What to Eat When Having a Millennial Over for Dinner

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May 22, 2017

Abstract

The generation everyone is talking about and the generation who loves to talk about themselves – millennials. More than just a media buzzword, researchers, marketers, and retailers are interested in how the largest segment of the population is making food purchasing decisions. This paper uses the difference-in-difference method to determine the causal 'millennial effect' on the share of income spent on various food expenditure categories. Data from the Bureau of Labor Statistic's Consumer Expenditure Survey was used to identify how young people's food expenditures compare to older people's in 2015 and in 1980. Results indicate significant "millennial effects". The presence of millennials has increased demand for cereal, beef, pork, poultry, eggs, and fresh fruit and reduced demand for 'other' food and for food away from home.

Key words: millennials, food demand, consumer, food marketing

JEL codes: Q11, Q13, Q18

Introduction

Recent population estimates indicate millennials have surpassed Baby Boomers as the largest living generation (US Census Bureau 2015). Millennials, defined by those born between 1982 and 2000, make up the majority of the workforce and are slowly becoming the largest segment of consumers making purchasing decisions. The millennial generation differs from previous generations in various ways. Millennials are characterized as being highly diverse and educated and are stereotyped as being self-centered and technology natives (Stein, 2013). Moving forward, these consumers will have a considerable impact on the food industry. The purchasing power millennials possess is of interest to farmer and producer associations, manufactures, retailers, and marketers.

Reports from the census characterize millennials as the most diverse generation in America in recent history. As evidenced by Table 1, a higher portion young people (ages 18 – 34) today are minority, foreign born and speak a language other than English at home, compared to 18-34 year olds in previous decades. Collectively, the millennial generation has been stereotyped as those who suffer from extended adolescence, for example living longer at home with parents. Compared to previous generations, millennials are more frequently choosing college and furthering education over starting a family and living solo (Table 1). Given the differences in diversity, housing, and educational attainment, one might expect millennials to have different beliefs and preferences than previous generations. Do these differences carry over to food purchasing decisions? There is a growing belief, seen in many popular press articles and books that suggest the millennial generation has a specific food demand profile. Millennial foodies, or endearingly referred to as "Yummers" in *A Taste of Generation Yum* (Turow, 2015), are said to be cultivating a food movement by placing a premium on the food they eat. Turow

(2015) argues, "young people are actively, purposefully integrating food into their lives and giving it daily attention—and value—in a different proportion than any previous generation."

Current research has found differences in millennials and previous generations, including how they make purchasing decisions and the attributes they find desirable in products (Barber, Dodd, & Ghiselli, 2008; Engel, Bell, Meier, Martin, & Rumpel, 2011; Hunter & Worsley, 2009; Kuhns & Saksena, 2016; Mickelson, 2014; Parment, 2013; Smith, 2010). Tech-savvy millennials begin by searching for the value, quality and fair price of a product, while older generations seek validation from others for their purchases (Parment 2013). Kuhns and Saksena (2016) found being a millennial had a small and positive effect on diet quality, and further suggest millennials are better at complying to the recommended dietary guidelines.

A key downside of the previous research in this area is that today's millennials are typically compared to today's older generations. This sort of analysis presents a confound because older people are likely to differ from younger people at any point in time. That is, an "age effect" is confounded with a "millennial effect." The more difficult question is whether today's young people are different than younger people decades ago. To address this issue, cohort analyses are often conducted (Pitta et al., 2012). However, cohort comparisons are also confounded by a myriad of factors that change over time. For example, falling prices or rising incomes may lead young people today to make different purchases than young people in previous decades. To sort out this conundrum, this paper uses a difference-in-difference estimator to identify the causal effect of millennials. Using high quality government survey data, we compare the difference in food spending between the young and old in 1980 to the difference in young and old in 2015. We refer to the resulting estimate as the "millennial effect" that provides insights into whether millennials truly have different food preferences than other

generations. To our knowledge, no previous research has used difference-in-difference methods to determine the millennial effect in a theoretically consistent demand framework. While there is an accumulating body of popular press literature claiming such an effect exists, peer-reviewed articles are lacking. This article aims to provide causal evidence on how the millennial generation's food preferences differ from past generations.

Identifying a "millennial effect" is important because it has been suggested that shared cohort characteristics (Pitta, Young, & Hinesly, 2012) remain consistent throughout their lifespan (Stewart & Healy, 1989). It is the consistency within a cohort that makes information useful to marketers and public health officials. If consistency is not present within the cohort, in this case millennials, no trend exists, and forecasting consumer consumption decisions or future health outcomes based on cohort attributes will not be meaningful. Little work has been done examining how generational cohorts affect demand for particular items, and specifically no work has been done focusing on millennials and food demand.

Additionally, future projection about obesity, diabetes prevalence, and other health forecasts depend partly on how the current generation's diet differs from the past. Ultimately, the current generation's diet will have domino effects. Their influence will extend and ultimately influence the food habits of their children.

Data and Methods

Data for this paper was collected from the diary portion of the Bureau of Labor Statistics, Consumer Expenditure Survey (CEX).[1] The CEX diary survey consists of two consecutive weekly reporting of detailed expenditures by a consumer unit at the household level. Each

[1] The Consumer Expenditure Survey diary data is a program of the U.S. Bureau of Labor Statistics and can be downloaded online at: http://www.bls.gov/cex/pumd_data.htm.

respondent reports the amount spent in each specific category. These expenditures include tax and are available for a multitude of specific categories, including ones of interest for our study, food expenditures. Additionally, the diary survey includes reported income and various personal and household level demographic variables, such as race, number of children, region located, etc.

For this analysis, the CEX data was collected for two time periods of interest: 1980 and 2015. The 2015 dataset is the latest available at the time of this analysis and 1980 was chosen as a comparison year in part because of the generation gap, and partly due to the ability to compare the 1980/81 survey responses with the 2015 survey. Prior to 1980/81, the survey was only conducted every 10 to 12 years.

Because our analysis focuses on potential differences in food expenditures over generations, a key component in our analysis is age of the respondent. We want to examine if a difference exists between how 'young' people today (2015) and 'young' people at an earlier time period (1980) allocate their food budget. We define 'young' as those whose age ranges from 18-35, and 'old' age 36 and older. Because of this, we exclude respondents who are less than 18 years old.

The CEX contains data on expenditures on food eaten at home in 17 food and beverage categories, and adding these up yields the total reported amount spent on food at home. The amount spent on food away from home each week is also reported. Together the amount reported for food at home and food away from home make up the total weekly food expenditure for each consumer unit (or household).

Table 2 contains summary statistics for the data used in this analysis (note: the household income and expenditures in 1980 are adjusted to 2015 dollars using the Consumer Price Index). The amount spent weekly on food away from home increased from 1980 to 2015, both overall

and for the young and old age group (McCracken & Brandt, 1987), emphasizing the need for a difference-in-difference estimate that controls for time effects. A number of factors contribute to the trend toward more food eaten away from home, including more women working outside the home, greater availability of restaurants, and more homes with two full-time wage earners. Interestingly, the overall total amount of weekly income spent on food for both years are similar, with the older age group on average spending more on all food categories than the young group in both years.

Turning our attention to individual food categories, there are several differences over time and across age groups.[2] The weekly amount spent on 'meat' for at-home food consumption decreased overall and for both younger and older Americans. To preview our subsequent analysis, a crude difference-in-difference effect can be calculated. In 1980, the young spent $25.48-$38.98=-$13.5/week less than the old on meat. In 2015, however, the young (millennials) only spent $14.28-$18.43 = -$4.15/week on meat than the old. Thus, the millennial effect (or difference-in-difference) for meat is -$4.15+13.43 = $9.28/week. So, even though spending on meat has declined among both the old and the young from 1980 to 2015, it has declined even more among the old than the young. Thus, this crude estimate suggests young people are spending $9.28/week more in 2015 than they otherwise would have because they are millennials.

There is also a significant difference when comparing the mean amount spent weekly on fresh and processed vegetables/ fruit and the 'other[3]' category. All three of the previously

[2] For table brevity we chose to combine the weekly amount spent on beef, pork, poultry, and other meat to one single 'meat' category and combine the vegetable and fruit purchases, only separating by fresh and processed.
[3] The 'other' category, named miscellaneous food in the CEX includes frozen and prepared meals, canned and packaged soups, potato chips, nuts, other snacks, condiments and seasonings, other packaged prepared foods, such as salad, desserts, baby foods, and vitamin supplements. A complete breakdown of each expenditure category is available at: https://www.bls.gov/cex/csxgloss.htm.

mentioned categories saw increased spending from 1980 to 2015, while the average amount spent on non-alcoholic beverages categorized as 'food away from home' decreased. These findings are interesting and provide a basis for assessing the 'millennial' effect in the following procedure section.

Model

Conceptual Model

The analysis makes use of the widely used economic demand model introduced by Working (1943) and Leser (1963). The so-called Working-Leser model analyzes consumer demand from the perspective of the Engle curve, where the share of total expenditures for a particular good is expressed as a function of the natural log of total expenditures on the category of goods. As discussed by Deaton and Muellbauer (1980), who extended the Working-Leser model to form their so-called Almost Ideal Demand System, the Working-Leser model has desirable properties related to aggregation across households under the assumption of utility maximization. Another advantage of the Working-Leser model is that it provides a straightforward way to impose adding-up conditions that ensure consistency with common sense (i.e., the sum of expenditure shares must total to one in an expenditure category) and economic theory. A downside to the typical Working-Leser approach is that it does include price as an explanatory variable. This could be problematic when comparing behavior at different points in time (where prices may vary). However, as we describe below, we are able to control for temporal effects (including price changes) via the inclusion of a control variable for 1980 vs. 2015.

Empirical Difference-in-Difference Model

In general, DID models are used to evaluate a program or treatment, or observe a 'before' and 'after.' In a seminal paper, Card and Krueger (1993) use DID to examine the effect of a minimum wage increase in New Jersey and Pennsylvania. They surveyed around 400 fast food stores both in New Jersey and Pennsylvania both before and after the minimum wage increase in New Jersey and found employment rose in New Jersey relative to Pennsylvania after the minimum wage change (Card & Krueger, 1994).

For our paper we are interested in the following difference-in-difference equation

(1) $$DD = \left(\bar{y}_{young,2015} - \bar{y}_{old,2015}\right) - \left(\bar{y}_{young,1980} - \bar{y}_{old,1980}\right)$$

where $\bar{y}$ are the average expenditure shares in the specified defined subgroups.

Following previous work by Beatty and Tuttle (2014), we incorporate difference-in-difference identification in a standard Working-Leser Engel curve specification to estimate the millennial effect on various weekly food expenditures as a share of food total (Beatty & Tuttle, 2014). The model is

(2) $$y_{itj} = \beta_{0j} + \beta_{1j}DS_i + \beta_{2j}DT_t + \beta_{3j}(DS_i * DT_t) + \delta_{1j}\ln(E_i) + \delta_{2j}\mathbf{X}_{ist} + \varepsilon_{itj}$$

where y_{itj} is the weekly food expenditure for a food category *j* (i.e. cereal/ bakery, beef, pork, etc.) expressed as a share of total spent on food total for individual i in time period t. DS_i is a dummy variable that takes the value of 1 if individual is between 18 and 35 years of age and 0 if older than 35, DT_t takes the value of 1 if the year is 2015 and 0 if 1980, and β_2 and β_3 are estimated age and year effects. $\delta_1$is the coefficient associated with the ln of total food expenditures (given by E_i), δ_2 is a vector of coefficients for **X,** a vector of control variables, and $\varepsilon_{itsj} \sim N(0, \sigma_\varepsilon^2)$ is the error term.

Adding up conditions are imposed by requiring $\sum_{j=1}^{J} \beta_{0j} = 1$ and $\beta_{1j} + \beta_{2j} + \beta_{3j} + \delta_{1j} + \delta_{2j} = 0$. For reference, the expenditure demand elasticity for good *j* is given by 1+(δ_{1j}/y_j). The coefficient of interest, is β_3 associated with the interaction between DS_i and DT_t ,which takes the value of 1 for those who are young in 2015 (i.e., millennials). It can be shown that β_3 is equivalent to the DD given in equation (1) and it provides an estimate our millennial effect.

Results

Equation (2) was first estimated in the simplest Working-Leser for each expenditure category *j* by assuming $\delta_2 = 0$. The results for all J=17 food commodities categories can be found in Table 3.

The 'young' effect in the model specifically captures those ages 18 – 35 in both 1980 and 2015. In general, our model indicates young consumers spend a lower portion of their total weekly food income on all categories, except 'other' and food away from home. This result indicates younger consumers, relative to older consumers, spend more of their food budget on eating out and prepared meals.

Examining the 'year' effect, comparing all ages of consumers in 1980 with those in 2015, we find positive and significant coefficients for fresh vegetables and fruit, processed vegetables, 'other' and food away from home. This result suggests in 2015 compared to 1980, consumers over 18 are purchasing more fresh fruit and vegetables, however are also purchasing more frozen and prepared meals and snack food, and confirm our previous hypothesis that people in 2015 eat away from home more frequently than in 1980.

When examining the 'millennial' effect, the difference-in-difference parameter, we find positive and significant results for cereal, beef, pork, poultry, eggs, and fresh fruit, indicating

those young in 2015 (millennials) are spending a larger share of their total food income on those categories compared to those old or young in 1980 and those old in 2015. For example, in Table 3 the share of total food expenditure spent on beef increases by 0.008 if the consumer is a millennial. However, for both a young consumer (compared to an old consumer) and a consumer in 2015 (compared to a consumer in 1980), the amount of total food expenditure spent on beef decreases by 0.01 and 0.04, respectively. This highlights the presence of a millennial effect.

Negative and significant results are found for 'other' and food away from home, suggesting young people today are spending less on miscellaneous food items, including frozen and prepared meals and eating out. This is an interesting result, considering positive and significant results are found for both young people and consumers today, and points to a difference in the way millennials allocate their food income.

Equation (2) is estimated as above for each expenditure category j, now controlling for number in household, and location of the household (rural and geographic location). Comparing the results from Table 3 and Table 4 we find the same outcomes for the age and year effects in all expenditure categories, suggesting robust results. The 'millennial' effect in Table 4 differs slightly from the results in Table 3. When controlling the factors above, the decrease in the proportion of total food dollars spent on non-alcoholic beverages is now found to be significant and the share millennials spend on food away from home is no longer significant. However, the coefficients in the two tables are very similar with no sign changes suggesting robust results.

To examine how young people today, 2015, would distribute their total food income without the millennial effect vs with the presence of the millennial effect two pie charts were calculated (Figure 1). The predicted expenditures for each food category was calculated using coefficients from Table 4 and the mean values in 2015. Each pie chart assumes the consumer

would be living in a North Central/ Midwest, urban area. As evidence from the pie charts, the millennial effect causes a decrease in the share of total food income spent on food away from home and 'other,' and increases the share spent on cereal, beef, pork, poultry, and fresh/ processed fruits, echoing the results in Tables 3 and 4.

Conclusions

The main objective of this paper is to determine if a 'millennial' effect exists for the share of food spending in specific categories. Expenditure shares, as a function of total spending on food for each consumer unit were calculated, and difference-in-difference model results indicate a 'millennial' effect for several food categories. Specifically, three meat categories (beef, pork, and poultry), eggs, cereal, and fresh fruit. A statistically significant negative 'millennial' effect is found for non-alcoholic beverages and food away from home.

This finding is interesting, especially with the increased prevalence of vegetarians, among those in the 'younger' age range, one might hypothesize a decrease in meat consumption, especially among those young today. On one hand, this hypothesis is supported by our results. Comparing young people today to those young in 1980, there is a decrease in the share they spend on meat categories. However after controlling for year effects, the 'millennial' effect for all meat categories is found to be positive, indicating young people in 2015, compared to old in 2015 or young/ old in 1980, increase their total food budget allocated towards meat purchases.

These results are interesting and provide insight for markets and retailers. Concerns regarding diet health, cost, and sustainability are important to both researchers and consumers (Farragher, Wang, & Worsley, 2016; Hunter & Worsley, 2009; Koutsimanis, Getter, Behe,

Harte, & Almenar, 2012). This research suggests, Americans ages 18 – 35 are increasing their consumption of protein sources and fresh fruit.

This research is a first step in determining trends for millennial food preferences. An extension of this research would be to use more detailed food categories, for example, various cuts of meat products and further breakdown of the 'other' category.

Table 1. Characteristics of US Population, Ages 18-34

Category	1980	1990	2000	2009-2013
Total population	226,545,805	248,709,873	281,421,906	311,536,594
Percent of total population	29.6	28.0	23.7	23.362
Percent of population who are White, Non-Hispanic	78.4	72.7	62.8	57.17
Percent of total population who are minority	21.6	27.3	37.2	42.83
Percent of population who never married	41.5	47.9	52.5	65.93
Percent of population who live alone	7.5	7.1	7.5	7.07
Percent of population with a bachelor's degree or more	15.7	17.0	19.5	22.33
Percent of population who are foreign born	6.3	9.9	15.8	15.36
Percent of population who speak a language other than English at home	10.9	15.3	22.9	24.61
Median earnings[a] for full time workers	$35,845	$36,716	$37,355	$33,883
Percent of population who are employed	69.3	70.6	68.7	65.02
Percent of population who live with a parent	22.9	24.2	23.2	30.35

[a]Median earning in 2013 inflation adjusted dollars.

Source: https://www.census.gov/censusexplorer/censusexplorer-youngadults.html.

Table 2. Means of Variables for Different Time Periods (1980, 2015) and Age Groups

Time Period		1980[a]			2015	
Variable ($/week)	Overall	Young[b]	Old[b]	Overall	Young[b]	Old[b]
Household Income	1303.35 (276.58)	1166.75 (693.62)	1393.83 (758.37)	962.26*[c] (426.93)	932.63 (424.05)	972.14 (427.47)
Food away from home	59.17 (63.11)	55.45 (58.8)	61.63 (65.7)	71.31* (83.74)	69.45 (69.74)	71.93 (87.91)
Food at home	114.2 (104.94)	92.41 (98)	128.63 (106.88)	99.43* (92.85)	84.32 (77.35)	104.46 (96.96)
Food total	173.36 (129.58)	147.86 (119.18)	190.26 (133.39)	170.74 (137.23)	153.77 (112.76)	176.39 (144.04)
Cereal/ bakery	14.6 (14.88)	11.85 (13.21)	16.43 (15.63)	12.82* (15.21)	11.11 (15.87)	13.39 (14.94)
Meat (beef, pork, poultry, other)	33.6 (61.83)	25.48 (58.06)	38.98 (63.64)	17.39* (30.68)	14.28 (21.21)	18.43 (33.19)
Fish	3.38 (9.77)	2.47 (6.55)	3.98 (11.37)	3.24 (8.96)	2.36 (7.47)	3.53 (9.39)
Eggs	2.13 (4.94)	1.70 (2.62)	2.41 (5.98)	1.53* (2.66)	1.37 (2.35)	1.59 (2.75)
Dairy	15.26 (15.32)	12.97 (13.19)	16.77 (16.41)	10.5* (11.9)	9.15 (10.31)	10.94 (12.36)
Fresh vegetables/ fruit	9.8 (13.94)	7.41 (14.58)	11.38 (13.27)	13.46* (17.09)	11.32 (14.38)	14.18 (17.84)
Processed vegetables/ fruit	7.09 (9.18)	5.96 (8.38)	7.84 (9.61)	5.83* (9.05)	4.96 (7.97)	6.12 (9.37)
Sugar/ sweets	4.39 (7.7)	3.56 (6.9)	4.94 (8.15)	4.00 (22.55)	2.77 (5.27)	4.41 (25.84)
Fats/ oils	3.18 (4.97)	2.52 (4.33)	3.62 (5.31)	2.67* (4.99)	2.18 (4.35)	2.84 (5.18)
Other	10.4 (13.74)	9.92 (13.79)	10.71 (13.71)	18.57* (22.59)	16.95 (21.26)	19.11 (22.99)
Beverages (non-alcoholic)	10.37 (12.2)	8.56 (10.62)	11.57 (13.01)	9.41* (13.37)	7.87 (11.63)	9.92 (13.86)
Number of Observations	7,007	2,792	4,215	7,697	1,925	5,772

[a]Household income is annual amount; 1980 income and expenditures adjusted using the CPI.
[b]Young defined as ages 18 – 35; old defined as 36 and older.
[c]One asterisk (*) indicates a significant difference between the overall means in 1980 and the overall mean in 1995 at the p=0.01 level.

Table 3. Working-Leser Food Demand Models (dependent variables are food expenditure shares)

	Dependent Variables[a]																	
Variable	Cereal	Bakery	Beef	Pork	Poultry	Fish	Other Meats	Eggs	Dairy	Fresh Veg	Fresh Fruit	Processed Veg	Processed Fruits	Sugar/ Sweets	Fats/ Oils	Other	Non-Alcoholic Beverages	FAFH
Intercept	0.016*	0.094*	-0.016*	0.009*	0.011*	-0.002	0.011*	0.021*	0.137*	0.022*	0.032*	0.004*	0.025*	0.027*	0.011*	0.028*	0.106*	0.465*
	(0.002)	(0.003)	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)	(0.001)	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.002)	(0.005)	(0.004)	(0.013)
Young	-0.001	-0.01*	-0.01*	-0.013*	-0.006*	-0.004*	-0.004*	-0.003*	-0.004*	-0.006*	-0.011*	-0.001	-0.002*	-0.003*	-0.003*	0.012*	0	0.07*
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.006)
Year '15	-0.002*	-0.01*	-0.04*	-0.021*	-0.005*	0	-0.012*	-0.004*	-0.028*	0.008*	0.01*	0.001*	-0.008*	-0.003*	-0.003*	0.055*	-0.003*	0.066*
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.005)
DID	0.005*	0	0.008*	0.008*	0.007*	-0.001	0.002	0.002*	-0.001	0.003	0.006*	-0.001	0.001	-0.002	0	-0.012*	-0.005	-0.02*
	(0.001)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.003)	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.003)	(0.003)	(0.009)
ln_FT	0.002*	-0.006*	0.018*	0.008*	0.004*	0.004*	0.004*	-0.001*	-0.008*	0.001*	0	0.003*	0	0	0.002*	0.005*	-0.009*	-0.026*
	(0)	(0.001)	(0.001)	(0.001)	(0.001)	(0)	(0)	(0)	(0.001)	(0)	(0.001)	(0)	(0)	(0)	(0)	(0.001)	(0.001)	(0.003)
R^2	0.003	0.016	0.084	0.042	0.006	0.008	0.024	0.008	0.043	0.015	0.021	0.006	0.013	0.003	0.007	0.077	0.009	0.034

Asterisks indicate the following: *=p<0.05.

Note: number of observations in each equation are 14,704.

Table 4. Working-Leser Food Demand Models with Added Controls (dependent variables are food expenditure shares

	Dependent Variables[a]																	
Variable	Cereal	Bakery	Beef	Pork	Poultry	Fish	Other Meats	Eggs	Dairy	Fresh Veg	Fresh Fruit	Processed Veg	Processed Fruits	Sugar/ Sweets	Fats/ Oils	Other	Non-Alcoholic Beverages	FAFH
Intercept	0.017* (0.002)	0.095* (0.003)	-0.018* (0.005)	0.008* (0.003)	0.008* (0.003)	-0.005 (0.003)	0.012* (0.002)	0.019* (0.001)	0.139* (0.004)	0.022* (0.003)	0.033* (0.003)	0.002 (0.002)	0.025* (0.002)	0.026* (0.003)	0.011* (0.002)	0.03* (0.005)	0.106* (0.004)	0.47* (0.014)
Young	0 (0.001)	-0.009* (0.001)	-0.01* (0.002)	-0.013* (0.001)	-0.006* (0.001)	-0.004* (0.001)	-0.003* (0.001)	-0.003* (0.001)	-0.003 (0.002)	-0.007* (0.001)	-0.012* (0.001)	-0.001 (0.001)	-0.002* (0.001)	-0.003* (0.001)	-0.003* (0.001)	0.012* (0.002)	0 (0.002)	0.065* (0.006)
Year '15	-0.002 (0.001)	-0.007* (0.002)	-0.036* (0.003)	-0.023* (0.002)	-0.005* (0.002)	0 (0.001)	-0.011* (0.001)	-0.003* (0.001)	-0.023* (0.002)	0.007* (0.001)	0.01* (0.002)	0.003* (0.001)	-0.009* (0.001)	-0.001 (0.001)	-0.004* (0.001)	0.066* (0.003)	-0.007* (0.002)	0.045* (0.008)
DID	0.004* (0.001)	-0.002 (0.002)	0.007* (0.003)	0.007* (0.002)	0.007* (0.002)	-0.001 (0.002)	0.001 (0.001)	0.002* (0.001)	-0.004 (0.003)	0.003 (0.002)	0.006* (0.002)	-0.001 (0.001)	0.001 (0.001)	-0.003 (0.002)	0 (0.001)	-0.012* (0.003)	-0.006* (0.003)	-0.01 (0.009)
ln_FT	0 (0)	-0.008* (0.001)	0.018* (0.001)	0.007* (0.001)	0.003* (0.001)	0.005* (0.001)	0.003* (0)	-0.002* (0)	-0.013* (0.001)	0.001* (0.001)	0 (0.001)	0.003* (0)	0 (0)	-0.001 (0.001)	0.001* (0)	0.004* (0.001)	-0.009* (0.001)	-0.012* (0.003)
No. in HH	0.003* (0)	0.004* (0)	0.001* (0)	0.001* (0)	0.001 (0)	-0.001* (0)	0.001* (0)	0.001* (0)	0.007* (0)	0 (0)	0 (0)	0* (0)	0 (0)	0.001* (0)	0* (0)	0.002* (0.001)	0.002* (0)	-0.022* (0.001)
Rural	0.003* (0.001)	0.001 (0.002)	0.004 (0.002)	0.008* (0.001)	0.002 (0.001)	-0.001 (0.001)	0.003* (0.001)	0.002* (0.001)	0.008* (0.002)	-0.001 (0.001)	-0.002 (0.001)	0.003* (0.001)	-0.002* (0.001)	0.004* (0.001)	0.003* (0.001)	0.002 (0.002)	0.003 (0.002)	-0.04* (0.006)
NE '80	0 (0.001)	0.007* (0.002)	0.004 (0.003)	-0.006* (0.002)	0.006* (0.002)	0.006* (0.002)	0.003* (0.001)	0.003* (0.001)	0.006* (0.003)	0.003 (0.002)	0.002 (0.002)	0.001 (0.001)	0.002* (0.001)	0.001 (0.002)	-0.003* (0.001)	-0.008* (0.003)	-0.005 (0.003)	-0.023* (0.008)
W '80	-0.001 (0.001)	-0.002 (0.002)	-0.003 (0.003)	-0.008* (0.002)	0.003 (0.002)	0.005* (0.002)	-0.008* (0.001)	0.002* (0.001)	0.003 (0.003)	0.006* (0.002)	0.009* (0.002)	0 (0.001)	0.003* (0.001)	-0.002 (0.002)	-0.001 (0.001)	0.002 (0.003)	-0.005 (0.003)	-0.004 (0.009)
S '80	-0.001 (0.001)	-0.005* (0.002)	0.002 (0.003)	-0.002 (0.002)	0.005* (0.002)	0.005* (0.002)	-0.004* (0.001)	0.003* (0.001)	-0.009* (0.002)	0 (0.002)	0 (0.002)	0.004* (0.001)	-0.001 (0.001)	0 (0.002)	-0.002 (0.001)	-0.003 (0.003)	-0.002 (0.003)	0.011 (0.008)
NE '15	0.005* (0.001)	0.001 (0.002)	-0.004 (0.003)	0.001 (0.002)	0.004* (0.002)	0.004* (0.002)	0.002 (0.001)	0.002* (0.001)	0.003 (0.003)	0.007* (0.002)	0.007* (0.002)	-0.001 (0.001)	0.004* (0.001)	-0.004* (0.002)	0.001 (0.001)	-0.024* (0.003)	-0.002 (0.003)	-0.007 (0.009)
W '15	0 (0.001)	-0.004* (0.002)	-0.007* (0.003)	-0.003 (0.002)	0.002 (0.002)	0.003 (0.001)	-0.005* (0.001)	0.001 (0.001)	-0.002 (0.002)	0.007* (0.001)	0.005* (0.002)	-0.003* (0.001)	0.002 (0.001)	0 (0.001)	0 (0.001)	-0.01* (0.003)	-0.004 (0.003)	0.018* (0.008)
S '15	0 (0.001)	-0.002 (0.002)	0.001 (0.002)	0.003 (0.002)	0.005* (0.002)	0.003* (0.001)	-0.002 (0.001)	0.001 (0.001)	-0.008* (0.002)	-0.001 (0.001)	-0.004* (0.002)	0.001 (0.001)	0 (0.001)	-0.001 (0.001)	0.002 (0.001)	-0.016* (0.003)	0.01* (0.002)	0.01 (0.007)
R^2	0.017	0.027	0.086	0.049	0.008	0.012	0.033	0.014	0.067	0.020	0.028	0.010	0.016	0.005	0.010	0.083	0.013	0.055

Asterisks indicate the following: *=p<0.05.

Note: number of observations in each equation are 14,704.

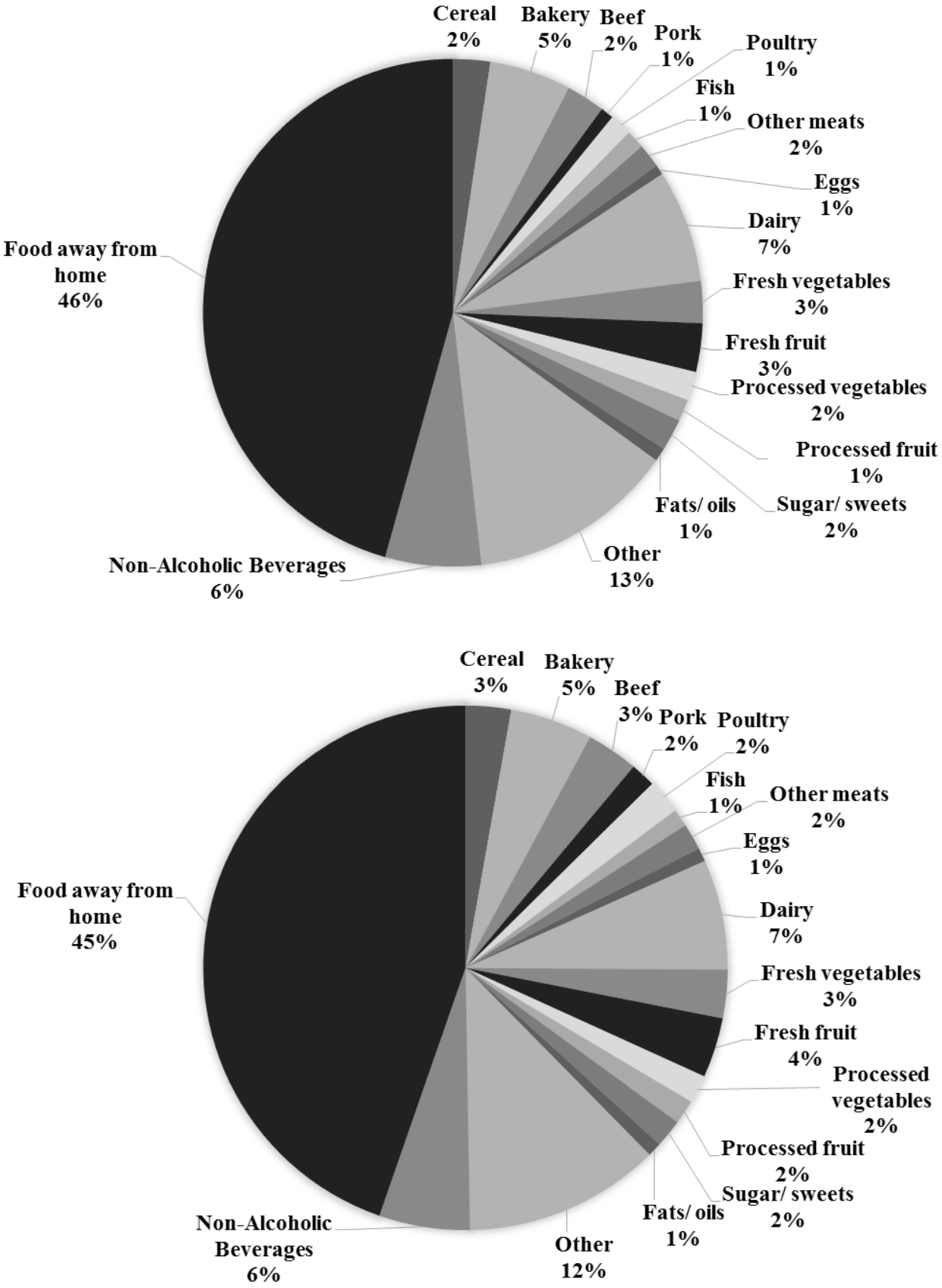

Figure 1. Predicted expenditures of the young in 2015 (without millennial effect) vs. predicted expenditures of millennials in 2015

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