical comparison of expenditure elasticities of demand for protein sources across different U.S. income strata, pre- and post-October 2009.Average household: pre-2009: 0.6028 (0.0371), post-2009: 0.6194 (0.0355) (significant at 1% level) Income quintile 1: pre-2009: 0.6774 (0.0428), post-2009: 0.6882 (0.0413)(time difference significant at 1% level) Income quintile 2: pre-2009: 0.6085 (0.0454), post-2009: 0.6242 (0.0436) (time difference significant at 1% level) Income quintile 3: pre-2009: 0.6819 (0.0471), post-2009: 0.6979 (0.0447) (significant at 1% level) Income quintile 4: pre-2009: 0.6181 (0.0468), post-2009: 0.6309 (0.0452) (time difference significant at 1% level) Income quintile 5: pre-2009: 0.6295 (0.0433), post-2009: 0.6455 (0.0414) (time difference significant at 1% level) **Dried beans** Time trend estimate from Time-Varying AIDS estimation across U.S. household income quintiles.Average household: 0.0000 (0.0000) Statistical comparison of own price elasticities of demand for protein sources across different U.S. Income Strata, Pre- and Post-October 2009.Average household: pre-2009: 0.0922 (0.5580), post-2009: −0.3399 (0.3369)(time difference significant at 10% level) Income quintile 1: pre-2009: 1.7225 (1.1388), post-2009: 0.8141 (0.7593) (significant at 5% level) Income quintile 2: pre-2009: −1.3724 (1.0043), post-2009: −1.2381 (0.6463) Income quintile 3: pre-2009: −1.0460 (1.0277), post-2009: −1.0277 (0.6535)Income quintile 4: pre-2009: −0.2507 (1.1989), post-2009: −0.5834 (0.6665)Income quintile 5: pre-2009: 1.2870 (1.1446), post-2009: 0.2059 (0.6036) (time difference significant at 5% level) Statistical comparison of expenditure elasticities of demand for protein sources across different U.S. income strata, pre- and post-October 2009.Average household: pre-2009: 0.6096 (0.3401), post-2009: 0.7642 (0.2055)Income quintile 1: pre-2009: 1.3432 (0.3264), post-2009: 1.2286 (0.2174)Income quintile 2: pre-2009: −0.1312 (0.3484), post-2009: 0.2698 (0.2249) (time difference significant at 1% level) Income quintile 3: pre-2009: 0.6377 (0.3940), post-2009: 0.7694 (0.2508)Income quintile 4: pre-2009: 0.9585 (0.5122), post-2009: 0.9769 (0.2848)Income quintile 5: pre-2009: 1.0682 (0.4903), post-2009: 1.0360 (0.2585)**Other meat** Time trend estimate from Time-Varying AIDS estimation across U.S. household income quintiles.Average household: 0.0000 (0.0000) Statistical comparison of own price elasticities of demand for protein sources across different U.S. Income Strata, Pre- and Post-October 2009.Average household: pre-2009: −1.1329 (0.1851), post-2009: −1.1229 (0.1714)Income quintile 1: pre-2009: −1.0183 (0.4053), post-2009: −1.0181 (0.3962)Income quintile 2: pre-2009: −1.1625 (0.4210), post-2009: −1.1608 (0.4149)Income quintile 3: pre-2009: −1.0085 (0.3379), post-2009: −1.0074 (0.3086)Income quintile 4: pre-2009: −1.1367 (0.3979), post-2009: −1.1215 (0.3559)Income quintile 5: pre-2009: −1.2979 (0.3386), post-2009: −1.2713 (0.3086)Statistical comparison of expenditure elasticities of demand for protein sources across different U.S. income strata, pre- and post-October 2009.Average household: pre-2009: 0.8462 (0.0703), post-2009: 0.8568 (0.0655) (time difference significant at 5% level) Income quintile 1: pre-2009: 0.8861 (0.0764), post-2009: 0.8882 (0.0750)Income quintile 2: pre-2009: 0.9458 (0.0906), post-2009: 0.9465 (0.0895)Income quintile 3: pre-2009: 0.7464 (0.0875), post-2009: 0.7661 (0.0807) (time difference significant at 1% level) Income quintile 4: pre-2009: 0.8189 (0.1014), post-2009: 0.8370 (0.0913) (time difference significant at 10% level) Income quintile 5: pre-2009: 1.0239 (0.0969), post-2009: 1.0218 (0.0881) | Selection total: 2Comparability total: 1Outcomes total: 2**Total score: 5** |
| Macronutrients and micronutrients  |
| Asgeirs-dottir, 2014  | National: IcelandLocal: n/a  | (Icelandic) Health and Wellbeing survey, weighted and using stratified random sampling. Adults aged 18 – 79. Unweighted: 48.9% male completed 2009 survey, 46.6% when weighted. N = 7688. Response rate 60.8% in 2007 and 69.3% in 2009.  | Longitudinal. Used fixed effects models using pooled data. Time-varying covariates are married, cohabiting, lives with adult other than partner, and lives in rural area.  | Exposure: Commence-ment of GR (time)Time point 1: 2007Time point 2: 2009 | Outcome variables: daily fish oil, daily vitamins, minerals or other food supplements.  | Excluding cases with missing data (n=5616) and including time-varying covariates:Fish oil: 0.032 (p<0.01) Vitamins and Supplements: -0.011Working age subset: Fish oil: 0.035 (p<0.01) Vitamins and Supplements: -0.008 | Selection total: 3 Comparability total: 2Outcomes total: 2**Total score: 7** |
| Asgeirs-dottir, 2016 | National: IcelandLocal: n/a  | (Icelandic) Health and Wellbeing survey. Stratified random sampling.Aged 18 – 79 but generally older than Icelandic population so sample weights applied. 46% of those who completed all three surveys were male. 33% of those who completed the 2007 survey also completed the 2009 and 2012 surveys, N=3238.  | Longitudinal.Fixed effects models, covariates included married, cohabiting, lives with adult other than partner, lives in rural area, and homeowner.  | Exposure: Commence-ment of GR (time)Time point 1: 2007Time point 2: 2009Time point 3: 2012  | Outcome variables: daily fish oil, daily vitamins, minerals or other food supplements.  | Analysis sample with time-varying covariates:**Fish oil:** Effect of 2009 indicator: 0.045 (p < 0.1) Effect of 2012 indicator: 0.121 (p < 0.1) p-Value for difference between 2009 and 2012: <0.001R-squared: 0.031**Vitamins and supplements:** Effect of 2009 indicator: 0.001Effect of 2012 indicator: 0.066 (p < 0.10) p-Value for difference between 2009 and 2012: <0.001R-squared: 0.014 | Selection total: 3 Comparability total: 2Outcomes total: 2**Total score: 7** |
| Bonaccio et al, 2014Ref:  | National: ItalyLocal: the Molise region | Moli-Sani study. Adults aged over 35 (mean age 54.4); percentage male: 47.30%.Randomly recruited.Total n=21,001.  | Serial cross-sectional study of participants recruited before and after the recession.Means and p-values of grams/day and % contribution adjusted for age and sex.  | Exposure: Commence-ment of GR (time) Time point 1: Recruited in 2005-2006 (n=6999)Time point 2: Recruited in 2007-2010 (n=14,002)  | Grams/day of carbohydrates, saturated fats and fibre (means + SD), carbohydrate, protein and fat contribution to energy intake (%, means + SD), mcg/day of Folic Acid and Total Food Dietary Antioxidant Content score, using Italian EPIC food frequency questionnaire.  | **Carbohydrates**: Grams/day: 2005/6: 261.8 (95.1)2007-2010: 258.5 (86.5)p-value <0.0001% contribution: 2005/6: 47.6, 2007-2010: 46.9p-value <0.0001**Protein:** % contribution: 2005/6: 15.5, 2007-2010: 15.8p-value <0.0001**Saturated fats:** Grams/day: 2005/6: 27.7 (11.0)2007-2010: 28.1 (9.8)p-value <0.0001**Fats:** % contribution: 2005/6: 31.8, 2007-2010:32.3 p-value <0.0001**Fibre:** Grams/day: 2005/6: 21.8 (7.6)2007-2010: 20.0 (6.5)p-value <0.0001**Folic Acid:** Mcg/day: 2005/6: 266.1 (88.2)2007-2010: 259.6 (75.5)p-value <0.0001**Total Food Dietary Antioxidant Content score:** 2005/6: 5.9 (50.2)2007-2010: −3.4 (47.6)p-value <0.0001 | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Çirakli & Yildirim, 2019 | National: Turkey Local: n/a  | OECD data.  | Used ARDL bounds testing and cointegration analysis including OLS: unit root tests, Augmented Dickey-Fuller Test, Unrestricted Error Correction Model using OLS and Wald test, estimation of long-term coefficients and creation of Error Correction Model.  | Exposure: Commence-ment of GR (time), using real GDP, unemploy-ment rates, inflation rate as indicators of crises.Time: 1974-2015 (42 time points), covering economic crises in 1994, 2001, 2009). | Used OECD data on annual per capita sugar consumption (kg)  | Result of ADF Unit Root Test: level values t: 0.49, p 0.817; first difference values: t: -6.31 (significant at 1% level), p: 0.000Result of ARDL correction model: Change D 2009: coefficient: 0.188, t: 3.369, p: 0.002(significant positive impact on sugar consumption).  | Selection total: 3Comparability total: 1 Outcomes total: 1**Total score: 5** |
| Florkowski 2012  | National: PolandLocal: n/a | The study is based on data obtained from annual Glowny Urzad Statystyczny surveys of Polish households. | Serial cross-sectional.Households average yearly expenditure.  | Exposure: Commence-ment of GR (time) Time point 1: 2004Time point 2: 2005Time point 3: 2006Time point 4: 2007Time point 5: 2008 | Average expenditure on sugar (in zloty).  | 2006:All households, n= 17878, average expenditure: 16.03Households above minimum income, n= 8884, average expenditure: 16.14Households at or below minimum income, n= 8994, average expenditure: 15.92 2007:All households, n= 15554, average expenditure: 15.44 Households above minimum income, n= 8098, average expenditure: 15.77Households at or below minimum income, n= 7456, average expenditure: 15.082008:All households, n= 15163, average expenditure: 13.90Households above minimum income, n= 8277, average expenditure: 14.17Households at or below minimum income, n= 6886, average expenditure: 13.57 | Selection total: 2Comparability total: 0Outcomes total: 1**Total score: 3** |
| Griffith et al, 2016a  | National: UKLocal: n/a  | Kantar Worldpanel data for UK households.n=14,694.  | Longitudinal study. HEI scores/calorie shares/grams per 100g and percentage change.  | Exposure: Commence-ment of GR (time)Time point 1: 2005-2007, Time point 2: 2010-12  | Healthy Eating (HEI) score for sodium and saturated fats.Share of calories from protein, saturated fat, unsaturated fat, sugar, non-sugar carbohydrates.Grams per 100g for salt and fibre. Outcome data of food purchases from all types of stores using an electronic hand-held scanner in the home.  | **HEI score – sodium:** Max score: 10Mean in 2005-7: 6.42Change to 2010-12: 0.93% change to 2010-12: 14.5**HEI score – saturated fats:** Max score: 10Mean in 2005-7: 2.70Change to 2010-12: 0.27% change to 2010-12: 10.0 **Share of calories from protein:** 2005-7: 14.882010-12: 14.76Change: - 0.12, % change: - 0.81**Share of calories from saturated fat:**2005-7: 14.832010-12: 14.59Change: - 0.23, % change: - 1.57**Share of calories from unsaturated fat:** 2005-7: 22.642010-12:22.79Change: 0.15, % change: 0.67**Share of calories from sugar:** 2005-7: 22.732010-12:22.82Change: 0.09, % change: 0.41**Share of calories from non-sugar carbohydrates:** 2005-7: 24.922010-12: 25.03Change: 0.11, % change: 0.43**Grams per 100g – salt:**2005-7: 0.502010-12: 0.49Change: - 0.00, % change: - 0.10**Grams per 100g – fibre:** 2005-7: 1.122010-12: 1.19Change: 0.07, % change: 6.32 | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Griffith et al, 2013 | National: UKLocal: n/a | Kantar Worldpanel data. N=15,850.  | Longitudinal. Regressed variables on three time-period dummies and controlled for month and household fixed, estimating regression separately by household.  | Exposure: Commence-ment of GR (time)Time point 1:2005-2007Time point 2: 2008-2009Time point 3:  | Change in saturated fat, sugar, salt and protein (g per 100g).Participants record spending on all grocery purchases brought into the home via an electronic hand-held scanner in the home. | **Change in saturated fat:** Single non-pensioners: 2008-09: 0.08, 2010-12: 0.09Single pensioners: 2008-09: 0.11, 2010-12: 0.12Couple non-pensioners: 2008-09: 0.05, 2010-12: 0.07 Couple pensioners: 2008-09:0.08, 2010-12: 0.12Multi-adult households:2008-09: 0.04, 2010-12: 0.07Single parents: 2008-09: 0.04, 2010-12: 0.082+ adults, young children: 2008-09: 0.03, 2010-12: 0.052+ adults, older children: 2008-09: 0.02, 2010-12: 0.03All households: 2008-09: 0.06, 2010-12: 0.08All changes are statistically different from zero at the 99% level. **Change in sugar:** Single non-pensioners: 2008-09: 0.08, 2010-12: 0.09, Single pensioners: 2008-09: 0.11, 2010-12: 0.12, Couple non-pensioners: 2008-09: 0.05, 2010-12: 0.07, Couple pensioners: 2008-09:0.08, 2010-12: 0.12, Multi-adult households: 2008-09: 0.04, 2010-12: 0.07Single parents: 2008-09: 0.04, 2010-12: 0.082+ adults, young children: 2008-09: 0.03, 2010-12: 0.052+ adults, older children: 2008-09:0.02, 2010-12: 0.03All households: 2008-09: 0.06, 2010-12: 0.08All changes are statistically different from zero at the 99% level, apart from ‘2+ adults, older children (2008–09 and 2010–12)’. **Change in salt:** Single non-pensioners: 2008-09: 0.17, 2010-12: 0.20Single pensioners: 2008-09: 0.33, 2010-12: 0.35Couple non-pensioners: 2008-09: 0.16, 2010-12: 0.29Couple pensioners: 2008-09: 0.21, 2010-12: 0.30 Multi-adult households: 2008-09: 0.16, 2010-12: 0.18Single parents: 2008-09: 0.13, 2010-12: 0.262+ adults, young children: 2008-09: 0.29, 2010-12: 0.442+ adults, older children: 2008-09: 0.01, 2010-12: 0.00All households: 2008-09: 0.20, 2010-12: 0.27All changes are statistically different from zero at the 99% level. **Change in protein:** Single non-pensioners: 2008-09: 0.09, 2010-12: 0.12, Single pensioners: 2008-09: 0.08, 2010-12: 0.08, Couple non-pensioners: 2008-09: 0.04, 2010-12: 0.05, Couple pensioners: 2008-09:0.09, 2010-12:0.09, Multi-adult households: 2008-09: 0.05, 2010-12:0.11Single parents: 2008-09: 0.12, 2010-12: 0.212+ adults, young children: 2008-09: 0.10, 2010-12: 0.152+ adults, older children: 2008-09: 0.14, 2010-12: 0.20All households: 2008-09: 0.08, 2010-12:0.11All changes are statistically different from zero at the 99% level.  | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Hasan, 2019 | National: BangladeshLocal: n/a  | Bangladesh Household Income and Expenditure Survey. Repeated cross-sectional study using two-stage stratified random sampling. Analysis was done for those who buy rice (compared to autarkic households and rice sellers, but there was no significant difference between these types). n=11,722 | Serial cross-sectional design. The study used difference-in-difference framework and OLS models including district fixed effects and employing clustered standard errors (weighted). | Exposure: Commence-ment of GR (time). Time point 1: 2005 (n=4,978), time point 2: 2010 (n=6,744).  | Calorie intake from protein (per capita per day), constructed using calorie content of food items.  | 2010 coefficient: 8.31 (5.38) (not significant)  | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Marcotte-Chenard | National: USALocal: n/a | National Health and Nutrition Examination Survey. Adults aged between 20-85 (average age 49), 48.1% male. N=38,541 | Serial cross-sectional study.Factorial ANOVAs (post hoc test and contrast) conducted to compare 1999-2006 intervals to 2006-2007 intervals.  | Exposure: Commence-ment of GR (time) Time point 1: 1999-2006 Time point 2: 2007-2008.  | 24-hr dietary recall used to calculate average daily protein, carbohydrate, fats, sodium and sugar intake in men and women. | **Protein:** Men: 1999-2006: 93 ± 46, 2007-2008: 89 ± 45 g/day; P = 0.0001. Women: 1999-2006: 68 ± 33, 2007-2008: 66 ± 32 g/day; P = 0.017. **Carbohydrates:** Men: 1999-2006: 289 ± 137, 2007-2008: 279.0 ± 128 g/day; P = 0.0001. Women: 1999-2006: 229 ± 107, 2007-2008: 213 ± 88 g/day; P = 0.0001. **Fats:** Men: Not significant – not reported. Women: 1999-2006: 66 ± 36, 2007-2008: 63 ± 31 g/day; P = 0.0001. **Sugar:** Men: 2001-2006: 137.7 ± 92.7, 2007-2008: 127.7 ± 92.7 g/day; P = 0.0001. Women: 2001-2006: 110.9 ± 70.6, 2007-2008: 101.4 ± 65.8g/day; P = 0.0001. **Sodium:** Men: 1999-2006: 3718 ± 1923, 2007-2008: 3602 ± 1930 mg/day; P = 0.002Women: 1999-2006: 2831 ± 1410, 2007-2008: 2668 ± 1415 mg/day; P = 0.0001.  | Selection total: 3Comparability total: 1 Outcomes total: 2**Total score: 3** |
| Martin-Prevel et al, 2012  | National: Burkina FasoLocal: Ouaga-dougou  | Households randomly selected from Ouagadougou census. Average age of household head: 42, household head 86.8% (2007) and 87.8% (2008) male.  | Serial cross-sectional. Changes in food-related indicators between 2007 and 2008 were analyzed using chi-square tests for proportions. | Exposure: Commence-ment of GR (time) Time Point 1: July 2007 (n=3017)Time Point 2: July 2008(n=3002)  | 24-hour food expenditure. Obtain a food basket price for sugar per day calculating by summing mean price per kilogram and prices multiplied by daily sugar consumption . | 2007 to 2008: 3% decrease in sugar.  | Selection total: 3 Comparability total: 2 Outcomes total: 2**Total score: 7** |
| Mohseni-Cheraglou, 2016 | Global: 63 countries (and 100 recessions). | Reinhart and Rogoff’s dataset on financial crises; FAOSTAT data 2010. 93 observations.  | Investigating whether growth rates of different variables are affected by financial crises.  | Exposure: value of a currency falling by 15% or more against the US dollar or banking distress including closures, mergers and government takeovers. Data from 1981-2007.  | Protein Intake per Capita Per Day (g)  | Average change in growth rate (t-test): -3.2 (p < 0.01)Crises with recessions, average change in growth rate (t-test): -4.0 (p < 0.01)Crises without recessions, average change in growth rate (t-test): -2.3 (p < 0.01)Calories reduced in economic crises with and without recessions.  | Selection total: 2Comparability total: 0 Outcomes total: 1**Total score: 3** |
| Shabnam et al., 2016  | National: Pakistan Local: n/a  | Household Integrated Economic Survey (HIES), a nationally representative survey of rural and urban areas (14 big cities and 81 districts in each of the country’s four provinces) Mean age: 45, Female-headed households 7.5% in 2005 and 8.4% in 2010. N= 14,863 and 15,191 | Serial cross-sectional.Food budget shares of households across the years and quartiles of the expenditure distribution.Quantile regression on demand equation including per capita monthly expenditure, price and household demographic characteristics.  | Exposure: Commence-ment of GR (time) Time point 1: 2005-6(n=14,863)Time point 2: 2010-11 n= 15,191 | The data on household food consumption covered a period of 14 days and 30-days call period. Price elasticity of carbohydrates, fats and proteins; sugar and sugar preparations budget share (kg) (% of expenditure).  | Price elasticity for carbohydrates: 2005-2006: -0.0032010-2011: -0.143Price elasticity for fats: 2005-2006: –0.0042010-2011: –0.302Price elasticity for proteins: 2005-2006: –0.001 2010-2011: -0.183Sugar and sugar preparations budget share (kg) (% of expenditure): 2005 - 2006All: 7.17, Q1: 8.35, Q3: 5.73 2010-2011:All: 9.65, Q1: 11.33, Q3: 7.73Log price sugar & sugar preparations: Estimate: 0.112 (0.006) θ = 0.10: 0.125 (SE 0.018) (p < 0.01); θ = 0.50: 0.166 (SE 0.018) (p < 0.01); θ = 0.90: 0.105 (SE 0.028) (p < 0.01), p = 0.0107Log price sugar & sugar preparations\* Y2010: θ = 0.10: –0.095 (SE 0.024) (p < 0.01); θ = 0.50: –0.123 (SE 0.021) (p < 0.01); θ = 0.90: –0.068 (SE 0.029) (p < 0.01),p = 0.0634 | Selection total: 3Comparability total: 2Outcomes total: 2**Total score: 7** |
| Smed et al., 2017  | National: DenmarkLocal: n/a | GfK Panel Services Scandinavia of households of working age.N=3440  | Longitudinal. Fixed methods econometric methods to control for unobserved heterogeneity. Unemployment, single, location and number of children included in model.If increasing CCI is associated with increasing consumption, an economic downturn is associated with decreasing consumption and vice versa.  | Exposure: Consumer Confidence Interval as a proxy for economic downturn. Time: January 2008 to December 2012.  | Constructed consumption per individual in households by dividing each household’s consumption data with weights constructed from gender- and age-dependent daily energy intake. Monthly purchases at brand level concatenated into macronutrients: total fat, saturated fat, added sugar, fibre, carbohydrates and proteins (grams/person/ month).  | **Total fat:** CCI (β1) coefficient: 3·82, P value: 0·0000CCI (β1) controlled for energy consumption: coefficient: 3·61, P value: 0·0000**Saturated fat**CCI (β1): coefficient: 1·90, P value: 0·0000CCI (β1) controlled for energy consumption: coefficient: 1·80 P value: 0·0000**Added sugar**CCI (β1) coefficient: −2·49, P value: 0·7960CCI (β1) controlled for energy consumption: coefficient: −6·27 P value: 0·0180**Fibre**CCI (β1) coefficient: 0·09, P value: 0·6660CCI (β1) controlled for energy consumption: coefficient: 0·05 P value: 0·8020**Carbohydrates**CCI (β1) coefficient: −2·78, P value: 0·7830CCI (β1) controlled for energy consumption: coefficient: −7·05, P value: 0·0000**Proteins**CCI (β1) coefficient: 3·37, P value: 0·0000CCI (β1) controlled for energy consumption: coefficient: 3·20, P value: 0·0000 | Selection total: 4Comparability total: 2Outcomes total: 2**Total score: 8** |
| Todd, 2014  | National: USALocal: n/a | National Health and Nutrition Examination Survey.Adults born between 1946-1985 so between the ages of 20 – 64 during the study period. 48-49% male. N=9,839 | Serial cross-sectional. multivariate linear regression models were used to estimate the conditional changes in outcome variables.β estimated via weighted ordinary least squares with SE accounting for the complex sample design. Model (conditioning) includes age, household size, and indicators for gender, ethnicity, marital intake, data collected during weekend, and for the older cohort, education as controls. | Exposure: Commence-ment of GR (time) Time point 1: 2005-2006N=3,014Time point 2: 2007-2008N=3,294Time point 3: 2009-2010N=3,531 | Dietary intake for one 24 h period is collected using the Automated Multiple Pass Method: Share of calories from fat, saturated fat and cholesterol (mg) and fibre (g) consumption. | **Percentage calories from fat**Unconditional and conditional differences in mean outcomes between 2005-06 and 2009- 10Unconditional: -0.96Conditional upon age: - 1.26 (difference from unconditional is statistically significant with p<0.01) Conditional upon age, other demographics: -1.12Conditional upon age, other demographics, and income: -1.15Conditional changes by subgroups:Born 1946-85, some college or more: 2005-06: 34.36, Change 2005-06 to 2009-10: -1.15 (change is statistically significant at P<0.05) Born 1946-85, no college education: 2005-06: 32.81, Change 2005-06 to 2009-10: -1.15 (change is statistically significant at P<0.05) Men, born 1946-85, no college: 2005-06: 32.64, Change 2005-06 to 2009-10: -1.40 (change is statistically significant at P<0.05) Adults born before 1946:2005-06: 34.01, Change 2005-06 to 2009-10: 0.09 (estimate is different from that for the group with at least some college education, with p<0.10)**Percentage calories from saturated fat**Unconditional and conditional differences in mean outcomes between 2005-06 and 2009- 10 % calories from sat fat: Unconditional: -0.64Conditional upon age: -0.71 (difference from unconditional is statistically significant with p<0.01) Conditional upon age, other demographics: -0.67Conditional upon age, other demographics, and income: -0.67Conditional changes by subgroups:Born 1946-85, some college or more: 2005-06: 11.47, Change 2005-06 to 2009-10: -0.76 (change is statistically significant at P<0.01) Born 1946-85, no college education:2005-06: 11.02, Change 2005-06 to 2009-10: -0.57 (change is statistically significant at P<0.01) Men, born 1946-85, no college:2005-06: 10.91, change 2005-06 to 2009-10: -0.50 (change is statistically significant at P<0.1) Adults born before 1946:2005-06: 11.39, Change 2005-06 to 2009-10: - 0.37 (change is statistically significant at P<0.05)**Cholesterol consumption:** Unconditional and conditional differences in mean outcomes between 2005-06 and 2009- 10 cholesterol: Unconditional: -24.01Conditional upon age: -24.54Conditional upon age, other demographics: -24.38Conditional upon age, other demographics, and income: -24.10Conditional changes by subgroup:Born 1946-85, some college or more: 2005-06: 313.96, Change 2005-06 to 2009-10: -33.70 (change is statistically significant at P<0.01) Born 1946-85, no college education: 2005-06: 297.84, Change 2005-06 to 2009-10: -11.54 Men, born 1946-85, no college:2005-06: 357.04, Change 2005-06 to 2009-10: -8.11Adults born before 1946: 2005-06: 257.57, change 2005-06 to 2009-10: - 14.01 (change is statistically significant at P<0.1) (estimate is different from that for the group with at least some college education, with p<0.10)**Fibre consumption:** Unconditional and conditional differences in mean outcomes between 2005-06 and 2009- 10 in fibre: Unconditional: 1.40Conditional upon age: 1.23 (difference from unconditional is statistically significant with p<0.05) Conditional upon age, other demographics: 1.20Conditional upon age, other demographics, and income: 1.16Difference in variable mean between full model (conditional upon age, other demographics and income) and unconditional is statistically significant with p<0.1Conditional changes by subgroup: Born 1946-85, some college or more: 2005-06: 16.74, Change 2005-06 to 2009-10: 1.60 (change is statistically significant at P<0.05) Born 1946-85, no college education: 2005-06: 15, Change 2005-06 to 2009-10: 0.68 Men, born 1946-85, no college: 2005-06: 17.14, Change 2005-06 to 2009-10: 0.44Adults born before 1946: 2005-06: 15.34, Change 2005-06 to 2009-10: 0.71 | Selection total: 3Comparability total: 2Outcomes total: 1**Total score: 8** |
| Todd, 2017 | National: USALocal: n/a | National Health and Nutrition Examination Survey. Includes working age adults between 25-65 (n=12,129), and a secondary sample of 15-24 year olds (23-32 year olds in 2013-2014) (n=5197).  | Serial cross-sectional. Used multivariate linear regression models and ordinary least squares. Adjusted for age, household income relative to poverty, household size, and indicators for gender, ethnicity, marital intake, data collected during weekend, and for the older cohort, education as controls. | Exposure: Commence-ment of GR (time) Time point 1: 2005-2006Time point 2: 2007-2008Time point 3: 2009-2010Time point 4: 2013-2014 | Percent energy from fat and saturated fat; cholesterol (mg) and fibre (g) consumption. From 1-day dietary recall.  | **Percent energy from fat:** Conditional differences with their standard errors, and percentage change in estimated difference from unconditional difference in % energy from fat: 2007-08: β −0·16, SE: 0·472009-10: β −1·05, SE: 0·47, (estimate is statistically significant P<0·05) percentage change: 112011-12: β −1·11, SE: 0·48 (estimate is statistically significant P<0·05),percentage change: - 142013-14 β −0·25, SE: 0·45% energy from FAFH: β 0·03, SE: 0·00 (estimate is statistically significant P<0·01)% energy from fast foods: β 0·03, SE: 0·01 (estimate is statistically significant P<0·01)Constant: β 28·71, SE: 0·87 (estimate is statistically significant P<0·01)**Percent energy from saturated fat:** Conditional differences with their standard errors, and percentage change in estimated difference from unconditional difference in % energy from saturated fat: 2007-08: β −0·18, SE: 0·182009-10: β −0·66, SE:0·18, (estimate is statistically significant P<0·01),percentage change: 112011-12: β −0·79, SE: 0·19 (estimate is statistically significant P<0·01),percentage change: 22013-14 β −0·56, SE: 0·18 (estimate is statistically significant P<0·01) percentage change: -4% energy from FAFH: β 0·01, SE: 0·00 (estimate is statistically significant P<0·01)% energy from fast foods: β 0·02, SE: 0·00 (estimate is statistically significant P<0·01)Constant: β 10·61, SE: 0·43 (estimate is statistically significant P<0·01)**Cholesterol consumption (mg)** Conditional differences with their standard errors, and percentage change in estimated difference from unconditional difference in cholesterol: 2007-08: β 0·86, SE: 9·962009-10: β −29·58, SE: 8·21, (estimate is statistically significant P<0·01), percentage change: 72011-12: β −29·44, SE: 8·79 (estimate is statistically significant P<0·01),percentage change: -1 2013-14 β −19·97, SE: 8·20 (estimate is statistically significant P<0·05)percentage change: 7% energy from FAFH: β 0·96, SE: 0·13 (estimate is statistically significant P<0·01)% energy from fast foods: β −1·09, SE: 0·13 (estimate is statistically significant P<0·01)Constant: β 219·01, SE: 18·20 (estimate is statistically significant P<0·01)**Fibre consumption (g)**Conditional differences with their standard errors, and percentage change in estimated difference from unconditional difference in fibre: 2007-08: β −0·41, SE: 0·722009-10: β 1·00, SE :0·56, percentage change: 242011-12: β 2·08, SE: 0·60 (estimate is statistically significant P<0·01) percentage change: 6 2013-14 β 1·08, SE: 0·50 (estimate is statistically significant P<0·05) % energy from FAFH: β −0·02, SE: 0·01 (estimate is statistically significant P<0·01)% energy from fast foods: β −0·03, SE: 0·01 (estimate is statistically significant P<0·01)Constant: β 14·05, SE: 1·17 (estimate is statistically significant P<0·01) | Selection total: 4Comparability total: 2Outcomes total: 2**Total score: 8** |