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Expenditures on Children by Families, 2015

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Editor's Note (March 8, 2017): Child care and education values for ages 0-2 and 3-5 years for the regional estimates in tables 2-5 have been revised.

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Expenditures on Children by Families, 2015

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Abstract

Since 1960, the U.S. Department of Agriculture has provided estimates of expenditures on children from birth through age 17. This technical report presents the most recent estimates for married-couple and single-parent families using data from the 2011-15 Consumer Expenditure Survey (all data presented in 2015 dollars). Data and methods used in calculating annual child-rearing expenses are described. Estimates are provided for married-couple and single-parent families with two children for major components of the budget by age of child, family income, and region of residence. For the overall United States, annual child-rearing expense estimates ranged between \$12,350 and \$13,900 for a child in a two-child, married-couple family in the middle-income group. Adjustment factors for households with less than or greater than two children are also provided. Expenses vary considerably by household income level, region, and composition, emphasizing that a single estimate may not be applicable to all families. Results of this study may be of use in developing State child support and foster care guidelines, as well as public health and family-centered educational programs.

Executive Summary

Since 1960, the U.S. Department of Agriculture (USDA) has provided estimates of annual expenditures on children from birth through age 17. This technical report presents the 2015 estimates for married-couple and single-parent families. Results are shown in tables 1-7 at the end of this report. Expenditures are provided by age of children, household income level, major budgetary component (housing, food, etc.), and region (for married-couple families).

Methods

Data used to estimate expenditures on children are from the 2011-15 Consumer Expenditure Survey–Interview (CE), administered by the U.S. Census Bureau, U.S. Department of Commerce, under contract with the Bureau of Labor Statistics (BLS), U.S. Department of Labor. This survey is the most comprehensive source of information on household expenditures available at the national level. The sample consisted of 23,297 married-couple households and 7,030 single-parent households and was weighted to reflect the U.S. population of interest by using BLS weighting methods.

The CE collects overall household expenditure data for some budgetary components (housing, food, transportation, health care, and miscellaneous goods and services) and child-specific expenditure data for other components (clothing, child care, and education). Child-specific expenses were allocated directly to children. Food and health care expenses were allocated to children based on findings from Federal surveys on children’s budget shares. Family-related transportation expenses and miscellaneous expenses were allocated by using a per capita method. This method is preferable over a marginal cost method that measures child-rearing expenditures as the difference in expenses between equivalent couples with and without children. The average cost of an additional bedroom approach was used to estimate housing expenses on a child. All data are presented in 2015 dollars for comparison across years.

Selected Results

- Annual child-rearing expenses varied considerably by household income level and generally increased with age of the child. For a child in a two-child (the standard in the United States), married-couple family with before-tax income less than \$59,200, annual expenses ranged from \$9,330 to \$9,980 (depending on age of the child). For the same type of households with before-tax income between \$59,200 and \$107,400, annual expenses ranged from \$12,350 to \$13,900 (depending on age of the child). And for the same type of households with before-tax income over \$107,400, annual expenses ranged from \$19,380 to \$23,380 (depending on age of the child). These income groups represent the lower, middle, and upper thirds of the income distribution.
- The estimated expense to raise a child from birth through age 17 is \$233,610 (in 2015 dollars) for a middle-income (before-tax income between \$59,200 and \$107,400), married-couple family with two children.
- As a proportion of total child-rearing expenses, housing accounted for the largest share across income groups, comprising 26 to 33 percent of total expenses on a child in a two-child, married-couple family. For families in the middle-income group, food and child care/education (for those with the expense) were the next largest average expenditures on a child, accounting for 18 and 16 percent of child-rearing expenses, respectively.

- Overall, married-couple families in the urban Northeast had the highest child-rearing expenses, followed by similar families in the urban West and urban South. Married-couple families in the urban Midwest and rural areas had the lowest child-rearing expenses.
- Expenditures by married-couple households with only one child averaged 27 percent more than expenditures per child in a two-child, married-couple family. Expenditures by married-couple households with three or more children averaged 24 percent less per child than expenditures on each child in a two-child, married-couple family.
- Child-rearing expenses of single-parent households with a before-tax income less than \$59,200 were about the same as those of married-couple households in the same income group. Most single-parent households were in this income group (compared with about one-third of married-couple families).
- Expenditures between two 5-year periods, 2010-14 and 2011-15, were determined using the methods described in this report. The results are referred to as the 2014 and 2015 results. Expenditures on a child increased 3.0 percent from 2014 to 2015. The increase in child-rearing expenditures exceeded the inflation rate during this time, which was negligible (0.1 percent). However, the percentage increase in total child-rearing expenses from 2014 to 2015 is below the historic annual rate increase of 4.3 percent since 1960.

Other Expenditures on Children

Expenditures for major budgetary components estimated in this study consisted of direct parental expenses made on children from birth through age 17. Notably, these expenditures exclude college costs and other parental expenses on children after age 17. Indirect costs involved in child rearing by parents (time costs and foregone earnings and career opportunities) are also not included in the estimates.

Conclusion

This technical report presents the most recent child-rearing expense estimates for married-couple and single-parent families using data from the 2011-15 Consumer Expenditure Survey. Expenditures for major budgetary components estimated in this study consisted of direct parental expenses made on children from birth through age 17. The 2015 estimate for child-rearing expenses from birth through age 17 in a two-child, middle-income, married-couple family is \$233,610. Expenses vary considerably by household income level and composition. The large variation in expenditures on children underscores that there is not a standard cost to raise a child in the United States. The direct and indirect costs of raising children are considerable, absorbing a major share of the household budget.

Contents

Executive Summary	i
Introduction	1
Estimating and Allocating Expenditures on Children	2
Data	2
Determining Food, Transportation, Health Care, Clothing, Child Care and Education, and Miscellaneous Expenses on Children	4
Determining Housing Expenses on Children	9
Results	10
Married-Couple Families	10
Single-Parent Families	13
Adjustments for Older Children and Household Size	14
Alternative Estimates of Expenditures on Children	16
Estimating Future Costs	19
Expenditures Not Included	20
Conclusion	22
References	22

Expenditures on Children by Families, 2015

Introduction

The U.S. Department of Agriculture (USDA) has provided estimates of expenditures on children from birth through age 17 since 1960. This report presents 2015 estimated child-rearing expenses by married-couple and single-parent families. The estimates for 2015 are shown in tables 1-7. These estimates may be used in developing State child support guidelines and foster care payments, as well as in public health and family-centered education programs. The 2015 USDA estimates are not directly comparable to previous estimates (USDA, 1981; Lino, 2008; Lino, 2014) due to methodological changes in the analysis. However, a comparison between analyses for 2010-14 expenditure estimates in 2014 dollars and 2011-15 expenditure estimates in 2015 dollars is provided.

For married-couple families, child-rearing expenses are presented for three income groups and for single-parent families, two income groups. To adjust partially for price differentials and varying patterns of expenditures, USDA also provides estimates for married-couple families in various regions, as well as the United States overall. For single-parent families, estimates are provided only for the United States overall because of limitations in sample size. For all families, expenditures on children are estimated for the major budgetary components: housing, food, transportation, clothing, health care, child care and education, and miscellaneous goods and services (entertainment, personal care items, etc.).

This report presents the USDA methodology for deriving expenditures on children and the results. First, data used in determining child-rearing expenditures are described. These data contain overall household expenditures for some budgetary components and child-specific expenditures for other components. Overall household expenditures must be allocated among family members to determine expenses on children. Second, the allocation methods used by USDA are explained, along with general estimation techniques. Third, an overview of the results is given. Fourth, a comparison between USDA estimates on child-rearing expenses and the results of alternative methodologies on estimating child-rearing expenses is discussed. The report ends with an explanation of how future child-rearing expenses may be determined and a discussion on other expenses on children that are not included in this report.

This report presents the latest information on USDA's family expenditures on children series using the Consumer Expenditure Survey (CE) from the Bureau of Labor Statistics (BLS) (www.bls.gov/cex). Beginning with this report, it is the intention of the series to use the 5 most current years of the CE adjusted for inflation using the Consumer Price Index-All Urban Consumers (CPI-U). The previous six reports used base data from 2005-06 and were updated with the CPI-U through 2013. Now, with the annual use of the most recent data, the series will fully reflect changes in expenditure patterns with each subsequent release. The previous reports did not fully capture changes in expenditure patterns over time. It should be noted that the data presented in the current report reflect spending patterns that occurred after the Recession of 2007-09.

For these reasons, the latest child-rearing expense estimates are not directly comparable to the last published estimates from USDA pertaining to 2013. A more direct comparison would be between the present estimates using the 2011-15 CE (in 2015 dollars) to estimates derived using the same methodology for the 2010-14 CE (in 2014 dollars). A comparison of child-rearing expense results for a middle-income family between these two time points is included in Box 1.

Box 1: A Comparison of Expenditures on Children Between 2014 and 2015

Expenditures on a child in a middle-income, married-couple family between two 5-year periods, 2010-14 and 2011-15, were determined using the methods described in this report using the Consumer Expenditure Survey (see data section of this report for a description of the survey). The 2010-14 results are reported in 2014 dollars and the 2011-15 results are reported in 2015 dollars. The results are referred to as the 2014 and 2015 results, respectively.

Dollar change in average annual expenditures per child between 2014 and 2015

Overall expenses	+\$380
Housing expenses	+\$130
Food expenses	+\$60
Transportation expenses	-\$140
Clothing expenses	+\$130
Health care expenses	+\$115
Child care and education expenses	+\$100
Miscellaneous expenses	0

Expenditures on a child increased \$380 from 2014 to 2015. The increase in child-rearing expenditures exceeded the inflation rate during this time, which was negligible (0.1 percent). However, the percentage increase in total child-rearing expenses from 2014 to 2015 is below the historic annual rate increase of 4.3 percent since 1960.

The budgetary components with the highest dollar increases were housing, clothing, and health care. Clothing expenses tend to vary more from year to year, as compared with the other child-rearing expenses, reflecting changing tastes and trends. The increase in health care expenses has been documented in the CE data (Foster, 2016). On an annual basis, the increase in health care expenses amounts to about \$115 for an average child.

Estimating and Allocating Expenditures on Children

Data

Since 1960, the first year USDA produced child-rearing expense estimates, the Consumer Expenditure Survey (CE) from the Bureau of Labor Statistics (www.bls.gov/cex) has been used as the basis for the estimates. The CE is also used in alternative methodologies on estimating child-rearing expenses. CE data are the most comprehensive source of information on household expenditures available at the national level, containing expenditure data for housing, food, transportation, clothing, health care, child care and education, and miscellaneous goods and services. Box 2 describes the specific items in each expenditure component.

Box 2: Categories of Household Expenditures

Housing expenses consist of shelter (mortgage payments, property taxes, or rent; maintenance and repairs; and insurance), utilities (gas, electricity, fuel, cell/telephone, and water), and house furnishings and equipment (furniture, floor coverings, major appliances, and small appliances). Mortgage payments included principal and interest payments. Overall, principal payments constituted 11 percent of overall housing expenses.

Food expenses consist of food and nonalcoholic beverages purchased at grocery, convenience, and specialty stores, including purchases with Supplemental Nutrition Assistance Program (SNAP) benefits; dining at restaurants; and household expenditures on school meals.

Transportation expenses consist of the monthly payments on vehicle loans (principal and interest), down payments, gasoline and motor oil, maintenance and repairs, insurance, and public transportation (including airline fares).

Clothing expenses consist of children’s apparel such as diapers, shirts, pants, dresses, and suits; footwear; and clothing services such as alterations and repair.

Health care expenses consist of medical and dental services not covered by insurance, prescription drugs and medical supplies not covered by insurance, and health insurance premiums not paid by an employer or other organization. Medical services include those related to physical and mental health.

Child care and education expenses consist of day care tuition and supplies; babysitting; and elementary and high school tuition, books, fees, and supplies. Books, fees, and supplies may be for private or public schools.

Miscellaneous expenses consist of personal care items (haircuts, toothbrushes, etc.), entertainment (portable media players, sports equipment, dance lessons, computer games, etc.), and reading materials (nonschool books, magazines, etc.).

USDA’s latest estimates are based on data from the 2011-15 CE–Interview Survey component. Administered by the U.S. Census Bureau, U.S. Department of Commerce, under contract with BLS, U.S. Department of Labor, the CE collects information on characteristics, income, and expenditures of consumer units. For this study, the terms “households” and “families” are used for consumer units. During most of 2011-15, about 7,000 households were interviewed each quarter, bringing the total number of interviews in each year’s survey to over 28,000. Due to the rotating sample design of the Interview Survey, each sample household could be interviewed up to four consecutive quarters over the 5-year period. Households report expenditures for the 3 months prior to the interview month. Since the households interviewed each quarter are deemed an independent sample by BLS, the 3-month expenditures they report may be annualized (U.S. Department of Labor, 2016a) for analytical purposes.

Child-rearing expenses of 23,297 married-couple¹ and 7,030 single-parent families where the parents were ages 20 to 60 were examined. These households had at least one child age 17 or under in the household, and there were no other related or unrelated people present in the household. Most single-parent families (85 percent) were headed by a woman. Methods recommended by BLS were used to weight all data to reflect the U.S. population of interest.

Although based on 2011-15 data, all data are presented in 2015 dollars. The 2011-14 income and expenditure data were updated to 2015 dollars by using the Consumer Price Index-All Urban Consumers (CPI-U) prior to analysis. Income levels of households were adjusted for inflation to 2015 dollars by using the all-items category of the CPI-U, and expenditures were updated by using the CPI-U for the corresponding budgetary component (e.g., the CPI-U for housing, food, etc.). Regional CPI-U's were used to update the regional estimates, including household income, to 2015 dollars. For rural areas, the CPI-U for all nonmetropolitan urban areas was used because a rural price index is not published.

Even though the CE provides the best available and most comprehensive data for estimating spending on children, it has its limitations. The CE contains overall household expenditure data for some budgetary components (housing, food, transportation, health care, and miscellaneous goods and services) and child-specific expenditure data for other components (children's clothing, child care, and education). Thus, to estimate child-rearing expenses, these household-level expenditures must be allocated among family members. The next sections describe the methodology used by USDA to allocate these household expenditures. Two different models were used, one to determine food, transportation, health care, clothing, child care and education, and miscellaneous expenses on children, and the other to determine housing expenses on children.

Determining Food, Transportation, Health Care, Clothing, Child Care and Education, and Miscellaneous Expenses on Children

For the budgetary components of food, transportation, health care, clothing, child care and education, and miscellaneous expenses, multivariate analyses were used to estimate household and child-specific expenditures. These analyses accounted for income level, family size, and age of the youngest child so that estimates could be made for families with these varying characteristics. The estimation model,² conducted separately for married-couple and single-parent households, for the overall United States was:

$$(1) E_i = f(Y, HS, CA)$$

where:

E_i = household expenditures on a particular budgetary component (food, transportation, health care, children's clothing, child care and education, and miscellaneous goods and services)

Y = household before-tax income (divided into three categorical variable groups for married-couple families: <\$59,200, \$59,200 to \$107,400, and >\$107,400 in 2015 dollars, and two groups for single-parent families: <\$59,200 and \$59,200 or more in 2015 dollars)

¹ For the 2011-13 CE data, married-couple families were defined as only opposite-sex, married couples; for the 2014-15 CE, married-couple families were defined as both opposite-sex and same-sex married couples.

² The model was used to obtain predicted values of expenditures by families accounting for income, household size, children's age, and region (when appropriate). Since data were weighted, almost all variables were statistically significant. Model results are available on request.

HS = number of children in the household (divided into three categorical variable groups: 1 child, 2 children, and 3 or more children)

CA = age of the youngest child (divided into six categorical variable age groups: 0-2, 3-5, 6-8, 9-11, 12-14, and 15-17)

For the regional estimates of expenditures on children in married-couple households, the model was:

$$(2) E_i = f(Y, HS, CA, RG)$$

where E_i through CA are the same as before and

RG = region (divided into five categorical variable regions: urban Northeast, urban South, urban Midwest, urban West, and rural areas)

Ordinary Least Squares analysis was used to estimate expenditures on food, transportation, child care and education, and miscellaneous goods and services. For the child care and education category, only families with the expense were examined. Hence, the sample size was smaller for the child care/education analysis. The rationale for only looking at families with the expense is discussed in the next sections. For the six other budgetary components, the entire sample was used. Tobit analysis was used to estimate expenditures on health care and children's clothing because although most households had an expenditure on these budgetary components, over 10 percent reported zero expenses.³ Because of these zero expenditures, Tobit analysis yields statistically better (unbiased) estimates than does Ordinary Least Squares analysis. The procedure outlined by McDonald and Moffitt (1980) was used to transform the estimates resulting from the Tobit analysis into dollars. The coefficients of the estimates were used to calculate the expenditures for the budgetary components for each income group, age of the younger child, and region (for married-couple families) for a two-child family. Households with two children were selected as the standard because two children was the average for married-couple and single-parent families in 2011-15 based on CE data. Age of the older child was not accounted for so results would be applicable to families with an older child in general and not of a set age. Also, additional analysis focused on the older child (see "Adjustments for Older Children and Household Size" section). On average, the older child was 4 years older than the younger child and under age 18.

The three income groups of married-couple households (before-tax income under \$59,200, between \$59,200 and \$107,400, and over \$107,400 in 2015 dollars) were determined by dividing the sample of married-couple families for the overall United States into equal thirds. Income intervals for 2011-15 data are consistent with previous USDA studies. These three income groups will be referred to as the lower (although most families in this group are above the poverty threshold), middle, and higher income groups. These income groups were also used for the regional analysis of child-rearing expenditures. Income groups of single-parent households (before-tax income under \$59,200 and \$59,200 and over in 2015 dollars) were selected to correspond with the income groups used for married-couple households for comparison purposes, that is, to see how child-rearing expenditures differed between married-couple and single-parent households in the same income group. This income includes child-support payments. The two higher income groups used with married-couple families were combined in the case of single-parent families because only 17 percent of these households had a before-tax income of \$59,200 and over.

³ After examining various estimation techniques in place of the Tobit model, it was decided that the Tobit model yielded the best estimates. Future analysis and subsequent reports will continue to examine alternative models to the Tobit model to see what model specification yields the best estimates.

Estimates were made for six age categories of younger children (0-2, 3-5, 6-8, 9-11, 12-14, and 15-17 years) because spending on children differs by age of the child. These age categories approximate the different stages of childhood and have historically been used. The focus was on the younger child in a household because the older child was sometimes over age 17. If the older child had been selected as the household member of interest, expenditures may be different. Also, if households with one or three or more children had been selected, per-child expenditures would reflect the differences in family size. As the number of children in a family increases, the allocation of resources among children changes. To adjust expenditures for the older child and number of children, see section “Adjustments for Older Children and Household Size.”

For married-couple families, estimates are provided for the urban Northeast, urban South, urban Midwest, urban West, and rural areas overall, as well as for the overall United States. Urban areas are defined in the CE as Metropolitan Statistical Areas (MSAs) and other places of 2,500 or more people outside an MSA; rural areas are places of fewer than 2,500 people outside an MSA. Sample sizes were not sufficient to conduct regional analysis for single-parent families. Once the expenditures on the budgetary components were estimated, they were allocated to children. The allocation methods varied by budgetary component and are described below.



Clothing. The CE collected data on how much families are spending on children’s shoes, pants, dresses, and so on. Hence, estimated expenditures for clothing may be readily assigned to children. It was assumed these expenses were equally allocated to each child in the two-child household when both children were less than age 18. CE data on children’s clothing expenditures were for children age 15 and under. For the estimates, it was assumed the clothing expenditures of a 16- or 17-year-old were similar to those of a 15-year-old; thus, these older teenagers were assigned the expenditures of a 15-year-old.

Child care and education. Child care and education was the only budgetary component for which more than half of all households reported no expenditure. For married-couple families, only 26 percent in the lower income group had this expenditure, compared with 41 and 52 percent in the middle and higher income groups; for single-parent families, only 30 percent of the lower income group and 41 percent of the higher income group had child care and education expenses.

Thus, the estimates were derived using three collapsed age categories (0-5, 6-11, and 12-17 years) given the reduced sample size of families with the expense. For families without child care/education expenses, this budgetary component would equal to zero. Only families with the expense were used in the analysis here in order to make the estimates applicable to those with child care or education expenditures. Again, for all other budgetary components, the entire sample was used for the estimates.

Participants in the CE were asked about their child-specific expenditures for child care and education. It was assumed these expenses were equally allocated to each child in the two-child household when both children were less than age 18. For preschool children, most of this budgetary-component expenditure is for child care, whereas for older children, most of this expenditure is for education. The two components are combined; otherwise, many age categories would have a negligible expense either for one or the other. The estimated child care figures include families with sporadic babysitting, as well as part- and full-time child care; therefore, these expenses may appear low when compared to full-time

care expenses that many parents experience. A more detailed analysis of average weekly child care expenses for families with the expense, particularly part- and full-time care, is included in the U.S. Census Bureau report “Who’s Minding the Kids” (2011). The Census child care expenses are higher than those derived from the CE data because the former only examines expenditures incurred on a regular basis; sporadic expenses such as babysitting are not included. Similarly, the CE education expenses include families with private school tuition expenses as well as families sending children to public school, but incurring book and school supply expenses. For families with private school tuition, child care and education expenses are likely higher than those reported here.



Food. The CE collected expenditures on food at the household level. Thus, data from the December 2015 USDA Food Plans: Cost of Food at Home (U.S. Department of Agriculture, 2016) were used to calculate the shares of total household food expenses spent on children. Specifically, shares from the USDA Low-Cost, Moderate-Cost, and Liberal Food Plans were applied to each successive income group. These shares were used to apportion household food expenses by age of the household member, household size, and income. The USDA food plans are based on household food use and individual intake, as well as food expenditure data. The food plans also reflect the cost of a nutritious diet, which accounts for food costs, nutritional needs, and consumption behavior. These food budget shares, as derived from the USDA food plans, were applied to estimated CE household food expenditures to determine food expenses on children. The shares of the

food budget spent on children ranged between 17 to 25 percent per child for a child in a two-child, married-couple family. For a two-child, single-parent family, these shares are higher, 25 to 34 percent per child, because there is one less person in a single-parent family. The share of the food budget spent on children generally increased with the age of the child with little variation by household income level.



Health care. Expenditures on health care were collected at the household level in the CE. Data from the U.S. Department of Health and Human Services 2012 Medical Expenditure Panel Survey (MEPS) show household out-of-pocket health care expenses spent on children (U.S. Department of Health and Human Services, 2016). MEPS is a nationally representative longitudinal survey that collects detailed information on health care utilization and expenditures, health insurance, and health status, as well as a wide variety of social, demographic, and economic characteristics for the civilian noninstitutionalized population. MEPS is the only Federal survey that collects detailed individual household member data on health care expenses. Prototype families were examined and the shares of health care expenditures allocated to children were derived.

These health care budget shares, as derived from the MEPS survey, were applied to estimate household health care expenditures to determine health care expenses on children. The share of the health care budget ranged between 15 to 20 percent per child for a child in a two-child, married-couple family and 23 to 26 percent per child for a child in a two-child, single-parent family (these shares again being higher for a three-person household). Health care budget shares generally increased by household income level.



Transportation. Transportation expenses attributed to family-related activities were examined when determining child-rearing transportation expenses. These activities accounted for 75 percent of total transportation, according to a U.S. Department of Transportation study (Santos et al., 2011). Other transportation expenses, mainly those due to employment, are not directly related to expenses on children, so these types of transportation expenses were excluded.

Unlike data for food and health care, no other data source shows the share of transportation expenses associated with child rearing. To allocate these expenses, the per capita method was used to determine family-related transportation expenses on a child by allocating the expenses among household members in equal proportions. Most family-related transportation is used in common by family members

in the form of vehicle trips. It was assumed that parents and children share equally in these trips and each group was assigned 50 percent of the expense. Similarly, for single-parent households, the parent was assigned 50 percent of the expense. Transportation expenses were then assigned to children on a per capita basis. Although the per capita method has its limitations, it was preferred over alternative approaches (see the “Alternative Estimates of Expenditures on Children” section of this report). For a child in a two-child, married-couple or single-parent family, the per capita method resulted in approximately 19 percent of total transportation expenses being allocated to the child.



Miscellaneous expenses. As with expenditures on transportation, miscellaneous expenses were collected at the household level in the CE, and no other data show the share of miscellaneous expenses (personal care products and services, such as haircuts, toothbrushes, etc.; entertainment, such as portable media players, sports equipment, video games, etc.; and reading materials, such as nonschool books, magazines, etc.) attributed to child rearing. Therefore, a per capita method was used to apportion miscellaneous expenses among family members. For many of the goods and services in this budgetary component, such as videos and personal care items, the per capita method is reasonable because such goods and services are likely to be equally shared by family members.

It should be noted that the Consumer Expenditure Survey–Interview component does not collect expense data on a small number of personal care items, such as soap and detergent. Given that children use a share of such items, miscellaneous expenses are therefore underestimated. Such items, however, account for a very small proportion of miscellaneous expenses.



Determining Housing Expenses on Children

Although the CE does not track families over time to see how their housing expenses change, it was assumed that families increase their housing expenditures as they move to larger residences to accommodate children. Child-related housing expenses must be inferred using the CE data for annual family housing expenses.

Based on the rationale that the presence of a child in a home does not affect the number of kitchens or living rooms, but does affect the number of bedrooms (analysis of CE data confirmed this), the average cost of an additional bedroom approach was used to estimate housing expenses on a child in married-couple and single-parent households. Prior to 2008, a per capita approach was used by USDA

to estimate children's housing expenses, where housing expenses were assigned to household members in equal proportions. Because more data on housing characteristics have been made available in the CE survey over time, the average cost of an additional bedroom approach has been used for estimating these expenditures since 2008. Specifically, this approach calculates child-rearing housing expenses as the extra housing costs associated with an additional bedroom in a home for families with children and in each income interval. Multivariate analysis was used to determine the average additional costs by regressing housing expenditures on the number of bedrooms in a home controlling for income level. The analysis was conducted separately for married-couple and single-parent families. Housing expenses were adjusted to account for regional variation in the case of married-couple families. Because most families with children resided in a three- or four-bedroom home, housing expenses on a child were calculated as the average additional cost of one (but not both) of these bedrooms. It was assumed that children in a two-child family do not share a bedroom. With this method, housing expenses on a child include the costs of utilities and furniture associated with the additional bedroom. These expenses do not vary by age of the child because costs due to the bedroom would not be expected to differ much by age.

Using the average cost of an additional bedroom is a conservative estimate of housing expenses on children because it does not account fully for the fact that some families pay more for housing to live in a community with preferred schools or other amenities for children. Part of this expense is captured in the cost of the additional bedroom, but parents may be spending more to live in certain communities than they would without children. In addition, it is a conservative estimate because it does not account fully for parents purchasing of a home with a larger yard, a playroom, or child-specific furnishings in other rooms of the home because of children in the household; however, data on these housing characteristics are limited.

Another possible way to factor in preferred schools, larger yards, etc., would be to compare the extra housing expenses of couples with children to the expenses of couples without children. Ultimately, this approach was not used because of difficulties in establishing a comparison group of childless families not composed of "empty nest" households at various income levels. In addition, younger couples without children may buy larger houses in anticipation of having children. Comparing the expenditures of these couples with those of similar couples with children could lead to underestimates of housing expenditures on children because couples without children have incorporated possible future children in their housing expenditures. For single-parent households, selection of a comparison group is difficult. Single individuals (with no children) would include many people spending more on housing because they do not have child-rearing obligations. Using the housing expense difference between these people and single-parent families could lead to severe underestimates of housing expenditures on children in single-parent families.

Results

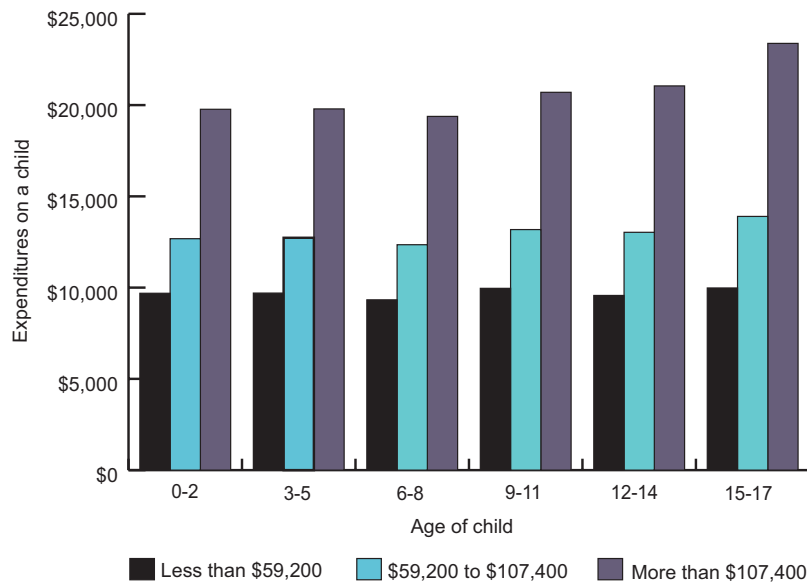
Complete estimates of child-rearing expenditures by married-couple and single-parent families are contained in tables 1-7. The following sections discuss major findings regarding these child-rearing expenditures.

Married-Couple Families

Child-Rearing Expenses and Household Income Are Positively Correlated

In 2015, estimated annual average expenses on the younger child in two-child, married-couple families increased as income level rose (fig. 1). Depending on age of the child, annual expenses ranged from \$9,330 to \$9,980 for families with a before-tax income less than \$59,200; from \$12,350 to \$13,900 for families with a before-tax income between \$59,200 and \$107,400; and from \$19,380 to \$23,380 for families with a before-tax income more than \$107,400.

Figure 1.
Family expenditures on a child, by income level and age of child,¹ 2015



¹ U.S. average for the younger child in married-couple families with children.

On average, households in the lowest income group spent 27 percent of their before-tax income on a child, those in the middle-income group spent 16 percent, and those in the highest group spent 11 percent. The range among these percentages would be narrower if after-tax income was considered.

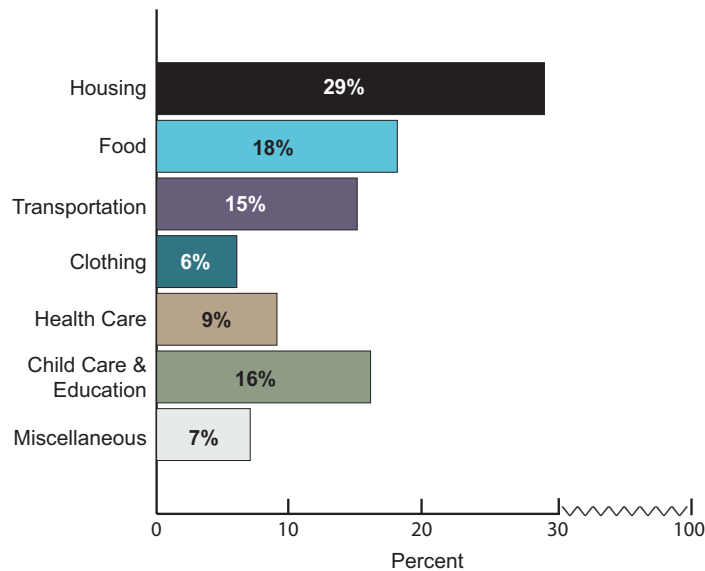
The aggregate amount spent on a child by families in the highest income group, on average, was more than twice the amount spent by families in the lowest income group. This amount varied by budgetary component. In general, expenses on a child for goods and services considered to be necessities (e.g., food and clothing) did not vary as much as those considered to be discretionary (e.g., miscellaneous expenses) among households in the three income groups.

Housing Is the Largest Expense on a Child

Housing accounted for the largest share of total child-rearing expenses. Figure 2 illustrates shares of each expenditure component for the younger child in married-couple, middle-income families with two children. Based on expenses incurred among all age groups, housing accounted for 33 percent of child-rearing expenses for a child in the lowest income group, 29 percent in the middle-income group, and 26 percent in the highest income group for married-couple families.

Food was the second largest expense on a child for married-couple families in the lowest and middle-income groups, accounting for 20 and 18 percent of total expenditures, respectively. Child care and education was the second largest expense on a child for families in the highest income group, accounting for 23 percent of the total expense. As previously discussed, child care and education was the only budgetary component for which many households had zero expenditures. The USDA estimates only include families with positive child care and education expenditures.

Figure 2.
Expenditure shares on a child from birth through age 17
as a percentage of total child-rearing expenditures,¹ 2015



¹ U.S. average for the younger child in middle-income, married-couple families with two children. Child care and education expenses only for families with expense.

Transportation was the third largest expense on a child for families in the lowest income group, accounting for 14 percent of the total expense. Child care and education was the third largest expense for married-couple families in the middle-income group (16 percent of the total), whereas food was the third largest expense for families in the highest income group (15 percent of the total). For the lowest income group, child care and education made up 12 percent of total child-rearing expenses (again for those households with the expense). These families may be purchasing less expensive forms of child care or it may be provided by relatives at no cost; the Census Bureau report (2011) on child care found a greater number of lower income families relied on grandparents or other relatives for child care.

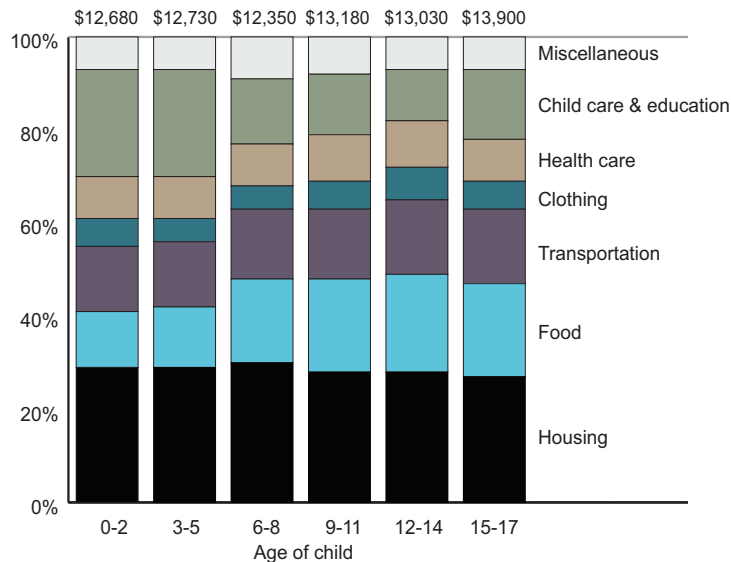
Across the three income groups, health care accounted for 8 to 9 percent of total expenses on children. This consists of out-of-pocket expenses only, including insurance premiums not paid by an employer or other organization, and not that portion covered by health insurance. Clothing accounted for 5 to 7

percent of total expenses, and miscellaneous goods and services accounted for 6 to 9 percent of total expenses across income groups.

Expenses Increase as a Child Ages

Expenditures on a child in married-couple families were generally lower in the younger age categories and higher in the older age categories, as shown in figure 3 for families in the middle-income group. This relationship was consistent across income groups. For all three income groups, food, transportation, clothing, and health care expenses on a child generally increased as the child grew older. Transportation expenses were highest for a child age 15 to 17, possibly because he or she would start driving or be involved in more activities further away from the home. Child care and education expenses were generally highest for a child under age 6. Most of this expense may be attributed to child care prior to full day school.

Figure 3.
Total expenses and expenditure shares on a child (as a percentage of total child-rearing expenditures), by age of child,¹ 2015

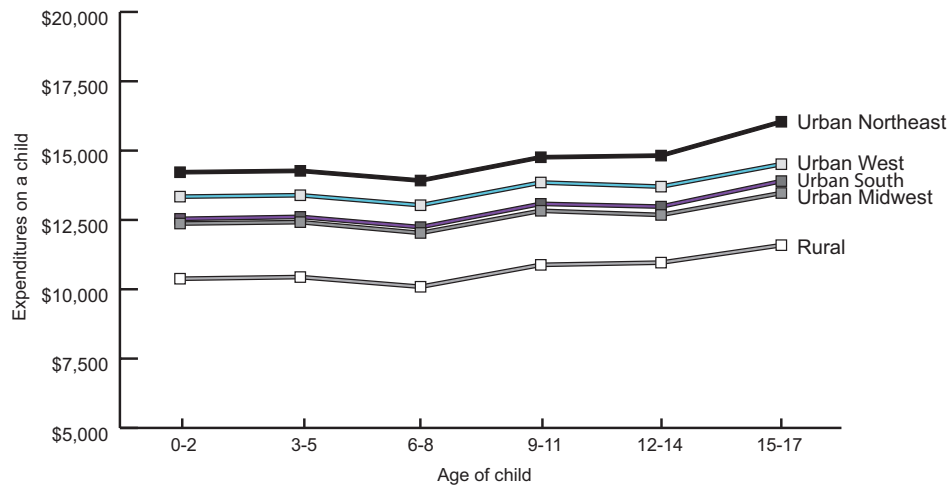


¹ U.S. average for the younger child in middle-income, married-couple families with two children. Child care and education expenses only for families with expense.

Child-Rearing Expenses Are Highest in the Urban Northeast

Region-specific child-rearing expenses reflect patterns similar to those observed in the overall United States for married-couple families. In each region, expenses on a child increased with household income level and typically with age of the child. Figure 4 shows total child-rearing expenses by region and age of a child for the younger child in middle-income, two-child families. Overall, child-rearing expenses were highest in the urban Northeast, followed by the urban West and urban South. Child-rearing expenses were lowest in the urban Midwest and rural areas. Comparing the region with the highest expenditures to the lowest, child-rearing expenses were 27 percent lower in rural areas than the urban Northeast. Much of the regional difference in expenses on a child was related to housing costs and child care and education expenses. Total housing expenses on a child were highest in the urban Northeast and urban West and lowest in rural areas. Child care and education expenses were highest for families in the urban Northeast.

Figure 4.
Family expenditures on a child, by region and age of child,¹ 2015



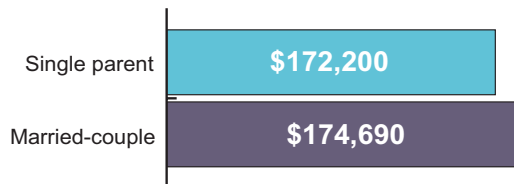
¹ Regional averages for the younger child in middle-income, married-couple families with two children.

Single-Parent Families

Expenses on a child in single-parent families generally followed the same pattern as expenses on a child in married-couple families. Expenses increased as household income level rose; housing, food, and child care/education (for those with the expense) accounted for the largest budgetary shares; and more was spent as children grow older.

Figure 5 presents a comparison of estimated expenditures on a younger child in a two-child, married-couple and single-parent household with a before-tax income less than \$59,200. As previously discussed, 83 percent of single-parent families and 33 percent of married-couple families were in this lower income group and this income included child support payments. Total expenditures per child up to age 18 were, on average, almost the same in single-parent households and married-couple households. However, average income for single-parent families in the lower income group was \$24,400, compared with \$36,300 for married-couple families. Because single-parent families have one less potential earner, their total household income is lower and child-rearing expenses consume a greater percentage of income.

Figure 5.
Total family expenditures on a child from birth through age 17, by single-parent and married-couple households with before-tax income below \$59,200,¹ in 2015 dollars



¹ U.S. average for the younger child in two-child families.

For single-parents, the estimates only cover out-of-pocket child-rearing expenditures made by the parent who has primary care of the child. The estimates do not include child-related expenditures made by the parent without primary care or by others, such as grandparents. The parent with whom the child does not reside the majority of the time may incur transportation, food, and entertainment expenses during visitation days and maintain a larger living unit because the child stays with him or her on weekends. The parent without primary care could also contribute to the child's clothing and health care expenses. Although it would be ideal to include these expenditures, such expenditures could not be estimated from the CE data. Overall expenses paid by both parents on a child in a single-parent household, therefore, are likely to be greater than this study's estimates.

Adjustments for Older Children and Household Size

The estimates of expenses on children in previous sections of this report represent expenditures on the younger child in a married-couple and single-parent household with two children. Expenses on the older child may be different for the two family types. To determine the extent of this difference and how expenditures may be adjusted to estimate expenses on an older child, the methodology used to estimate expenditures on children was essentially repeated with the focus on an older child in each family type. Household income and region of residence (in the case of married-couple households) were not accounted for and the sample was weighted to reflect the U.S. population of interest.

The analysis indicated that the data in tables 1-6 reflect total expenditures on both an older child and a younger child in a married-couple, two-child family. Therefore, annual expenditures on children in a married-couple, two-child family may be estimated by summing the total expenses for the specific age categories of the two children. For example, annual expenditures on a younger child age 11 and an older child age 16 in a married-couple, two-child family in the middle-income group for the overall United States would be \$27,080 (= \$13,180 + \$13,900) (table 8).

Unlike married-couple families, single-parent households with two children, on average, spend about 4 percent less on the older child than on the younger child at a given age category. Also, some of these expenses may be covered by the parent without primary care or another friend or relative. Therefore, annual expenditures on children in a single-parent, two-child family may be estimated from table 7 by: (1) taking the age category of the older child and adjusting the total expenses downward by 4 percent, and then (2) summing the total expenses for the specific age categories of the two children. For example, annual expenditures on a younger child age 8 and an older child age 16 in a single-parent, two-child family in the lower income group for the overall United States would be \$18,920 (= \$8,800 + (\$10,540 X 0.96)) (table 8). It should be noted that for specific budgetary components, annual expenses on an older child in married-couple and single-parent families varied, compared with those on a younger child in a two-child family.

The estimates should also be adjusted if a household has only one child or more than two children. Families may spend more or less per child, depending on the number of other children in the household (income being spread over fewer or more children) and as a result of economies of scale within the household. To derive these adjustments, the methodology used to estimate expenditures on children was replicated for both married-couple and single-parent families with one child and three or more children. The maximum number of children was restricted to three or more because only a small percentage of families had four or more children. Household income and region of residence (in the case of married-couple households) were not accounted for in order for findings to apply generally to all U.S. families. For families with three or more children, the possibility of children sharing a bedroom was factored in by examining the number of bedrooms and number of children in the household.

Table 8.

Estimated annual expenditures on one, two, or three children by married-couple and single-parent families, overall United States, 2015

Married-couple family*		Annual expenditure
One-child household		
Age of child		
2		$\$12,680 \times 1.27 = \$16,100$
5		$12,730 \times 1.27 = 16,170$
8		$12,350 \times 1.27 = 15,680$
11		$13,180 \times 1.27 = 16,740$
14		$13,030 \times 1.27 = 16,550$
17		$13,900 \times 1.27 = 17,650$

Two-child household		
Age of younger child	Age of older child	
2	16	$\$12,680 + \$13,900 = \$26,580$
5	16	$12,730 + 13,900 = 26,630$
8	16	$12,350 + 13,900 = 26,250$
11	16	$13,180 + 13,900 = 27,080$
14	16	$13,030 + 13,900 = 26,930$
15	16	$13,900 + 13,900 = 27,800$

Three-child household		
Age of youngest child	Age of older children	
2	13,16	$(\$12,680 + \$13,030 + \$13,900) \times .76 = \$30,100$
5	13,16	$(12,730 + 13,030 + 13,900) \times .76 = 30,140$
8	13,16	$(12,350 + 13,030 + 13,900) \times .76 = 29,850$
11	13,16	$(13,180 + 13,030 + 13,900) \times .76 = 30,480$
12	13,16	$(13,030 + 13,030 + 13,900) \times .76 = 30,370$

*Estimates are for married-couple families with 2015 before-tax income between \$59,200 and \$107,400.

Single-parent family**		Annual expenditure
One-child household		
Age of child		
2		$\$9,090 \times 1.26 = \$11,450$
5		$9,310 \times 1.26 = 11,730$
8		$8,800 \times 1.26 = 11,090$
11		$9,550 \times 1.26 = 12,030$
14		$10,110 \times 1.26 = 12,740$
17		$10,540 \times 1.26 = 13,280$

Two-child household		
Age of younger child	Age of older child	
2	16	$\$9,090 + (\$10,540 \times .96) = \$19,210$
5	16	$9,310 + (10,540 \times .96) = 19,430$
8	16	$8,800 + (10,540 \times .96) = 18,920$
11	16	$9,550 + (10,540 \times .96) = 19,670$
14	16	$10,110 + (10,540 \times .96) = 20,230$
15	16	$10,540 + (10,540 \times .96) = 20,660$

Three-child household		
Age of youngest child	Age of older children	
2	13,16	$(\$9,090 + (\$10,110 \times .96) + (\$10,540 \times .96)) \times .78 = \$22,550$
5	13,16	$(9,310 + (10,110 \times .96) + (10,540 \times .96)) \times .78 = 22,720$
8	13,16	$(8,800 + (10,110 \times .96) + (10,540 \times .96)) \times .78 = 22,330$
11	13,16	$(9,550 + (10,110 \times .96) + (10,540 \times .96)) \times .78 = 22,910$
12	13,16	$(10,110 + (10,110 \times .96) + (10,540 \times .96)) \times .78 = 23,350$

**Estimates are for single-parent families with 2015 before-tax income less than \$59,200.

Compared with expenditures for each child in a married-couple, two-child family, households with one child spend an average of 27 percent more on the single child, and those with three or more children spend an average of 24 percent less on each child. For single-parent families, those with one child spend an average of 26 percent more on the single child than on a child in a two-child family, and those with three or more children spend an average of 22 percent less on each child. As families have more children, the children can share a bedroom, clothing and toys can be handed down to younger children, food can be purchased in larger and more economical packages, and private schools or child care centers may offer sibling discounts.

Therefore, to estimate annual overall expenditures on an only child by using data in tables 1-7, 27 percent should be added to the total expense for each age category for married-couple families and 26 percent should be added to the total expense for each age category for single-parent families. To estimate expenses on three or more children in married-couple families, 24 percent should be subtracted from the total expense for each child's age category and these totals should be summed. For single-parent families with three or more children, 22 percent should be subtracted from the total expense for each child's age category (after adjusting the expenses on the older children downward), and these totals should be summed. As family size increases, costs per child for food decrease less than for housing and transportation. Much housing space is used in common, and car trips can serve more than one child.

Examples of adjustments needed for one, two, and three children in married-couple families with before-tax income between \$59,200 and \$107,400 are presented in table 8. Similar examples are given for one, two, and three children in single-parent families with income less than \$59,200. In the example for married-couple families, the age of the older child is 16 in the two-child household and the ages of the older children are 13 and 16 in the three-child household. As can be seen, less is spent per child as family size increases. The estimated annual expense on a child age 2 with no siblings is \$16,100; for two children ages 2 and 16, \$26,580; and for three children ages 2, 13, and 16, \$30,100. The major difference in the mechanics of the adjustment for single-parent, compared with married-couple households, is that the expenses on older children need to be adjusted downward by 4 percent.



Alternative Estimates of Expenditures on Children

The methodology used in this report to estimate child-rearing expenses is based on several steps: (1) assigning child-specific expenses (clothing, child care, and education) in the CE data to children, (2) allocating household-level expenses based on findings from authoritative research (food and health care) or on a per capita basis (transportation and miscellaneous items), and (3) calculating housing expenses by using an approach that accounts for the average cost of an additional bedroom. An alternative method to estimate expenditures on children is a marginal cost method. The marginal cost method measures expenditures on children as the difference in expenses between families with children and equivalent families without children. While there is no generally accepted

equivalency measure in the economics literature, two of the most commonly used are the Engel and Rothbarth approaches. (See the U.S. Department of Health and Human Services report (1990) for more detailed information on these two approaches.) The Engel approach assumes that if two families spend an equal percentage of their total expenditures on food, they are equally well-off. The Rothbarth approach assumes that if two families spend an equal amount on luxuries (e.g., alcohol, tobacco, entertainment, and sweets) and have the same level of savings, they are equally well-off.

One limitation of the Engel and Rothbarth estimators is that they are not true marginal cost approaches. A true marginal cost approach examines additional expenditures a family makes because of the presence of a child in the household—how much more the family spends on housing, food, and other items because of the child. A true marginal cost approach would track the same sample of families over time. Marginal cost approaches, as implemented, do not do this. They examine two different sets of families, those with children and those without children, at one point in time. Hence, the term “marginal cost” approach is somewhat of a misnomer.

Another limitation with the Rothbarth and Engel approaches is that they do not consider substitution effects. Both approaches assume parents do not alter their expenditures on themselves after a child is added to a household. This could lead to problems when applying such an approach to individual budgetary components. For example, many families may reduce the number of high-cost vacations they take once they have children. However, with a “marginal cost” method, transportation expenses of these families without children (and high vacation costs) would be compared with expenses of families with children, likely leading to underestimates of transportation expenses on a child.

These limitations are likely more significant if used to calculate miscellaneous expenses on a child. Published data show entertainment expenses, one of the major components of the miscellaneous category, were greater for married-couple families without children than for married-couple families with young children as well as married-couple families with an oldest child over age 18 living in the household (U.S. Department of Labor, 2016b). Using a “marginal cost” method in this case could lead to the questionable result of having negative entertainment expenditures on a child.

Since 2000, several studies have estimated child-rearing expenses by using both the Engel and Rothbarth estimators and applying them to Consumer Expenditure Survey data (Comanor, 2015; Judicial Council of California, 2001 and 2011; Venohr, 2006; McCaleb, 2008).⁴ Table 9 shows the child-rearing expense estimates produced by these studies for married-couple families by number of children and as a percentage of total family expenditures; these studies estimated child-rearing expenses as a percentage of total expenditures and did not examine expenses by budgetary component. It should be noted that the Rothbarth method was usually implemented by using only adult clothing as the equivalency method so it is not a full implementation of the Rothbarth approach. It is unknown how results would differ if a more complete Rothbarth approach were implemented. An earlier study found the results of the Rothbarth approach to vary considerably depending on the budgetary items included in the equivalency scale definition and concluded this revealed a significant weakness in the practical application of the approach (Lancaster and Ray, 1998).

⁴ A 2015 study by Comanor et al. examined expenditures on children using a marginal cost approach without a set equivalence scale. The results of this study did not include health care expenses so it is not included in table 9. Even with excluding health care expenses from the studies referred to in table 9, the child-rearing expense estimates of the Comanor et al. study are much lower than those of USDA and the various Engel and Rothbarth approaches. In fact, the Comanor et al. study found that “... except for low-income married households... adding a single child to the household does not substantially increase average food costs.” (p. 229).

The range in estimates resulting from the various studies implementing the Rothbarth and Engel approaches is striking. For one child, the estimates ranged between 21 to 32 percent of household expenditures being spent on the child; for two children, 31 to 47 percent; and for three children, 38 to 57 percent (almost a 20-percentage-point difference).⁵ When using the “marginal cost” method in estimating expenditures on children, a researcher’s choice of an equivalency scale is crucial because different measures yield different results. Even using the same equivalency measure can result in different estimates, depending on the years of data used and model specification. For example, the 2011 study based on the Rothbarth estimator found that for two-child families, 37 percent of total family expenditures went to goods and services for children (Judicial Council of California, 2011), while the 2008 study using the Rothbarth estimator found that 47 percent of expenditures went to goods and services for two children (McCaleb et al., 2008). The 2008 study found the Rothbarth estimator to be the most sensitive to underlying data and sample restrictions. Also, the 2011 study calls into question the validity of the Engel approach.

Table 9 also presents the 2015 USDA CNPP’s estimates along with estimates derived using various Rothbarth and Engel approaches undertaken since 2000. The estimates are within the range of Rothbarth and Engel estimates. For married-couple families with one child, USDA estimates 26 percent of total family expenditures are spent on the child; the various Rothbarth and Engel approaches range from 21 to 32 percent, with an average of 26 percent. For married-couple families with two children, USDA estimates 39 percent of total family expenditures are spent on the child; the various Rothbarth and Engel approaches range from 31 to 47 percent, with an average of 39 percent. For married-couple families with three children, USDA estimates 49 percent of total family expenditures are spent on the child; the various Rothbarth and Engel approaches range from 38 to 57 percent, with an average of 46 percent.

Table 9.
Average percent of household expenditures attributable to children in married-couple families, by estimator and number of children

Number of children	One	Two	Three
Estimator		<i>Percent</i>	
Engel (2001) ¹	30	44	52
Rothbarth (2001) ¹	26	36	42
Rothbarth (2006) ²	25	37	44
Engel (2008) ³	21	31	38
Rothbarth (2008) ³	32	47	57
Rothbarth (2011) ⁴	24	37	45
Average of above	26	39	46
USDA/CNPP (2016)	26	39	49

¹ From Judicial Council of California (2001).

² From Policy Studies Inc. (2006).

³ From McCaleb, Macpherson, and Norrbin (2008).

⁴ From Judicial Council of California (2011).

⁵ A study by researchers at Rutgers University (2013) examined expenditures on children using a Rothbarth approach but included single-parent as well as husband-wife families so it is not included here. This study found that the percentage of household expenditures going to children by number of children was 22 percent for one child, 26 percent for two children, and 33 percent for three children.

Estimating Future Expenditures

The estimates presented so far represent household expenditures on a child of a certain age in 2015. What would be the total expenses on a child born in 2015 through age 17, factoring in inflation? To estimate these expenses over time, future price changes need to be incorporated. To do this, a future cost formula is used:

$$C_f = C_p (1 + i)^n$$

where:

C_f = projected future annual dollar expenditure on a child of a particular age

C_p = present (2015) annual dollar expenditure on a child of a particular age

i = projected annual inflation (or deflation) rate

n = number of years from present until child will reach a particular age

An example of estimated future expenditures on the younger child in a married-couple family with two children is presented in table 10. The example assumes a child is born in 2015 and reaches age 17 in the year 2032, and the average annual inflation rate over this time is 2.2 percent (the average annual inflation rate over the past 20 years) (U.S. Department of Labor, 2016c). Total family expenses on a child from birth through age 17 adjusted for future inflation would be \$212,300 for households in the lowest income group, \$284,570 for those in the middle-income group, and \$454,770 for those in the highest income group. However; in present 2015 dollar values, these figures are \$174,690, \$233,610, and \$372,210, respectively.

Table 10.
Future estimated annual expenditures* on a child born in 2015 by income group, overall United States

Year	Age	Income group		
		Lowest	Middle	Highest
2015	<1	\$9,690	\$12,680	\$19,770
2016	1	9,910	12,960	20,210
2017	2	10,130	13,250	20,660
2018	3	10,360	13,600	21,140
2019	4	10,590	13,900	21,620
2020	5	10,830	14,210	22,100
2021	6	10,650	14,100	22,120
2022	7	10,890	14,410	22,620
2023	8	11,130	14,730	23,120
2024	9	12,150	16,070	25,250
2025	10	12,420	16,430	25,810
2026	11	12,690	16,800	26,380
2027	12	12,470	16,980	27,430
2028	13	12,750	17,360	28,040
2029	14	13,030	17,740	28,660
2030	15	13,890	19,350	32,550
2031	16	14,200	19,780	33,270
2032	17	14,520	20,220	34,020
Total		\$212,300	\$284,570	\$454,770

*Estimates are for the younger child in married-couple families with two children and assume an average annual inflation rate of 2.2 percent.

Inflation rates other than 2.2 percent could be used in the formula if inflation projections change. Also, it is somewhat unrealistic to assume that households remain in one income category as a child grows older. For some families, income rises over time, so a family may move from one income group to another. For other families, a job loss or divorce may cause a decline in income. In addition, such inflation projections assume child-rearing expenditures change only with inflation. Parental expenditure patterns also change over time.

Expenditures Not Included

Expenditures estimated in this study are made on children from birth through age 17 for seven major budgetary components. One of the largest excluded expenses is the cost of a college education. The College Board (2016) estimated that in 2016-17, annual average (enrollment-weighted) tuition and fees were \$9,650 at 4-year public colleges (in-State tuition) and \$33,480 at 4-year private (non-profit) colleges; annual room and board was \$10,440 at 4-year public colleges and \$11,890 at 4-year private colleges. For 2-year colleges in 2016-17, annual average tuition and fees were \$3,520 at public colleges. College-related expenses on children may even take place before children are college age in the form of savings. Other expenses that are not included are prenatal care, fertility care, child birth and adoption expenses, or any costs made on children after age 17. These parental expenses on children after age 17 could include those associated with children living at home or if children do not live at home, gifts and other contributions to them. Expenses related to life insurance on parents are also not included in the estimates. Although these expenses are not made directly on children, it is likely that they are primarily incurred for the benefit of children.

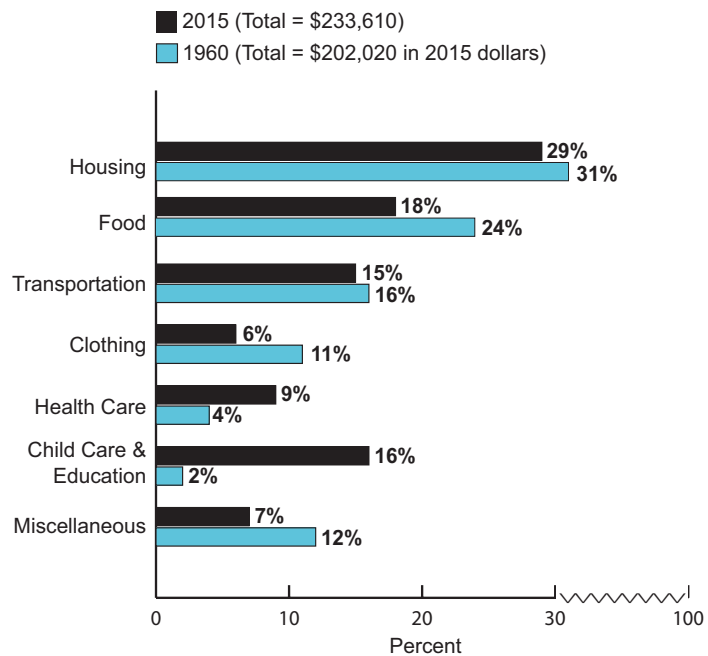
Not all government expenditures on children are included. Examples of excluded expenses would be public education, Medicaid, and subsidized school meals. The actual expenditures on children (by parents and the government), therefore, would be higher than reported in this study, especially for children in the lowest income group. Expenditures on children made by people not in the household, such as grandparents and other relatives, were not factored in the estimates. Indirect costs involved in child rearing were not included in the estimates. Although these costs are typically more difficult to measure than direct expenditures, they may be substantial. The time involved in rearing children is considerable and has a cost attached to it. One study found that the imputed value of parental time spent on children exceeded the direct cash expenditures on them (Folbre, 2008). In addition, to care for children, current earnings and future career opportunities may be diminished because of job choice or reduced time in the labor force for one or both parents. These situations also have a cost attached to them.

Expenditures on Children: 1960 versus 2015

The U.S. Department of Agriculture first provided estimates of child-rearing expenditures in 1960. The current estimates are not precisely comparable to previous estimates because of methodology changes; for example, housing expenses are now determined by using the average cost of an additional bedroom as opposed to a per capita approach, and food expenses are now based on what households spend as opposed to a suggested standard. Although these types of methodological changes exist, a general comparison is possible.

In 1960, average expenditures on a child in a middle-income, married-couple family amounted to \$25,229, or \$202,020 in 2015 dollars. By 2015, these estimated expenditures climbed 16 percent in real terms to \$233,610 (assuming a family had child care and education expenses on a child).

Expenditures on a child from birth through age 17, total expenses and budgetary component shares, 1960 versus 2015¹



¹ U.S. average for a child in middle-income, married-couple families.

Housing was the largest expense on a child in both time periods and increased in real terms over this time. Food was the second largest expense in both time periods, but decreased in real terms. Changes in agriculture over the past 50 years have resulted in family food budgets being a lower percentage of household income. Transportation expenses on a child increased about 10 percent in real terms from 1960 to 2015.

Clothing and miscellaneous expenses on a child decreased as a percentage of total child-rearing expenses and in real terms from 1960 to 2015. Reduced real expenses on children's clothing may reflect technological changes and globalization that have made clothing less expensive in real terms. The growth in real terms of housing and other expenses on a child may be the cause of the decline in miscellaneous expenses on a child, which are often seen as discretionary.

Health care expenses on a child more than doubled as a percentage of total child-rearing costs, as well as increasing in real terms, from 1960 to 2015. The most significant change in child-rearing expenses over time relates to child care and education expenses. It should be noted that in 1960, child care/education expenses included families with and without the expense. Even so, these expenses grew from 2 percent of total child-rearing expenditures in 1960 (for families with and without the expense) to 16 percent (for families with the expense) in 2015. Much of this growth is likely related to child care. In 1960, child care costs were negligible, mainly consisting of in-the-home babysitting. Since then, the labor force participation of women has greatly increased, leading to the need for more child care. Child-rearing expense estimates were not provided for single-parent families in 1960, likely because of the small percentage of children residing in such households at the time.

Conclusion

This technical report presents the most recent child-rearing expense estimates for married-couple and single-parent families using data from the 2011-15 Consumer Expenditure Survey (all data updated to 2015 dollars). Expenditures for major budgetary components estimated in this study consisted of direct parental expenses made on children from birth through age 17. The 2015 estimate for child-rearing expenses for raising a child from birth through age 17 in a two child, middle-income, married-couple family is \$233,610. However, expenses vary considerably by household income level, region, and composition, emphasizing that a single estimate may not be applicable to all families. The direct and indirect costs of raising children are considerable, absorbing a major share of the household budget.

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Table 1. Estimated annual expenditures on a child by married-couple families, overall United States, 2015

Age of child	Total expense	Housing	Food	Transportation	Clothing	Health care	Child care and education ^a	Miscellaneous ^b
Before tax income: Less than \$59,200 (Average = \$36,300)								
0 - 2	\$9,690	\$3,160	\$1,310	\$1,200	\$670	\$820	\$2,080	\$450
3 - 5	9,700	3,160	1,350	1,250	540	760	2,080	560
6 - 8	9,330	3,160	1,930	1,310	540	790	920	680
9 - 11	9,960	3,160	2,200	1,350	690	900	920	740
12 - 14	9,570	3,160	2,290	1,500	740	860	440	580
15 - 17	9,980	3,160	2,300	1,690	720	910	640	560
Total expenses	\$174,690	\$56,880	\$34,140	\$24,900	\$11,700	\$15,120	\$21,240	\$10,710
Before tax income: \$59,200 to \$107,400 (Average = \$81,700)								
0 - 2	\$12,680	\$3,680	\$1,580	\$1,790	\$750	\$1,180	\$2,870	\$830
3 - 5	12,730	3,680	1,690	1,840	600	1,110	2,870	940
6 - 8	12,350	3,680	2,280	1,900	600	1,130	1,710	1,050
9 - 11	13,180	3,680	2,680	1,940	780	1,280	1,710	1,110
12 - 14	13,030	3,680	2,780	2,090	860	1,240	1,430	950
15 - 17	13,900	3,680	2,790	2,270	830	1,300	2,090	940
Total expenses	\$233,610	\$66,240	\$41,400	\$35,490	\$13,260	\$21,720	\$38,040	\$17,460
Before tax income: More than \$107,400 (Average = \$185,400)								
0 - 2	\$19,770	\$5,460	\$2,210	\$2,590	\$1,110	\$1,580	\$5,170	\$1,650
3 - 5	19,790	5,460	2,320	2,640	940	1,490	5,170	1,770
6 - 8	19,380	5,460	2,960	2,690	940	1,440	4,010	1,880
9 - 11	20,700	5,460	3,570	2,740	1,180	1,800	4,010	1,940
12 - 14	21,050	5,460	3,560	2,890	1,310	1,740	4,310	1,780
15 - 17	23,380	5,460	3,720	3,070	1,280	1,820	6,270	1,760
Total expenses	\$372,210	\$98,280	\$55,020	\$49,860	\$20,280	\$29,610	\$86,820	\$32,340

Estimates are based on 2011-15 Consumer Expenditure Survey data (all data updated to 2015 dollars by using the Consumer Price Index—All Urban Consumers). For each age category, the expense estimates represent average child-rearing expenditures for each age (e.g., the expense for the 3-5 age category, on average, applies to the 3-year-old, the 4-year-old, or the 5-year-old). The Total expenses (0 - 17) row represents the expenditure sum of all ages (0, 1, 2, 3, ...17) in 2015 dollars. The figures represent estimated expenses on the younger child in a two-child family. Estimates are about the same for the older child, so to calculate expenses for two children, figures should be summed for the appropriate age categories. To estimate expenses for an only child, multiply the total expense for the appropriate age category by 1.27. To estimate expenses for each child in a family with three or more children, multiply the total expense for each appropriate age category by 0.76. For expenses on all children in a family, these totals should be summed.

^a Includes only families with child care and education expenses.

^b Includes personal care items, entertainment, and reading materials.

Table 2. Estimated annual expenditures on a child by married-couple families, urban Northeast, 2015

Age of child	Total expense	Housing	Food	Transportation	Clothing	Health care	Child care and education ^a	Miscellaneous ^b
Before-tax income: Less than \$59,200 (Average = \$36,000)								
0 - 2	\$11,240	\$3,770	\$1,360	\$1,200	\$960	\$720	\$2,740	\$490
3 - 5	11,220	3,770	1,390	1,240	810	670	2,740	600
6 - 8	10,850	3,770	1,990	1,300	810	690	1,570	720
9 - 11	11,520	3,770	2,270	1,340	1,000	800	1,570	770
12 - 14	11,330	3,770	2,350	1,490	1,080	760	1,260	620
15 - 17	12,120	3,770	2,370	1,680	1,050	810	1,840	600
Total expenses	\$204,840	\$67,860	\$35,190	\$24,750	\$17,130	\$13,350	\$35,160	\$11,400
Before-tax income: \$59,200 to \$107,400 (Average = \$83,000)								
0 - 2	\$14,220	\$4,380	\$1,620	\$1,780	\$1,030	\$1,060	\$3,490	\$860
3 - 5	14,270	4,380	1,730	1,830	880	990	3,490	970
6 - 8	13,920	4,380	2,340	1,890	880	1,020	2,320	1,090
9 - 11	14,760	4,380	2,740	1,930	1,090	1,160	2,320	1,140
12 - 14	14,820	4,380	2,850	2,080	1,200	1,110	2,210	990
15 - 17	16,040	4,380	2,860	2,270	1,170	1,170	3,220	970
Total expenses	\$264,090	\$78,840	\$42,420	\$35,340	\$18,750	\$19,530	\$51,150	\$18,060
Before-tax income: More than \$107,400 (Average = \$191,500)								
0 - 2	\$21,610	\$6,510	\$2,240	\$2,590	\$1,430	\$1,440	\$5,720	\$1,680
3 - 5	21,610	6,510	2,350	2,630	1,250	1,360	5,720	1,790
6 - 8	21,240	6,510	3,010	2,690	1,250	1,320	4,550	1,910
9 - 11	22,560	6,510	3,620	2,730	1,540	1,650	4,550	1,960
12 - 14	23,090	6,510	3,610	2,880	1,700	1,590	4,990	1,810
15 - 17	25,720	6,510	3,780	3,070	1,660	1,660	7,260	1,780
Total expenses	\$407,490	\$117,180	\$55,830	\$49,770	\$26,490	\$27,060	\$98,370	\$32,790

Estimates are based on 2011-15 Consumer Expenditure Survey data (all data updated to 2015 dollars by using the Northeast region Consumer Price Index—All Urban Consumers). For each age category, the expense estimates represent average child-rearing expenditures for each age (e.g., the expense for the 3-5 age category, on average, applies to the 3-year-old, the 4-year-old, or the 5-year-old). The Total expenses (0 - 17) row represents the expenditure sum of all ages (0, 1, 2, 3, ...17) in 2015 dollars. The figures represent estimated expenses on the younger child in a two-child family. Estimates are about the same for the older child, so to calculate expenses for two children, figures should be summed for the appropriate age categories. To estimate expenses for an only child, multiply the total expense for the appropriate age category by 1.27. To estimate expenses for each child in a family with three or more children, multiply the total expense for each appropriate age category by 0.76. For expenses on all children in a family, these totals should be summed.

The Northeastern region consists of Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

^a Includes only families with child care and education expenses.

^b Includes personal care items, entertainment, and reading materials.

Table 3. Estimated annual expenditures on a child by married-couple families, urban West, 2015

Age of child	Total expense	Housing	Food	Transportation	Clothing	Health care	Child care and education ^a	Miscellaneous ^b
Before-tax income: Less than \$59,200 (Average = \$35,100)								
0 - 2	\$10,340	\$3,710	\$1,340	\$1,190	\$840	\$740	\$2,020	\$500
3 - 5	10,340	3,710	1,370	1,240	700	690	2,020	610
6 - 8	9,970	3,710	1,960	1,300	710	710	850	730
9 - 11	10,590	3,710	2,230	1,340	860	820	850	780
12 - 14	10,240	3,710	2,320	1,490	930	790	370	630
15 - 17	10,610	3,710	2,340	1,680	900	830	540	610
Total expenses	\$186,270	\$66,780	\$34,680	\$24,720	\$14,820	\$13,740	\$19,950	\$11,580
Before-tax income: \$59,200 to \$107,400 (Average = \$80,300)								
0 - 2	\$13,340	\$4,310	\$1,600	\$1,780	\$910	\$1,090	\$2,780	\$870
3 - 5	13,390	4,310	1,710	1,830	760	1,020	2,780	980
6 - 8	13,030	4,310	2,310	1,890	760	1,050	1,610	1,100
9 - 11	13,850	4,310	2,710	1,930	950	1,190	1,610	1,150
12 - 14	13,700	4,310	2,810	2,080	1,040	1,140	1,320	1,000
15 - 17	14,510	4,310	2,830	2,270	1,010	1,200	1,920	970
Total expenses	\$245,460	\$77,580	\$41,910	\$35,340	\$16,290	\$20,070	\$36,060	\$18,210
Before-tax income: More than \$107,400 (Average = \$189,500)								
0 - 2	\$20,670	\$6,400	\$2,220	\$2,580	\$1,290	\$1,480	\$5,010	\$1,690
3 - 5	20,680	6,400	2,330	2,630	1,120	1,390	5,010	1,800
6 - 8	20,290	6,400	2,980	2,690	1,120	1,350	3,830	1,920
9 - 11	21,570	6,400	3,590	2,730	1,370	1,680	3,830	1,970
12 - 14	21,910	6,400	3,580	2,880	1,500	1,630	4,100	1,820
15 - 17	24,150	6,400	3,750	3,070	1,470	1,700	5,970	1,790
Total expenses	\$387,810	\$115,200	\$55,350	\$49,740	\$23,610	\$27,690	\$83,250	\$32,970

Estimates are based on 2011-15 Consumer Expenditure Survey data (all data updated to 2015 dollars by using the West region Consumer Price Index—All Urban Consumers). For each age category, the expense estimates represent average child-rearing expenditures for each age (e.g., the expense for the 3-5 age category, on average, applies to the 3-year-old, the 4-year-old, or the 5-year-old). The Total expenses (0 - 17) row represents the expenditure sum of all ages (0, 1, 2, 3, ...17) in 2015 dollars. The figures represent estimated expenses on the younger child in a two-child family. Estimates are about the same for the older child, so to calculate expenses for two children, figures should be summed for the appropriate age categories. To estimate expenses for an only child, multiply the total expense for the appropriate age category by 1.27. To estimate expenses for each child in a family with three or more children, multiply the total expense for each appropriate age category by 0.76. For expenses on all children in a family, these totals should be summed.

The Western region consists of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

^a Includes only families with child care and education expenses.

^b Includes personal care items, entertainment, and reading materials.

Table 4. Estimated annual expenditures on a child by married-couple families, urban Midwest, 2015

Age of child	Total expense	Housing	Food	Transportation	Clothing	Health care	Child care and education ^a	Miscellaneous ^b
Before-tax income: Less than \$59,200 (Average = \$37,600)								
0 - 2	\$9,460	\$3,010	\$1,220	\$1,120	\$820	\$800	\$1,970	\$520
3 - 5	9,460	3,010	1,260	1,170	680	740	1,970	630
6 - 8	9,060	3,010	1,820	1,230	680	770	800	750
9 - 11	9,690	3,010	2,080	1,270	840	890	800	800
12 - 14	9,310	3,010	2,160	1,420	910	850	310	650
15 - 17	9,660	3,010	2,180	1,610	880	900	450	630
Total expenses	\$169,920	\$54,180	\$32,160	\$23,460	\$14,430	\$14,850	\$18,900	\$11,940
Before-tax income: \$59,200 to \$107,400 (Average = \$81,700)								
0 - 2	\$12,370	\$3,500	\$1,490	\$1,710	\$890	\$1,160	\$2,730	\$890
3 - 5	12,420	3,500	1,600	1,760	740	1,090	2,730	1,000
6 - 8	12,030	3,500	2,170	1,820	740	1,120	1,560	1,120
9 - 11	12,830	3,500	2,550	1,860	930	1,260	1,560	1,170
12 - 14	12,680	3,500	2,650	2,010	1,020	1,220	1,260	1,020
15 - 17	13,470	3,500	2,670	2,200	1,000	1,280	1,830	990
Total expenses	\$227,400	\$63,000	\$39,390	\$34,080	\$15,960	\$21,390	\$35,010	\$18,570
Before-tax income: More than \$107,400 (Average = \$177,300)								
0 - 2	\$19,310	\$5,200	\$2,110	\$2,510	\$1,260	\$1,570	\$4,950	\$1,710
3 - 5	19,320	5,200	2,220	2,560	1,090	1,480	4,950	1,820
6 - 8	18,900	5,200	2,840	2,620	1,090	1,430	3,780	1,940
9 - 11	20,200	5,200	3,440	2,660	1,350	1,780	3,780	1,990
12 - 14	20,540	5,200	3,430	2,810	1,490	1,730	4,040	1,840
15 - 17	22,730	5,200	3,590	3,000	1,450	1,800	5,880	1,810
Total expenses	\$363,000	\$93,600	\$52,890	\$48,480	\$23,190	\$29,370	\$82,140	\$33,330

Estimates are based on 2011-15 Consumer Expenditure Survey data (all data updated to 2015 dollars by using the Midwest region Consumer Price Index—All Urban Consumers). For each age category, the expense estimates represent average child-rearing expenditures for each age (e.g., the expense for the 3-5 age category, on average, applies to the 3-year-old, the 4-year-old, or the 5-year-old). The Total expenses (0 - 17) row represents the expenditure sum of all ages (0, 1, 2, 3, ...17) in 2015 dollars. The figures represent estimated expenses on the younger child in a two-child family. Estimates are about the same for the older child, so to calculate expenses for two children, figures should be summed for the appropriate age categories. To estimate expenses for an only child, multiply the total expense for the appropriate age category by 1.27. To estimate expenses for each child in a family with three or more children, multiply the total expense for each appropriate age category by 0.76. For expenses on all children in a family, these totals should be summed.

The Midwestern region consists of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

^a Includes only families with child care and education expenses.

^b Includes personal care items, entertainment, and reading materials.

Table 5. Estimated annual expenditures on a child by married-couple families, urban South, 2015

Age of child	Total expense	Housing	Food	Transportation	Clothing	Health care	Child care and education ^a	Miscellaneous ^b
Before-tax income: Less than \$59,200 (Average = \$36,500)								
0 - 2	\$9,680	\$2,890	\$1,360	\$1,260	\$790	\$770	\$2,220	\$390
3 - 5	9,710	2,890	1,400	1,310	660	720	2,220	510
6 - 8	9,320	2,890	2,000	1,370	660	740	1,040	620
9 - 11	9,960	2,890	2,270	1,410	820	850	1,040	680
12 - 14	9,650	2,890	2,360	1,560	880	820	610	530
15 - 17	10,110	2,890	2,370	1,750	850	860	890	500
Total expenses	\$175,290	\$52,020	\$35,280	\$25,980	\$13,980	\$14,280	\$24,060	\$9,690
Before-tax income: \$59,200 to \$107,400 (Average = \$82,000)								
0 - 2	\$12,540	\$3,360	\$1,620	\$1,850	\$860	\$1,120	\$2,970	\$760
3 - 5	12,610	3,360	1,730	1,900	720	1,050	2,970	880
6 - 8	12,240	3,360	2,340	1,950	720	1,080	1,800	990
9 - 11	13,080	3,360	2,740	2,000	910	1,220	1,800	1,050
12 - 14	12,980	3,360	2,850	2,140	990	1,180	1,560	900
15 - 17	13,900	3,360	2,870	2,330	960	1,240	2,270	870
Total expenses	\$232,050	\$60,480	\$42,450	\$36,510	\$15,480	\$20,670	\$40,110	\$16,350
Before-tax income: More than \$107,400 (Average = \$183,500)								
0 - 2	\$19,420	\$4,990	\$2,250	\$2,650	\$1,230	\$1,520	\$5,200	\$1,580
3 - 5	19,460	4,990	2,360	2,700	1,070	1,440	5,200	1,700
6 - 8	19,060	4,990	3,010	2,760	1,070	1,390	4,030	1,810
9 - 11	20,350	4,990	3,620	2,800	1,310	1,730	4,030	1,870
12 - 14	20,740	4,990	3,620	2,950	1,450	1,680	4,340	1,710
15 - 17	23,090	4,990	3,790	3,140	1,410	1,750	6,320	1,690
Total expenses	\$366,360	\$89,820	\$55,950	\$51,000	\$22,620	\$28,530	\$87,360	\$31,080

Estimates are based on 2011-15 Consumer Expenditure Survey data (all data updated to 2015 dollars by using the South region Consumer Price Index—All Urban Consumers). For each age category, the expense estimates represent average child-rearing expenditures for each age (e.g., the expense for the 3-5 age category, on average, applies to the 3-year-old, the 4-year-old, or the 5-year-old). The Total expenses (0 - 17) row represents the expenditure sum of all ages (0, 1, 2, 3, ...17) in 2015 dollars. The figures represent estimated expenses on the younger child in a two-child family. Estimates are about the same for the older child, so to calculate expenses for two children, figures should be summed for the appropriate age categories. To estimate expenses for an only child, multiply the total expense for the appropriate age category by 1.27. To estimate expenses for each child in a family with three or more children, multiply the total expense for each appropriate age category by 0.76. For expenses on all children in a family, these totals should be summed.

The Southern region consists of Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

^a Includes only families with child care and education expenses.

^b Includes personal care items, entertainment, and reading materials.

Table 6. Estimated annual expenditures on a child by married-couple families, rural areas, 2015

Age of child	Total expense	Housing	Food	Transportation	Clothing	Health care	Child care and education ^a	Miscellaneous ^b
Before-tax income: Less than \$59,200 (Average = \$36,100)								
0 - 2	\$8,000	\$2,060	\$1,180	\$1,180	\$670	\$820	\$1,720	\$370
3 - 5	8,020	2,060	1,230	1,230	540	760	1,720	480
6 - 8	7,650	2,060	1,770	1,280	540	780	620	600
9 - 11	8,270	2,060	2,030	1,330	680	900	620	650
12 - 14	8,200	2,060	2,110	1,470	740	860	460	500
15 - 17	8,630	2,060	2,130	1,660	720	910	680	470
Total expenses	\$146,310	\$37,080	\$31,350	\$24,450	\$11,670	\$15,090	\$17,460	\$9,210
Before-tax income: \$59,200 to \$107,400 (Average = \$79,500)								
0 - 2	\$10,380	\$2,400	\$1,450	\$1,770	\$740	\$1,180	\$2,100	\$740
3 - 5	10,440	2,400	1,560	1,820	600	1,110	2,100	850
6 - 8	10,090	2,400	2,120	1,870	600	1,130	1,000	970
9 - 11	10,880	2,400	2,500	1,910	770	1,280	1,000	1,020
12 - 14	10,960	2,400	2,600	2,060	850	1,240	940	870
15 - 17	11,590	2,400	2,620	2,250	820	1,290	1,370	840
Total expenses	\$193,020	\$43,200	\$38,550	\$35,040	\$13,140	\$21,690	\$25,530	\$15,870
Before-tax income: More than \$107,400 (Average = \$156,800)								
0 - 2	\$14,940	\$3,560	\$2,080	\$2,570	\$1,080	\$1,590	\$2,510	\$1,550
3 - 5	14,970	3,560	2,190	2,620	920	1,500	2,510	1,670
6 - 8	14,600	3,560	2,800	2,670	920	1,450	1,420	1,780
9 - 11	15,880	3,560	3,380	2,720	1,150	1,810	1,420	1,840
12 - 14	15,970	3,560	3,380	2,860	1,270	1,750	1,460	1,690
15 - 17	17,000	3,560	3,540	3,050	1,240	1,830	2,120	1,660
Total expenses	\$280,080	\$64,080	\$52,110	\$49,470	\$19,740	\$29,790	\$34,320	\$30,570

Estimates are based on 2011-15 Consumer Expenditure Survey data (all data updated to 2015 dollars by using the Consumer Price Index for nonmetropolitan areas. For each age category, the expense estimates represent average child-rearing expenditures for each age (e.g., the expense for the 3-5 age category, on average, applies to the 3-year-old, the 4-year-old, or the 5-year-old). The Total expenses (0 - 17) row represents the expenditure sum of all ages (0, 1, 2, 3, ... 17) in 2015 dollars. The figures represent estimated expenses on the younger child in a two-child family. Estimates are about the same for the older child, so to calculate expenses for two children, figures should be summed for the appropriate age categories. To estimate expenses for an only child, multiply the total expense for the appropriate age category by 1.27. To estimate expenses for each child in a family with three or more children, multiply the total expense for each appropriate age category by 0.76. For expenses on all children in a family, these totals should be summed.

Rural areas are places of fewer than 2,500 people outside a Metropolitan Statistical Area.

^a Includes only families with child care and education expenses.

^b Includes personal care items, entertainment, and reading materials.

Table 7. Estimated annual expenditures on a child by single-parent families, overall United States, 2015

Age of child	Total expense	Housing	Food	Transportation	Clothing	Health care	Child care and education ^a	Miscellaneous ^b
Before tax income: Less than \$59,200 (Average = \$24,400)								
0 - 2	\$9,090	\$3,360	\$1,610	\$710	\$400	\$610	\$1,940	\$460
3 - 5	9,310	3,360	1,550	880	290	690	1,940	600
6 - 8	8,800	3,360	2,010	840	320	630	980	660
9 - 11	9,550	3,360	2,230	940	450	750	1,030	790
12 - 14	10,110	3,360	2,390	1,000	500	790	1,320	750
15 - 17	10,540	3,360	2,350	1,080	460	850	1,790	650
Total expenses	\$172,200	\$60,480	\$36,420	\$16,350	\$7,260	\$12,960	\$27,000	\$11,730
Before tax income: More than \$59,200 (Average = \$99,000)								
0 - 2	\$16,500	\$5,500	\$2,430	\$1,570	\$550	\$1,140	\$4,000	\$1,310
3 - 5	16,740	5,500	2,390	1,730	420	1,250	4,000	1,450
6 - 8	16,370	5,500	2,900	1,700	450	1,160	3,150	1,510
9 - 11	17,800	5,500	3,510	1,800	630	1,390	3,330	1,640
12 - 14	18,740	5,500	3,540	1,850	730	1,450	4,070	1,600
15 - 17	20,190	5,500	3,500	1,940	680	1,530	5,530	1,510
Total expenses	\$319,020	\$99,000	\$54,810	\$31,770	\$10,380	\$23,760	\$72,240	\$27,060

Estimates are based on 2011-15 Consumer Expenditure Survey data (all data updated to 2015 dollars by using the Consumer Price Index—All Urban Consumers). For each age category, the expense estimates represent average child-rearing expenditures for each age (e.g., the expense for the 3-5 age category, on average, applies to the 3-year-old, the 4-year-old, or the 5-year-old). The Total expenses (0 - 17) row represents the expenditure sum of all ages (0, 1, 2, 3, ...17) in 2015 dollars. The figures represent estimated expenses on the younger child in a single-parent, two-child family. For estimated expenses on the older child, multiply the total expense for the appropriate age category by 0.96. To estimate expenses for two children, the expenses on the younger child and older child after adjusting the expense on the older child downward should be summed for the appropriate age categories. To estimate expenses for an only child, multiply the total expense for the appropriate age category by 1.26. To estimate expenses for each child in a family with three or more children, multiply the total expense for each appropriate age category by 0.78 after adjusting the expenses on the older children downward. For expenses on all children in a family, these totals should be summed.

^a Includes only families with child care and education expenses.

^b Includes personal care items, entertainment, and reading materials.

