New York City Government Poverty Measure 2005–2016

An Annual Report from the Office of the Mayor

Appendix G: Work-Related Expenses

Mayor's Office of Operations
The City of New York
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NYC Opportunity

Appendix G

Work-Related Expenses

In order to work, many families with children must pay for childcare. In addition, the expense of getting to and from work is an unavoidable cost for nearly every job holder. These nondiscretionary costs limit the ability of families to meet the needs that are represented in the poverty threshold. The National Academy of Sciences (NAS) recommended that work-related expenses be deducted from family resources.[1] The American Community Survey (ACS) does not include data on childcare costs or commuting costs, nor does it contain all the data needed to calculate these expenses. This appendix describes the NYCgov childcare cost imputation and the methodology used to calculate commuting costs.

Childcare Costs

NYCgov deducts the cost of childcare expenditures from income in the construction of our poverty measure. Because we are only interested in out-of-pocket childcare costs that are nondiscretionary – that is, necessary for work – we only count the expenses incurred when all the parents are working. If one or both parents are not working, their childcare spending is not counted. Since childcare spending is not reported in the ACS, NYCgov relies on an imputation model to estimate childcare spending. This childcare cost imputation model employs a predictive mean match (PMM) of observations in the Census Bureau's Survey of Income and Program Participation (SIPP) to observations in the ACS.

Creation of the SIPP Data Set

To generate a sufficiently large sample, we pool data from two SIPP childcare modules: the 2004 panel wave 4 and the 2008 panel wave 8.[2] The sample in each

1 Constance F. Citro and Robert T. Michael (eds.). Measuring Poverty: A New Approach. Washington, DC: National Academy Press. 1995, pp. 70-71.

2 The 2013 panel also includes childcare data but with a change in the survey design. Because of the sample size, two panels of data are needed for our estimation procedure. The second panel is not yet available.

wave consists of four rotation groups, each interviewed in a different month. For wave 4 of the 2004 panel, interview months were February through May 2005; for wave 8 of the 2008 panel, interview months were January through April 2011. The SIPP asks the designated parent about every childcare arrangement regularly used in the prior month, and the costs of care in a typical week for each arrangement for each child.

Setting up the pooled SIPP data involves several steps. First, we remove foster children from the sample, given that their childcare costs are subsidized by government programs and only out-of-pocket costs for working parents are being measured. Next, we take several steps to create consistent and comparable subfamily units between the SIPP and the ACS.

The SIPP is a longitudinal data set in which participants are sampled over a two-year period. Individual observations in the SIPP are linked by sampling unit, household address, and family. The sampling unit is the original household as of the first round of interviews. As in the ACS, a "household" is defined as all members living within the household unit, including family members and all unrelated individuals, such as unmarried partners, roommates, or foster children. Over the two-year SIPP sampling period, some members of a sampling unit leave and form their own households at different addresses.

Thus, in order to identify all households, we create a unique household identifier by concatenating the sampling unit ID (SSUID), the current household address ID (SHHADID), and the panel year. Including the panel year in the constructed household ID ensures that our household identifier is unique across panel years. Our strategy for creating a unique household identifier yields an unweighted count of 71,412 unique households.

Within a household, a "family" in the SIPP is comprised of a group of two or more people related by birth, marriage, or adoption who reside together. Unlike the ACS, the SIPP identifies and links members of both related and unrelated subfamilies. NYC Opportunity creates unrelated subfamilies in the ACS that are comparable to SIPP subfamilies.[3] Unique subfamilies within a sampling unit are identified with the RSID variable. The constructed family ID variable concatenates RSID with the constructed household ID. This yields 74,406 unique families.

The SIPP places unmarried partners of the reference person into a different family within the household (i.e., unrelated subfamilies). This is inconsistent with the NYCgov unit of analysis, which treats unrelated partners as equivalent to spouses and includes them and their children in the reference person's poverty unit. To make families in the SIPP commensurate with NYCgov poverty units, unmarried partners of the reference person and their children are placed into the reference person's family. In addition, we address the issue of minors classified as "other non-relatives of the reference person" (ERRP = 13), some of which are

3 For a more detailed explanation of the NYCgov poverty unit of analysis, see Appendix A in this report.

unaccompanied minors. For this group, we use the following rule: If there is no other parent or guardian in the household, non-relative minors are placed in the reference person's family; otherwise, they are placed in their parent/guardian's family. Placing unmarried partners and unrelated minors in the reference person's family reduces the number of unique families to 73,837.

Our donor sample is limited to working families (i.e., families with parent[s] that work at least part of the year)[4] that have at least one child 12 years of age or younger[5] and live in an urban area. Work criteria are necessary given that we are measuring work-related out-of-pocket childcare costs. We count only childcare costs paid for children 12 years of age and under so the "give back" portion of childcare costs that working families receive through the tax system can be easily and accordingly calculated. Previous studies documented substantial geographic variation in average childcare prices, which mostly reflects parents' ability to pay.[6] Since we are using a nationally representative sample of childcare costs, limiting the sample of donors to urban areas is crucial for maintaining maximum comparability to New York City.

Since SIPP data are measured for the reference month, the two income variables (total person income and earned income) are annualized and inflated using the ratio of the Consumer Price Index (CPI) all-items index for the ACS data set year and the periods covered by the SIPP panels.[7] These data are aggregated from the person level to the family level.

The SIPP divides childcare payments into 11 categories organized by provider. These include: grandparents, other relatives, family daycare, daycare, preschool, Head Start, other nonrelative, after-school sports, clubs, other after-school activities, and private lessons. In the SIPP, these payments are further subdivided by child, yielding a total of 80 childcare payment variables. Childcare payments are measured as the sum of all such childcare payment variables in the SIPP topical module. These values are inflated using the CPI childcare cost index.

Matching SIPP and ACS Cases

To impute childcare costs from SIPP to ACS families, we use predictive mean matching — a statistical matching technique that uses nearest neighbor algorithms to identify and link similar units across data sets. This statistical matching method typically involves estimating a regression model to construct a distance function and then match up a record in the recipient file to a record with the smallest distance in the donor file. The most promising aspect of this method

4 The NYCgov childcare model caps childcare costs by the weeks worked of the spouse that works less. If one spouse does not work, this family will have no childcare costs. To reflect this in the imputation procedure, we narrowed the SIPP sample to mirror the rules we apply to ACS observations.

5 The age range is consistent with the tax code, which provides childcare tax credits for children 12 years of age and under.

6 Elizabeth E. Davis and NaiChia Li. Regional variation in child care prices: a cross-state analysis. 2009. No. 1100-2016-89707.

7 We took the average of the Consumer Price Index from February 2005 through May 2005 and January 2011 through April 2011 for panel years 2004 and 2008, respectively.

is that it replicates the distribution of real values better than a regression-based imputation. However, given that this method uses a prediction model to generate a match between donor and recipient cases, overfitting (i.e., out-of-sample prediction errors) is a concern – since it can lead to undesirable matches. To further complicate matters, data on childcare costs pose challenges for econometric modeling. Childcare expenses are skewed to the right with clumping at zeros, which makes it difficult to build a prediction model that performs well across different data points.

To improve prediction accuracy, we use two-part models that offer a flexible framework for modeling mixed discrete-positive distributions. First the models estimate the probability of incurring positive childcare costs and then they estimate the amounts spent on childcare – conditional upon the cost being positive. The binomial distribution of childcare expenditure is modeled using a probit model and the continuous component is modeled using a generalized linear regression model. Following work by John Iceland and David Ribar,[8] we estimate separate regressions for the two parent and single parent subsamples in the SIPP.

There is no shortage of studies examining parents' childcare decision-making. The literature documents that both the choice preference and choice constraints (e.g., parental, informal, or center-based childcare arrangements) vary by family characteristics,[9] including number of children, the children's ages, parents' human capital, and resources. They also vary by demographic characteristics[10] such as education; race and ethnicity; maternal employment; limited English proficiency; features of employment such as shifting or variable schedules and work hours;[11] and family/household structures,[12] e.g., number of working adults, family size, and presence of adult family members in the household.

8 John Iceland and David C. Ribar. Measuring the Impact of Child Care Expenses on Poverty. Paper presented at the 2001 Population Association of America (PAA) meetings in Washington, D.C., March 29, 2001.

9 For association between child's age and preference for home-based care (parental and relative care), see: Rose K. Kensinger and J. Elicker. Parental decision making about child care. *Journal of Family Issues.* 2008, 29(9), pp. 1161-1184; Rose K. Kensinger and J. Elicker. Maternal child care preferences for infants, toddlers, and preschoolers: The disconnect between policy and preference in the USA. *Community, Work & Family.* 2010, 13(2), pp. 205-229; A. Chaudry et al. Child care choices of low-income working families. 2011. Washington, DC: Urban Institute.

10 A.S. Johansen, A. Leibowitz, and L.J. Waite. The importance of child-care characteristics to choice of care. *Journal of Marriage and the Family.* 1996, pp. 759-772; L.A. Leslie, R. Ettenson, and P. Cumsille. Selecting a child care center: What really matters to parents? Child and Youth Care Forum. Springer Netherlands. October 2000, Vol. 29, No. 5, pp. 299-322; Rose K. Kensinger and J. Elicker. Parental decision making about child care. *Journal of Family Issues.* 2008, 29(9), pp. 1161-1184; M.L. Van Horn et al. Reasons for child care choice and appraisal among low-income mothers. Child and Youth Care Forum. Springer Netherlands. August 2001, Vol. 30, No. 4, pp. 231-249; E.P. Pungello and B. Kurtz-Costes. Why and how working women choose child care: A review with a focus on infancy. *Developmental Review.* 1999, 19(1), pp. 31-96; L.A. Riley and J.L. Glass. You can't always get what you want – Infant care preferences and use among employed mothers. *Journal of Marriage and Family.* 2002, 64(1), pp. 2-15; D.M. Blau and P.K. Robins. Turnover in child care arrangements. *The Review of Economics and Statistics.* 1991, pp. 152-157.

11 A. Chaudry et al. Child care choices of low-income working families. Washington, DC: Urban Institute; Julia R. Henly and Susan Lambert. Nonstandard Work and Child-Care Needs of Low-Income Parents. *Work, Family, Health, and Well-Being.* Mahwah, NJ: Lawrence Erlbaum Associates Inc. 2005, pp. 473-492; Julia R. Henly and S. Lyons. The Negotiation of Child Care and Employment Demands Among Low-Income Parents. *Journal of Social Issues.* 2000, 56(4), pp. 683-706; Julia R. Henly, H.L. Shaefer, and E. Waxman. Nonstandard work schedules: Employer- and employee-driven flexibility in retail jobs. *Social Service Review.* 2006, 80(4), pp. 609-634.

12 A.D. Witte, M. Queralt, and H. Long. An examination of the child care choices of low-income families receiving child care subsidies. Wellesley, Massachusetts: Wellesley College, Department of Economics. 2004; D.A. Wolf and F.L. Sonenstein. Child-care use among welfare mothers: A dynamic analysis. *Journal of Family Issues.* 1991, 12(4), pp. 519-536; H. Matthews and D. Jang. The Challenges of Change: Learning from the Child Care and Early Education Experiences of Immigrant Families. 2007. Available at: https://www.clasp.org/publications/report/brief/challenges-change-learning-child-care-and-early-education-experiences; A.C. Huston, Y.E. Chang, and L. Gennetian. Family and individual predictors of child care use by low-income families in different policy contexts. *Early Childhood Research Quarterly.* 2002, 17(4), pp. 441-469.

A set of predictors are selected on the basis of existing literature with the assistance of a Least Absolute Shrinkage and Selection Operator (LASSO).[13] To build a prediction model that performs well on as many data points as possible, we created multiple features out of commonly available variables across the two data sets (e.g., 20 parental age groups are created out of a continuous age variable). The flip side of having multiple features is that the risk of overfitting rises as dimensionality increases, necessitating careful feature selection. LASSO is useful for identifying the best set of predictors that result in minimal prediction errors, yet we did not use it to its full potential due to replicability issues.[14] Instead, we relied on LASSO results to determine which variables should be included – not for computing predicted values. As a result, the performance of our classification model diminished by a nontrivial percentage. The overall rate of correct classification for two parent and sole parent families is 76.1 percent and 68.2 percent, respectively. However, our binary classification model yields very low sensitivity rates (i.e., a measure of how accurately the true positive group is classified) for both two parent (39.82 percent) and sole parent (26.99 percent) groups. A more optimal model could have been determined by choosing the threshold that maximizes both overall accuracy and sensitivity rates. The regression output for childcare dollar values is summarized in Table G.1.[15]

These regression models are used to compute predicted values of childcare expenditures in both the SIPP and ACS files. ACS observations are then matched with SIPP observations based on their predicted means, and the actual weekly childcare cost value from the SIPP observation is donated to the ACS observation. We constrain the match so that SIPP observations can only match ACS observations with the same number of parents. Table G.2 compares the distributions of the SIPP childcare values and the matched values for all working parents in the 2016 ACS. The matched values closely reproduce the distribution of childcare costs in the SIPP.

Weekly childcare values are then adjusted to reflect annual costs. To calculate childcare expenditures that are nondiscretionary, we multiply the weekly value by the lowest reported number of weeks worked among the parents and cap the childcare costs for the family by the wages of the lower earning parent. Table G.3 shows the distributions for the annualized values using the PMM procedure.

Commuting Costs

To estimate commuting costs, we employ the ACS variables that provide information about means of transportation, travel time, usual weekly hours, vehicle occupancy,

13 For two parent families, the probit model includes a categorical variable of designated parent's race and ethnicity, the maximum level of parents' education, work experience and the share of parents' income earned by mother, the number of children ages 0-5, age of youngest child, an indicator of linguistic isolation, presence of grandparents, sibling age 15 or over, and the number of non-working adults. For sole parent families, the classification model is specified as a function of demographic characteristics, number of children under age 5, a binary indicator of being self-employed and being a single mother, a log of earning, number of hours of work, and categorical variables of parent's shift and marital status.

14 The glmnet package gives different results each time the cross validation runs to find the best lambda.

15 Probit output results are not reported here due to space limitations, but are available upon request.

work location, and weeks worked in the past 12 months. We rely on administrative data to calculate the cost per trip of various modes of transportation. Listed below are the means of transportation and the cost per trip:

- Drove: $0.54 per vehicle mile – the Internal Revenue Service (IRS) standard mileage rates[16] released in 2016, plus bridge and tunnel tolls.
- Drove with Others: Divide all driving costs by number of carpoolers.
- Motorcycle: IRS standard mileage rate with motorcycle rates for tolls.
- Bus, Subway, or Ferry: $2.40 per trip.[17]
- Railroad: Average $85.10 per week for out-of-city work locations and $61.50 per week for in-city work locations.[18]
- Taxi: We estimate each commute at $8.[19]
- Walk, Bike, or Work from Home: No cost per trip.
- Other Methods:[20] We assume a bus or subway fare of $2.40 per trip.

Once we have established a cost per trip for each mode of transportation (other than railroad, which is already a weekly cost), we use the formula below to calculate the weekly commuting cost:

Weekly Commuting Cost = (Cost/Trip x Min ((WKHP/8 x 2), 14))

We assume an eight-hour work day and use the ACS variable "WKHP – Usual hours worked per week in the past 12 months" to calculate the number of days worked per week.[21] To account for a trip to and from work, we then multiply the number of work days by two and cap the number of possible weekly trips at 14. The cost per trip is then multiplied by the number of commuting trips per week to establish a weekly commuting cost. This is then multiplied by "WKW – Weeks worked in the last 12 months"[22] to establish the annual commuting cost. Table G.4 shows that 49.6 percent of all New York City commuters used either the subway or bus with a median annual commuting cost of $1,200. The highest commuting costs were incurred by those taking a taxi, driving alone, or using the railroad.

16 See: https://www.irs.gov/newsroom/2016-standard-mileage-rates-for-business-medical-and-moving-announced

17 Metropolitan Transportation Authority (MTA) increased fares on March 3, 2013. We use $2.40 as the cost of a subway or bus trip, which is the average cost per ride of pay-per-ride, 7-day, and 30-day MetroCards, weighted by their usage for 2016. We assume that ferry riders take the free-of-charge Staten Island Ferry and then use an additional form of public transit.

18 A Long Island Railroad (LIRR) Zone 1 to Zone 1 weekly pass costs $59; a Zone 1 to Zone 4 pass, including out-of-city stations, costs $80.75. A weekly pass from Grand Central Terminal (GCT) to Harlem on Metro-North costs $55.75. A weekly pass from GCT to White Plains, NY, costs $83.00.

19 We use a slightly lower cost than the $9.61 per-trip cost in The New York City Taxicab Fact Book to account for outer borough trips, which are more likely to be with a non-medallion taxi. See: http://www.schallerconsult.com/taxi/taxifb.pdf

20 The ACS only asks for means of transportation to work if the respondent worked last week. Therefore, for respondents that have worked in the past 12 months but not last week, we assume a subway or bus fare.

21 We round to the nearest whole number for the number of work days.

22 In 2008, the WKW variable was changed from the actual number of weeks to a range format. Since 2008, we have used the midpoint of each range in our calculations. We cap the number of weeks worked at 50 to account for sickness or vacation.

Panel A of Table G.5 illustrates the impact of work-related expenses on the poverty status of the total population. It shows the combined impact, as well as the individual impact, of both commuting costs and childcare expenditures. As expected, poverty rates are lower when we do not subtract work-related expenses from the household income. The effect of commuting costs has grown slowly from 2012 to 2016, ranging from 1.7 to 2.1 percentage points as fares have increased. The impact of childcare expenses remains fairly stable over time. Childcare expenses increased poverty by 0.2 percentage points from 2012 through 2013. In 2014, the impact of childcare expense ticked up to 0.3 percentage points, and then back down to 0.2 in 2016.

Panel B of Table G.5 shows the impact of work-related expense for persons living in working families with children. This is the population that would be most affected by work-related expenses. Interestingly, while the impact of commuting costs for this group is notably larger than for the population as whole, it is not true of childcare costs, which continue to have a relatively small effect on the poverty rate.

Table G.1a

Regression Model, Predicted Childcare Dollar Amounts, 2016

Two Parent Families (Number of Observations: 2,855)		
	Coefficient	**t-Statistic**
Ethnicity		
Black (Non-Hispanic)	6.644631	0.76
Asian (Non-Hispanic)	22.42676	1.41
Hispanic, Any Race	-9.571429	-1.18
Other	34.77302	2.73
Max Education Level of Parents		
Completed High School	2.270129	0.11
Has Some College Education	5.843565	0.33
Completed College	15.91516	0.88
Language Isolated	-11.67416	-0.59
Non-Working Adults in PU*	11.58949	0.76
Employed Adults in PU	14.92138	1.1
Grandparents Living in PU	-25.44929	-3.41
Receives Food Stamps	-31.74577	-2.92
Self-Employed Parent in PU	4.124	0.52
2 Children 0-5 in Family	-66.54452	-6.84
3 Children 0-5 in Family	-62.4932	-2.66
Age	8.648875	3.64
Age Squared	-0.0996375	-3.38
Work Experience (Married Couples)		
One Full-Time Worker, One Part Time	-15.09061	-1.55
One Full-Time Worker, One Non-Worker	-27.96789	-1.24
Two Part Time Workers	15.24893	0.52
One Part Time Worker, One Non-Worker	6.75316	0.17
Share of Parents' Income Earned by Mother		
10%	39.67029	1.11
15%	0.8694372	0.04
20%	42.30424	1.6
25%	-19.63332	-1.11
30%	13.45195	0.58

	Coefficient	**t-Statistic**
Share of Parents' Income Earned by Mother (continued)		
35%	-33.53528	-1.27
40%	-49.13017	-1.85
45%	5.448713	0.29
50%	-28.45133	-1.4
55%	33.04978	1.37
60%	21.84201	0.94
65%	-16.10495	-0.52
70%	18.10145	0.43
75%	31.36018	0.56
80%	-28.92292	-0.68
85%	-5.095006	-0.11
90%	69.0408	2.02
95%	56.36886	0.84
100%	56.88693	3.81
Age of Youngest Child		
1	-14.86578	-1.06
2	-24.89746	-1.84
3	-31.46054	-2.32
4	-37.31779	-2.58
5	-57.95029	-3.83
6	-176.6129	-10.71
7	-174.8952	-10.69
8	-196.3021	-12.2
Total Work Hours of Parents		
20	-3.262113	-0.09
30	-6.650066	-0.2
40	53.05899	1.2
50	50.971	1.14
60	62.65718	1.38
70	62.84305	1.36
80	67.1645	1.45

(continued on next page)

Table G.1a *(continued from previous page)*

Regression Model, Predicted Childcare Dollar Amounts, 2016

	Coefficient	t-Statistic
Total Work Hours of Parents (continued)		
90	82.24031	1.74
100	90.51276	1.91
110	111.9703	2.23
120	76.47631	1.51
130	0.4827259	0.01
140	148.6855	2
150	204.8737	1.6
160	59.46489	0.91
Parents' Annual Earnings	0.0001004	2
Share of Parents' Income Earned by Mother x Parents' Annual Earned Income		
10%	-0.0000306	-0.2
15%	0.0001581	1.22
20%	-0.0000266	-0.19
25%	0.0004	3.8
30%	0.0002227	1.41

	Coefficient	t-Statistic
Share of Parents' Income Earned by Mother x Parents' Annual Earned Incomer (continued)		
35%	0.0006565	3.14
40%	0.0008278	3.59
45%	0.000419	3.71
50%	0.0007394	4.4
55%	0.0002903	1.74
60%	0.0002493	1.55
65%	0.0006385	2.76
70%	0.0004443	1.1
75%	0.0002087	0.72
80%	0.0005958	1.38
85%	0.0004205	0.96
90%	-0.0000388	-0.22
95%	0.0001331	0.39
100%	-0.0000927	-1.13
Intercept	-38.89652	-0.6

Source: American Community Survey Public Use Micro Sample as augmented by NYC Opportunity.

Table G.1b

Regression Model, Predicted Childcare Dollar Amounts, 2016

Sole Parent Families (Number of Observations: 956)		
	Coefficient	**t-Statistic**
Ethnicity		
Black (Non-Hispanic)	6.834576	0.8
Asian (Non-Hispanic)	38.43922	1.7
Hispanic, Any Race	-16.87864	-1.78
Other	28.9614	0.96
Max Education Level of Parents		
Has Some College Education	-5.154153	-0.64
Completed College	11.64152	1.14
Employed Adults in PU		
2	42.76007	3.1
3	35.26501	2.16
4	19.66362	0.84
5	33.44766	1.12
Language Isolated	13.23024	0.52
Grandparents Living in PU	-11.53924	-1.05
Presence of Sibling Age 15+	-25.57951	-2.28
1 Child 0-5 in Family	-119.144	-7.34
2 Children 0-5 in Family	-59.32444	-3.75
3 Children 0-5 in Family	-37.38086	-0.85
Self-Employed Parent in PU	13.01938	0.8
Age	2.463671	0.52
Age Squared	-0.027127	-0.41
Parents' Annual Earnings	0.000668	4.52
Total Work Hours of Parents		
20	-32.99448	-0.8
30	-37.27834	-0.95
40	-23.22844	-0.61
50	-27.48101	-0.7
60	-32.89803	-0.76
70	-24.66296	-0.4
80	23.78523	0.45
90	-71.9721	-1.75

	Coefficient	**t-Statistic**
Female	6.637305	0.7
Shift		
Work from Home	-0.9485771	-0.04
Day Shift	24.8376	2.54
Non-Day Shift	36.99544	1.96
Marital Status		
Widowed	78.22357	1.72
Divorced	-0.2208908	-0.01
Separated	3.796386	0.14
Never Married	-14.5116	-0.55
Intercept	-38.89652	-0.6

Source: American Community Survey Public Use Micro Sample as augmented by NYC Opportunity.

Table G.2
Comparison of Weekly Childcare Payments, ACS and SIPP, 2016

All Working Parents		
	ACS	SIPP
Mean	$42	$45
Percent Zero	82.0%	70.0%
Percentile		
5	$0	$0
10	$0	$0
25	$0	$0
50	$0	$0
75	$0	$35
90	$173	$159
95	$295	$252
All Working Parents with Non-Zero Expenditures		
	ACS	SIPP
Mean	$236	$148
Percentile		
5	$28	$12
10	$46	$22
25	$106	$52
50	$196	$111
75	$317	$197
90	$463	$329
95	$583	$428

Sources: American Community Survey Public Use Micro Sample as augmented by NYCgov, and 2004 and 2008 Survey of Income and Program Participation (SIPP) inflated to 2016 prices using the CPI childcare index.
Notes: Sample comprised of ACS and SIPP families with at least one child under 13 and all parents working. Values are reported at the level of the designated parent. Values are unweighted.

Table G.3
Annual Nondiscretionary Childcare Expenditures, 2016

	All Working Parents	Working Parents with Non-Zero Expenditures
Mean	$2,355	$11,413
Percent Zero	79.4%	N.A.
Percentile		
5	$0	$1,180
10	$0	$2,212
25	$0	$5,161
50	$0	$9,290
75	$0	$15,010
90	$9,585	$23,595
95	$15,313	$27,769

Source: American Community Survey Public Use Micro Sample as augmented by NYC Opportunity.
Notes: Samples are comprised of ACS families with at least one child under 13 and all parents working. Values are reported at the level of the designated parent. Data weighted by ACS household weight.
N.A. - Not applicable because these families all have positive childcare costs.

Table G.4
Transportation Mode and Costs, 2016

			Weekly Cost		Annual Cost	
Mode of Transport	Number of Commuters	Percent	Median	Mean	Median	Mean
Drove Alone	873,152	19.9	$44	$61	$2,214	$2,936
Drove with Others	178,083	4.1	$22	$27	$1,026	$1,299
Bus	403,663	9.2	$24	$22	$1,200	$1,041
Subway	1,773,382	40.4	$24	$24	$1,200	$1,130
Railroad	57,791	1.3	$62	$68	$3,075	$3,217
Ferry	12,458	0.3	$24	$23	$1,200	$1,086
Taxi	38,009	0.9	$80	$85	$4,000	$3,988
Motorcycle	4,194	0.1	$44	$48	$2,214	$2,323
Bike	50,657	1.2	$0	$0	$0	$0
Walked	388,601	8.8	$0	$0	$0	$0
Worked at Home	177,782	4.0	$0	$0	$0	$0
Other Method	22,780	0.5	$24	$23	$1,200	$1,062
No Mode	412,873	9.4	$19	$19	$480	$580
All Modes	4,393,425	100.0	$24	$28	$1,200	$1,330
Percent Using Subway or Bus		49.6				
Cost per Subway or Bus Trip		$2.40				

Sources: American Community Survey Public Use Micro Sample as augmented by NYC Opportunity; "Regional Travel-Household Interview Survey." New York Metropolitan Transportation Council-New Jersey Transportation Planning Authority, February 2000; IRS Publication 463 (2012), Travel, Entertainment, Gift, and Car Expenses established the standard mileage rates for deductible costs of operating an automobile for business purposes; The New York City Taxicab Fact Book, Schaller Consulting, March 2006.
Note: Those that commuted via "Other Method" or reported no mode but did have work within the last 12 months were assigned the average cost per subway or bus trip.

Table G.5

Impact of Work-Related Expenses on Poverty Rates, 2010–2016

(Numbers are Percent of the Population)

	2010	2011	2012	2013	2014	2015	2016
A. Total Population							
Total NYCgov Income	20.6	20.8	20.7	20.7	20.6	19.9	19.5
Net of:							
Commuting Cost	19.2	19.2	19	18.9	18.5	17.9	17.4
Childcare Expenses	20.4	20.6	20.5	20.5	20.3	19.6	19.3
Total Work-Related Expenses	19	19	18.9	18.7	18.3	17.7	17.2
Marginal Effects							
Commuting Costs	1.5	1.6	1.7	1.8	2.1	2.0	2.1
Childcare Expenses	0.2	0.2	0.2	0.2	0.3	0.3	0.2
Total Work-Related Expenses	1.6	1.8	1.8	2.0	2.3	2.2	2.3
B. Persons Living in Working Families with Children							
Total NYCgov Income	12.4	13.4	13.0	12.8	13.5	13.0	13.0
Net of:							
Commuting Cost	10.6	11.3	10.5	10.4	10.4	9.9	10.1
Childcare Expenses	11.9	12.9	12.6	12.2	12.9	12.4	12.6
Total Work-Related Expenses	10.2	11	10.2	10.0	10.0	9.3	9.7
Marginal Effects							
Commuting Costs	1.8	2.1	2.5	2.4	3.1	3.1	2.9
Childcare Expenses	0.5	0.5	0.4	0.6	0.6	0.6	0.4
Total Work-Related Expenses	2.2	2.4	2.8	2.8	3.5	3.7	3.3

Source: American Community Survey Public Use Micro Sample as augmented by NYC Opportunity.