

Investing in Children: Changes in Parental Spending on Children, 1972 to 2007¹

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Abstract: Parental spending on children is often presumed to be one of the main ways parents invest in children and a main reason children from wealthier households are advantaged. Yet while research has tracked changes in the other main form of parental investment – time – there is little research on spending. We use data from the Consumer Expenditure Survey to examine how spending changed from the early 1970s to the late 2000s, focusing particularly on inequality in parental investment in children. Parental spending increases, as does inequality of investment. We also investigate shifts in the composition of spending and linkages to children’s characteristics. Investment in male and female children changed substantially: households with only female children spent significantly less than parents in households with only male children in the early 1970s, but by the 1990s spending had equalized, and by the late 2000s, girls appeared to enjoy an advantage. Finally, the shape of parental investment over the course of children’s lives has changed. Prior to the 1990s, parents spent most on children in their early teen and teen years. After the 1990s, however, spending was greatest when children were young and in their mid-twenties.

Since roughly the late 1970s, income and wealth inequality increased steadily in the United States, except for a short reprieve in the late 1990s (Danziger and Gottschalk 1995; Levy 1998; Gilbert 2008). A key question surrounding increases in inequality in the United States and elsewhere is the extent to which inequality will be recreated— in other words, how much do increases in *current* inequality contribute to *persistent* inequalities through the intergenerational transmission of disadvantage? Scholars and policy makers worry about the widening gap between rich and poor, and many researchers have begun to examine the nature of the gap (Magnuson and Votruba-Drzal 2009). Recent research finds that the achievement gap between rich and poor and poor children has widened and it appears that greater inequality in earnings is associated with increased differences in children’s achievement (Reardon forthcoming).

A debate continues about why and how much resources and parental behaviors contribute to children’s welfare, but broad consensus exists that children in families with more resources enjoy considerable advantages in their development and long-term prospects (e.g. Mayer 1997; Duncan, Boisjoly, and Harris 2001; Duncan and Magnuson 2005). Parents of all social strata today appear to have become more aware and mobilized to invest in their offspring, choosing “quality” over “quantity” as they have fewer children and mothers and fathers both spend more time caring for children (Becker 1975; Bianchi 2000; Bianchi, Robinson, and Milkie 2006; Gauthier, Smeeding and Furstenberg 2004; Sayer, Bianchi, and Robinson 2004; Yeung et al. 2001). As changes in the labor market provide a greater premium for education and training, children require more investment in the form of time and money than even in the recent past.

Yet while there is ample evidence about time use and family size, there is less about the other major form of parental investment: spending on children. This is true even though it is presumably differences in monetary expenditure that make up a substantial portion of the

advantage conferred by parents with higher income, as spending buys access to higher quality child care and education, and places children in environments more likely to build human and cultural capital.² Changes in spending should be an important component of changed investment in the face of increased social inequality. While some research has documented increased inequality in spending on children over a short time period (Bianchi et al. 2004), there is relatively little existing evidence about how it has changed over the period of growth in income inequality, and how changes are linked to household income, family structure, and children's and parents' characteristics.

This paper addresses the question of whether and how spending on children has changed over the period coinciding roughly with the beginning of the growth in income inequality to the present day and how investments in children vary with parental income and education and by children's gender and age. Despite the importance of spending as a measure of parental investment in children, there has been little research examining this question using this type of data (though see Bianchi et al. 2004; Lazear and Michael 1988; Lundberg and Rose 2004; Ziolog-Guest, Kalil, and Deleire 2004). To track parental investments over time, we use a resource rarely used by sociologists or demographers: the Consumer Expenditure Survey (CES), a nationally representative survey of consumer spending conducted by the Bureau of Labor Statistics. We observe increases in inequality of spending over time, larger shares of income spent on children, and parental expenditures over longer periods of children's lives.

Spending as Parental Investment in Children

² Becker (1975:9) defines investment in human capital as any "activities that influence future monetary and psychic income by increasing the resources in people," while Bourdieu(1984) refers to cultural capital as dispositions and cultural competences, particularly in areas of legitimate taste, which may play a role in career and school advancement. For this paper, we are agnostic about the differences, but note that parents likely are interested in some combination of these.

Spending on children is one of the most direct ways parents can invest in children. Parental spending can buy children experiences which build human and cultural capital: high-quality education, residence in better neighborhoods, and potentially high quality child care while children are young and parents are at work. While parents have long been able to purchase many of these, changes in expectations for children seem to have increased their importance in recent years. Apprehensions about public schools have grown over time, leading a growing percentage of parents to potentially opt for private education, incurring larger expenditures. The growing importance of higher education, often financed entirely or in part by parents, has similarly added to the costs of raising a child and extended the period of parental obligations.

Parental strategies designed to offer children appropriate learning experiences at all stages of their life may also have driven up spending when children are young. Hertz (1997, p. 376) notes that “couples speak a new language of quasi-psychology that emphasizes developmentally appropriate educational experiences for preschoolers who are introduced to the rudiments of a structured day, develop positive peer group experiences, and begin to develop a positive relationship to learning,” suggesting the importance even at early ages of parental expenditures to provide learning environments. This expectation is stronger among middle- and upper-class families. Indeed, Lareau (2003) examines class differences in child-rearing and finds that middle- and upper-class parents seek structured educational, social, and athletic activities for their children in order to impart them with experiences necessary for a middle-class upbringing. At early ages, then, spending opens up unique forms of investment which parents seem to value more than in the past.

There have also been growing pressures on families to provide assistance for older children in the form of post-secondary education. A growing body of evidence suggests that

parents at all income levels perceive the value of higher education for their children's economic success and increasingly are willing to provide assistance to their offspring in late adolescence and early adulthood if they are going to school or starting out at an entry level job. Schoeni and Ross (2005) reported that a fifth of all expenditures on children living in the household are provided to those over 18, and there are differences in the level of transfers by parents' income. Parents in all strata, according to this study, provide about 10 percent of their annual income to children over the age of 18. Thus, it appears parents are reconciled to the reality that it takes longer for their children to reach economic maturity than it did a half century ago (Danziger and Rouse 2007; Furstenberg et.al. 2004).

Explaining Changes in Spending

Changes in aggregate spending may be understood in three ways. First, there are changes in the level of spending, which capture the intensity and extent of parental investment. Higher levels reflect more extensive, intense, and perhaps more valuable investments in children. Of course, spending is not purely a measure of parents' desire to invest, as the cost of goods plays a role. While we adjust for overall price changes, the price of some goods – notably higher education – has increased more rapidly than inflation. While changes in prices have certainly occurred, parents could respond to increased prices by contributing the same dollar amount over time rather than increasing their investment as prices increase. Thus, a willingness to pay for college or other goods which become more costly reflects a greater commitment to investment in children.³

³ An alternative explanation is that parental commitment to investment has driven up the price of college, as demand has risen and supply has not kept pace. Whether this is the case or costs have gone up independently and parents feel compelled to pay, we argue that payment reflects a commitment by parents to invest in their college-age children.

The second important way to evaluate changes is to consider the composition of spending – that is, what households buy with money they spend on their children. The amount spent on each of the three categories we examine: education, child care, and a range of consumer goods, shows whether households spend more investing in education or in other areas.

The third set of changes is relationships between spending and household characteristics, or, loosely, the “determinants” of spending. Shifts linked to household characteristics tell us how parents respond to changing social demands on the family, and whether this differs for different segments of the population. We examine both children’s and parents’ characteristics.

Children’s Characteristics.

We focus on two types of child characteristics: children’s age and gender, to gauge how norms of responsibility across the course of children’s development and gender norms have changed over time. First, in relation to the age of children, parents may allocate investment very differently across the course of children’s lives. For example, parents could invest heavily in children when they are young but relinquish responsibility at later ages, or they could provide increased resources as children transition out of the parental home to help them establish independent lives, residences, and households. Given the qualitative evidence we outline above that parents today place great importance on *both* early childhood development and post-secondary education, we ask whether parents today assume responsibility over a longer period of the life cycle of children than in the past.

Children’s gender may also influence spending. The presence of sons rather than daughters in the home influences a variety of marital outcomes, including stability, fathers’ involvement, and gender traditionalism (Harris and Morgan 1991; Katzev, Warner and Acock; Lundberg and Rose 2002). Shifts in gender ideology over time as well as career paths for adult

male and female children will likely drive the extent to which parents invest in their children based on their gender, and we expect that in the 1970s, when women's careers were less certain and less stable, and gender ideologies less oriented to egalitarianism, parents would invest more in male children. Since the gender of children is random (although the number of children is not), the gender of children in the home constitutes a form of natural experiment to see how parents respond to the presence of sons versus daughters.

While parents may have invested more in sons in the past, changes in gender norms toward egalitarianism may mean contemporary parents make roughly equal investments in male and female children. Indeed, evidence on third births suggests that parents today are indifferent about the gender of their children, unlike parents of the past (Pollard and Morgan 2002). Similarly, evidence in the early 1990s found few differences between the spending of households with male children and households with female children, although households with only male children spent slightly less on clothing and more on personal care services (Lundberg and Rose 2004)

We thus expect that expenditures will be divided more equally between boys and girls in recent years than in the 1970s when male children may have been privileged. While the effects of children's gender are not our primary concern, these effects constitute an important component of change in parental investment. We descriptively show how spending changed for households with only male and only female children.

Parents' Characteristics.

In addition, we examine a range of parental characteristics, including income, women's share of earnings and labor force participation, parents' age, and parental education, although we

focus particularly on the role of income given our interest in the extent to which inequality has shifted investment. Below, we discuss literature which drives expectations about spending.

Over this period, income inequality increased in the United States (Levy 1998). We thus investigate inequality in spending across the income distribution as well as the overall level of spending. Increase in inequality came from increased income at the top of the income distribution and income stagnation for those at the bottom and middle of the distribution, so there should be greater spending at the top of the income distribution. Yet it is less clear how spending will change near the bottom of the income distribution, as real incomes declined. Those with low incomes could cut back, but they may attempt to maintain levels of spending, as households can to some extent “smooth” consumption by borrowing or using savings. If households maintain spending despite declining incomes, spending as a portion of income would be higher among those with low incomes, and this would increase over time. We thus examine changes in expenditures in both dollar amounts and as a portion of current income. We also examine income adjusted for household size, as household size may shape household budget constraints.

In addition to total income, the source of income within the family may matter. Women, more than men, seem to use household resources on children. When control of a child benefit in the United Kingdom shifted to the mother from the father, households spent more on women’s and children’s goods (Lundberg, Pollak, and Wales 1997). Similarly, children are less likely to experience food insecurity when parents’ pooled income is controlled by a mother or is jointly controlled (Kenney 2008). While the CES does not contain measures of who controls income, marital bargaining perspectives suggest that husbands and wives use their own incomes to spend on items they are more interested in (De Ruijter, Treas, and Cohen 2005). We thus expect that households in which women’s share of earned income is higher will invest more in children.

Parents' age and education and the structure of the family may also influence spending. Older parents will likely have longer labor force histories and potentially higher savings, leading to a greater willingness to spend. Educated parents, as discussed above, are more likely to have tastes for structured child care experiences and likely value education more highly, leading to higher spending. Given changes in family structure over the time period we examine, such as the much greater likelihood that parents live in single family households, we also include measures for family structure.

Spending: Cost and Investment

There has been little quantitative research charting changes in parental. One reason for this absence may be the difficulty of identifying expenditures on children (cf. Folbre 2008; Lazear and Michael 1988). The best source of data on expenditures in the U.S. context, the CES, does not specify who incurred expenditures or the target of expenditures, making it difficult to assign individual goods and services.

One method to construct estimates of the cost of raising a child to age 18, used by the United States Department of Agriculture (USDA), is to use allocation rules to assign household spending to children. The USDA allocates n food, transportation, and health care using rules generated from other surveys, goods with obvious child recipients on a dollar basis, and other spending on a per capita basis (Lino and Carlson 2009). This approach is useful in estimating the additional expenditures – the cost – a family might incur to raise a child. However, changes in these estimates are not necessarily linked to parental motivations to invest; instead they are influenced heavily by shifts in the cost of housing, food, and transportation, and on the choice of rules determining what share of expenses should be allocated to children (Slesnick 2001). In the

USDA method, nearly half of the cost of raising a child to age 18 results from food and housing (Lino and Carlson 2008).

Because we are interested in spending on children that approximates investment, we avoid a cost-based approach and instead focus on goods and services intended for children, like education, child care, and clothing for boys, girls, and infants, and various toys and games. These three categories do not identically capture parental investment in children: while education is clearly a form of parental investment, the other two are perhaps less so. While child care is not a pure investment in children, as it is a necessity for working parents without other care options, parents try to choose high quality child care environments for their children and many middle- and upper-class parents now see exposure to these structured environments as a key way to help children develop. Finally, spending on books, toys, games, and clothing may be a way that parents expose their children to materials which grant cultural capital and help develop class-appropriate tastes. Throughout the remainder of the paper, we use the terms spending on children and investment as interchangeable.

Data

We use data from the CES, a nationally representative survey of Americans administered by the Bureau of Labor Statistics and generally considered the best source of nationally representative data on spending. Before 1979, CES data were gathered only sporadically, with the most recent wave conducted in 1972-73 and previous waves incompatible with more recent data. After 1979, the survey has been conducted annually to the present day. We use two-year blocks of data from more recent years to chart changes in the patterns and determinants of spending over time. We use the most recent set of data available at the time of writing, from the

2006 and 2007 survey years, and two sets of years roughly equal in time from our endpoints: 1983-84, and 1994-95.⁴

Our sample includes households with a child in the home below the age of 24. This includes children who receive parental support but are away from home, such as children attending college, as parents are instructed to report these children in the survey. To the extent that parents underreport children living away from home, our estimates of expenditures may be downwardly biased. If parents today less often report the presence of children who are in college because more children receive some support as more attend colleges, then results for change over time would be downwardly biased. However, the existence of a downward bias would mean that our estimate of increasing spending would underestimate the true increase.

Because the surveys are not identical over time, we harmonize them in several ways. To construct comparable measures over time, we aggregate spending into three categories: child care, education, and all other specifically child-related expenses. Details on these categories are listed below. Differences in the data also require harmonization. Surveys from all years are conducted over the course of four quarters. However, data from 1972-73 are only reported annually. For later years, responses are reported on a quarterly basis. Because households are followed over four quarters, it is possible to construct an annual. However, substantial numbers of households are not present in the survey for all quarters – roughly 40% of cases are missing, with higher rates for subgroups like those never married or divorced.

Existing research using the CES has used two approaches to deal with missing data. Most research relies on the analysis of households present in the survey for all four quarters which fully report income (e.g. Lundberg and Rose 2004; Ziol-Guest, Kalil, and DeLeire 2004; de

⁴ While there were differences in the economic climate, additional analysis suggests that the choice of year does not substantially affect results.

Ruijter et al. 2005). Other research avoids dropping cases by relying on data from only one quarter (e.g. Cohen 1998). While this approach avoids bias from the deletion of missing data, it means relying on only a portion of available data.

In order to create annualized estimates without dropping cases, we use data from all quarters a household is present in the survey and has children age 24 or younger present in the home.⁵ We average household characteristics for all quarters and create annual measures. In addition to preserving cases, this has the benefit of not overweighting households with more observations. The central drawback is that it eliminates within-household variation in spending across quarters. While explaining both within- and between-household variation would strengthen an account of spending on children, the goal of this analysis is to provide a comparison across households over time. Additionally, most variables are stable over the course of four quarters within households.

While this strategy deals with missing quarters, missing data can still exist for individual items. To deal with these missing values, we use multiple imputation, which generates several estimates of values for missing data using the relationships between variables for cases without missing data. These data sets are then analyzed separately and estimates are combined to produce overall estimates of coefficients and standard errors. We use maximum likelihood estimation as implemented in the PROC MI procedure in SAS. For general information on multiple imputation, see Allison (2001) and Rubin (1987).

Our primary concern for imputation is missing values for household and individual income. We impute data for those with no responses and those who are classified as “incomplete income reporters.” Because individuals often report education, weeks, and hours worked even

⁵ A small portion of households report the presence of children in some quarters but not others. In these cases, we only use data when children are reported in the home, assuming that non-reporting of children reflects a real change which would lead households to not spend on children.

when they do not report individual incomes, we use these variables, husbands' and wives' ages, and total household expenditures to impute missing values for individual and household earnings. We perform imputations separately for households with only one parent, as relationships between variables may differ between single-parent and two-parent households. We then use imputed values to generate the share of earnings from the wife. To do so, we replace imputed values of income below zero with zero. While rounding can lead to bias in parameter estimates (Allison 2001), it is necessary in this case because we use men's and women's income to generate a measure of the share of earnings from wives, and negative values for income produce additional uncertainty in parameter estimates when creating a ratio.

Measures

Spending Measures

Spending is measured by self-reports of expenditures over the past three months. In order to increase the accuracy of responses, households are visited before their first interview and asked to keep records to help them respond to the survey at later visits. The relatively long reporting period – three months – can downwardly bias estimates for irregularly occurring and small purchases. However, for the items we consider, we expect that expenses will be large or regular enough to prevent substantial bias.

We examine three categories of spending: child care, education, and other miscellaneous goods and services for children. Child care includes both day care and babysitting. Educational expenses include meals, board, and rent at school, tuition, fees, and books, private recreational lessons and other educational expenses.⁶ Finally, we include a category with clothes and

⁶ One important question about educational expenses is the extent to which children go to college versus the extent to which parents are willing to pay college expenses. Our data only show whether expenditure occurred, so we have

accessories for boys, girls, and infants, and toys, games, musical equipment, bicycles, tricycles, camping equipment, and services and repairs for these goods. One weakness of this category is that the CES records spending on children's clothing only until age 15. After age 15, clothing intended for males is simply listed as male adult clothing, and a similar change of definition occurs with clothing for women. Thus, spending on this category declines near age 16 for this reason. Details of the CES codes and their components are included in Appendix 1.

We use the Consumer Price Index Research Series (CPI-U-RS) to inflate expenditures to 2008 dollars (Sahr 2009).⁷ In order to compare households with different numbers of children, we use a per child measure because the goods and services we examine are largely indivisible. Another option would be to use equivalence scales, which take into account economies of scale that occur with goods like housing, food, or transportation. Economies of scale do not exist or are smaller for the items we examine, so we measure spending per child.

Independent Variables

Income: The CES includes measures of earned and unearned income as well as income before and after taxes. We use measures of final income before taxes after 1980, and the closest comparable measure – total family income – for 1972-73 data. Because these measures are total income, they include welfare benefits such as food stamps, which results in some equalization of income levels. However, relying on after-tax income rather than pre-tax would likely result in greater equality due to progressivity in U.S. income taxes. We choose the pre-tax measure of income because we expect that reporting will be more reliable than after-tax income. As with spending variables, we use the CPI-U-RS to inflate income to 2008 dollars.

no practical way of determining whether spending changes because of attendance or parental support given attendance. We suspect that both play a role in changing expenditures but are unable to differentiate the influence of each in this analysis.

⁷ The CPI-U-RS is a new CPI series incorporating methodological improvements, such as the use of rental equivalence for homeowner costs and quality adjustments for prices (Stewart and Reed 1999).

One caveat about income is important. To ensure confidentiality, the CES censored data near the top and bottom of the distribution for 1972-73. Thus, estimates of incomes for that year are not exact, but are a rough average taking censoring into account. However, only a small portion of households have censored outcomes –roughly 10% of those in either the top or bottom decile in the 1972-3 data have censored incomes. As we note above, income is one of the most frequently missing variables, particularly when incomplete income reporters are treated as missing. However, since respondents often report a range of correlated variables, including total expenditure, which is highly correlated– values of r near .6 – we are comfortable using multiple imputation for missing income.

Wife's share of income: To gauge the effect of women's provision of income to the home, we measure the proportion of reported earned income from the wife. For single-parent households, we set the measure to zero and introduce an additional set of controls for family structure to differentiate these households from male breadwinner households.

Family structure: We use three dichotomous variables to examine family structure, using two-parent households as the reference category: one for single-mother families, one for single-father families, and a final category for all other families. The last category includes, among others, households in which multiple generations reside in one household.

Wife's work status: While wife's share of income partially controls for wives' employment, we introduce two dichotomous variables to control for wives' time in addition to their monetary contributions. These variables measure whether a wife is at work part-time or full-time, with the reference category being a household in which wives report no work.

Education: Because education may change parental incentives to spend on children, we also control for parents' educational level. For the 1972-73 data, the head of the household is

always listed as the husband, so to maintain consistency, we use educational level for husbands in the later data. For single-parent households, we simply use the education of the parent in the household. We include variables for completion of high school, attending some college, and a college degree or higher. We do not differentiate between the completion of college and advanced degrees because the latter category does not exist in the 1972-73 data.

Children's characteristics: We control for a number of characteristics of children. We include a measure of the age of the youngest child in the home to examine the link between children's age and spending. We also include a squared term to capture nonlinearities in this relationship. Because more children may mean resources are stretched farther, we include a measure for the total number of children age 0 to 24 in the home. In supplementary analyses, described below, we examine the effects of children's gender.

Results: Changes in Spending

We begin by presenting descriptive results to establish whether and how this form of parental investment has changed over the period we examine. Table 1 shows average household spending per child for all households with children age 0 to 24 for each year, and the share spent on each category of goods, as well as total household spending on all goods. Figure 1 shows per capita spending among households by the age of the youngest child in the household for three aggregate categories: child care, education, and children's clothes, toys, and other goods. As an example of interpretation, Figure 1 shows that for the early 1970s households in which the youngest child was age twelve spent on average six hundred dollars on education, a small amount on child care, and roughly an additional seven hundred dollars on clothes, toys, games, and other goods for children. Because we include households with more than one child, these

results do not necessarily reflect spending on a child of each given age. Indeed, many households have older children, offering an explanation for educational expenditures among households with very young children.

[Table 1 Roughly Here]

[Figure 1 Roughly Here]

Figure 1 and Table 1 show two important patterns. First, spending increased substantially from the early 1970s to the late 2000s, although much of the increase in spending occurred between the early 1970s and mid-1990s, with increases after the 1990s at a slower rate. Not all components of spending increased at similar rates. Expenditures on children's toys, clothes, and games increased slightly from the early 1970s to the early 1980s, but the share spent on these goods declined after this period. While some accounts of the commercialization of youth suggest that the advent of a consumer culture targeted to children in the 1980s led households to spend excessively on consumer goods (Schor 2004), our results do not support this perspective. Rather than consumer goods, parents increased spending on child care and education, goods presumably more tightly linked to attempts to invest in human capital. To place these figures in context, we also show shifts in household spending among families with children over this time period. Household spending increased less rapidly than spending on children, with the exception of the shift from the mid-1990s to the late 2000s, implying that households were diverting resources to children.

Second, the link between children's age and spending changed over time. In the early 1970s, concentrated spending occurred directly before age 16 and after age 18, and spending was

lowest in households with very young children or those of college age. In the early 1980s, in contrast, spending is roughly constant across children's age, although there is a temporary decline after age 18. In the 1990s and 2000s, spending is highest when children are either young or nearing leaving the household and lower on children between the ages of six and twelve. More than in the past, parents are spending earlier and extending their support for children into the later ages. Further below, we investigate whether this shift persists when controlling for household characteristics.

Next, we ask how investment changed across the income distribution with increasing income inequality. In Table 2, we present total spending on children, total income, and the share of income spent on children for all households by income deciles. Because these measures do not capture differences in the needs of households related to household composition, we also present per-person and per-child equivalent estimates of income and spending in Table 3. We equalize income by dividing by the square root of household size, an equivalence scale used in recent OECD research (OECD 2009), and equalize spending on children by dividing by the number of children in a household, since there are presumably few economies of scale for spending on these goods. Figure 2 illustrates results from both tables.⁸

[Tables 2 & 3 Roughly Here]

[Figure 2 Roughly Here]

Spending on children grew more unequal over time as income inequality grew. Contemporary rich households in the 2000s spend more relative to both the rich of the past and the contemporary poor, and some of this growth can be traced directly to increases in income, as incomes rose rapidly. However, the fact that the proportion of income spent increases across the entire income distribution means that increases are not exclusively a result of increased income.

⁸ For figures using household equalized income, decile cut points also use equalized income.

Instead, increasing proportions of income spent suggest that parents feel greater pressure to invest regardless of their income, leading households in later periods to spend greater shares of their income. Interestingly, there is a break from the overall trend of increasing shares of income spent on children at this period, as for nearly all deciles, the share of income spent is lower than in the 1990s. Part of this reduction is attributable to increasing income. Yet, for the first time, some parents spent less in real dollars than in the previous period – parents in the bottom half of the income distribution spent less in the late 2000s than in the mid-1990s. Thus, the transition from the 1990s to the 2000s marked a distinct break with the trend of increasing spending, although inequality of spending continued to increase. Whether this marks the formation of a new ‘regime’ of spending is unclear, but it is worth pursuing in future research.

At the bottom of the income distribution, the share of income spent on children was quite high and increased over time. Among households in the bottom decile, the share of income spent on children more than doubles, although this is partially attributable to changes in the treatment of income between the 1972-3 data and later data points.⁹ However, an increase in spending is also present in the second and third deciles, suggesting a pattern not purely attributable to changes in data coding. For those in the second decile of earners, spending increased by roughly 50 percent from 5.8 percent of income to 8.8 percent of income, though this declined to 7.2 percent by the late 2000s, while those in the third decile similarly increased as from 4.9 percent to 7.2 percent, with this figure also declining by the mid-2000s.

⁹ For the lowest income decile, some of the decline in income is due to the BLS practice of bottom-coding income in the CES data in 1972-73, abandoned at later time points. Roughly 5% of cases had their income recoded to protect confidentiality, inflating average incomes slightly.

The largest cause of this increase is declining income over time, perhaps due to higher numbers of single-parent households.¹⁰ Households spent similarly over time, but investment takes up a larger share of their income as income declines. While parents at all points in the income distribution spent more, households near the bottom of the income distribution felt a greater burden as more of their income went to children. These results become even stronger if considering spending per child as a share of one-person equivalized income. The presence of high shares of income devoted to spending on children suggests the existence of a ‘floor’ for spending – that parents are unwilling to lower spending on children to devote income to other purchases, even under conditions of relative hardship.

Parental Investment by Gender of Child

In order to capture the effect of children’s gender on spending, we compare households with only male children to those with only female children. Table 4, below, shows that there significant changes in the influence of children’s gender on spending. In the early 1970s, parents in households with only male children spent significantly more than parents in households with only female children, with a gap of roughly two hundred dollars in spending. Nearly all of the additional spending occurred because parents with only male children spent more on education. In the 1980s and 1990s, overall spending equalized, though there were still differences in the target of parental expenditures. In the early 1980s, households with only female children spent significantly more on children’s accessories, while in the 1990s, households with only female children spent significantly more on daycare.

¹⁰ Average household income also declined in these data after 1972-73 and did not rebound even by the early 1990s. While we are concerned that differences in coding and reporting of income lead to this result, we note that children experienced increases in poverty over the course of the 1980s and 1990s (Levy 1998), consistent with declining incomes among households with children.

[Table 4 Roughly Here]

By the 2000s, however, these data show a reversal in spending: households with only female children spent more than households with only male children. Indeed, there were significant differences in three of the four spending categories, and the overall difference was significant. To check whether differences in spending were caused by differences on other characteristics related to spending like household income or education, we used regression analyses, presented in an online supplement, which confirm that other household characteristics cannot account for these differences.

As we expected, our results show that parents spent more on male children in the early 1970s. We also find equalization in the pattern of parental investment in the 1980s and 1990s. An unexpected result, however, is that in the 2000s, households with only female children spent more than those with only male children. While it is uncertain whether this pattern will persist in the future, it merits further investigation.

Multivariate Results

Finally, we use regression analysis to examine how shifts in overall spending are linked to household and child characteristics. We present results using spending per child, pooling the four years into a single analysis to enable tests for differences in coefficients across years. Means and standard deviations for variables in the regression analysis are in Table 5, while coefficients are in Table 6. Coefficients and levels of significance for 1972-3 are for that year, while for other years coefficients and levels of significance are for differences between those years and the earlier time period. We also list within-period significances in the right-most columns.

[Table 5 Roughly Here]

[Table 6 Roughly Here]

These regressions show stability in many determinants of spending over time, although there are gradual changes and the late 2000s in particular depart from earlier patterns. We begin by discussing children's characteristics, then move to parental and household characteristics. One shift occurs in the pattern of parental spending by the age of the youngest child in the home. In the early 1970s, the positive and significant coefficient for the age of the youngest child and the negative coefficient for age squared suggest that, controlling for other household characteristics, spending was low when children are quite young and when they were older, with the highest spending when children were in their teenage years. This relationship reverses over time, as shown by the negative coefficients for the age of youngest child and the positive coefficients for age squared (significantly different in the 1990s and 2000s). Thus, in recent times, spending grew over the course of a child's life, including when they presumably left their parents' homes.

There is also variability in the intensity of parental investment by the number of children present. Parents with fewer children invest substantially more per child relative to those with more children. In the early 1970s, parents with only one child present spent roughly 1000 dollars more per child than did parents with four or more children present in the home, a gap that grew greater over time. It is unlikely that increasing gaps in spending between those with few children and those with more children are driven by changes in economies of scale – since the goods we examine have few economies of scale. Thus, it is likely that this pattern is driven by an

increasingly sharp trade-off parents make between quantity and quality. Finally, these results show that the shift in spending related to children's gender remains even in a multivariate framework. In the early 1970s, parents with only boys spent significantly more than parents with only girls, this equalized throughout the 1980s and 1990s, and in the late 2000s parents with only girls spent significantly more than parents with only boys.

Turning to family characteristics, there were substantial changes in the link between parental education and spending. Households in which parents had attended some college or held a college degree both spent significantly more – about 800 dollars more – than households with no high school degree in the early 1970s. Additionally, the size of this difference increased significantly over time, with households with a college education in the early 1980s estimated to spend roughly 1700 dollars more than households with no high school degree ($805.3+931.3=1736.6$). Parents with only some college also increased spending over time. The links between family structure and spending are less consistent. Both single mother and single father families reported higher expenditures in the early 1970s than did two-parent families, but this difference disappears over time. However, within each time period, 'other families' spent significantly less than two-parent families.

The effects of wives' labor force participation and earnings also vary over time. In the earliest period, wives' earnings were associated with increased spending on children. However, this coefficient becomes smaller over time, and is no longer significant in the 2000s. This may reflect greater gender ambivalence among parents as well, as both mothers and fathers use their resources to spend on children. However, this interpretation is contradicted by the effect of wives' work status, as wives' work outside the home generally increases spending, albeit only in later periods, as shown by significant within-period coefficients.

Finally, we turn to the link between income and spending. Because we are interested in understanding changes in spending across the income distribution net of income changes, we include a measure of households' income in constant dollars and dummy variables capturing households' income decile, with the top decile as the reference category. The effect of income on spending is positive and significant, although the effect varies over time: it is significantly higher in the 1990s and significantly lower in the 2000s. The dichotomous variables capturing a household's membership in lower income deciles are significant and positive in the early 1970s, indicating that households in these deciles spent more than expected, relative to the amount they earned, compared to those at the top of the income distribution. The fact that households near the bottom spent more than their income would predict provides support for the idea of a floor for spending below which parents will not spend. There are no significant differences until the late 2000s, when coefficients are negative, significant, and substantively large. Thus, spending of those in the lower earnings deciles is substantially behind that of the rich, and this difference cannot be explained by income. In other words, in the most recent time period, those at the top of the income distribution increased spending far beyond the ability of other groups to keep pace.

Conclusion

Using data from the CES, we examined changes in spending on children to capture trends in parental investment. Rather than considering the 'cost' of raising children, we focused on expenditures intended for children which approximate parents' monetary investment in their children and presumably account for some substantial portion of the advantages that wealthier parents are able to confer on their children. To our knowledge, this is the first long-term study

tracking parents' monetary investment. Understanding changes in the investment over this time period is important as may foreshadow persistent inequalities.

Our findings show, first and foremost, that parents are investing more heavily in their children now than in the past. While scholars debate exactly which resources matter most for children's development (Mayer 1997, Duncan, Boisjoly, and Harris 2001; Duncan and Magnuson 2005), parents are demonstrating a substantial willingness to spend in order to better their children's circumstances. These results mirror other shifts in parental behavior: parents are having fewer children and, through a range of activities like spending time with their children and choosing activities which impart cultural capital, are investing more intensively in the children they do have.

Our findings also show that investment grew more unequal over this time period: parents near the top of the income distribution spent more in real dollars near the end of the 2000s than in the early 1970s, and the gap in spending between rich and poor grew. Some growth in inequality is attributable to higher incomes at the top of the income distribution. Yet both rich and poor spent greater shares of their income on children over time, suggesting that increasing investment and inequality of investment is not purely a result of changes in available income. Instead, increased parental investment may reflect growing pressures to invest in children. Ehrenreich (1989) suggests that worries about "falling" from the middle- and upper-classes have increased over time, as the risks of falling have increased along with income inequality. Middle and upper-class parents may feel the most pressure to spend to ensure their children's futures, and this seems to be reflected in their expenditures.

There were also changes in the children parents in which parents chose to invest. Parents shifted from heavier investment in boys to heavier investment in girls. While parents in

households with only female children spent less than parents in households with only male children in the early 1970s, spending in the 1980s and 1990s had equalized. This pattern suggests weakened gender preferences of parents, as parents value girls and boys equally. However, we also find that parents of girls appeared to spend more than parents of boys by the late 2000s. While research shows gender convergence in a variety of areas, relatively little research shows preference for girls. This difference may be driven by events outside the home, in that women now out-enroll men in higher education, and parents assist with these payments. Still, since parents spend more on other goods when they report having only girls in the home, we are curious about the extent to which parental preferences have shifted and whether parents invest more heavily in girls in other areas as well.

These results match recent evidence about childhood achievement. Our finding that the gap in parental investment between the top and bottom of the income distribution matches recent findings (Reardon forthcoming) that the gap in test scores between children of parents at the 90th percentile of the income distribution and those at the 10th percentile has grown over time. Similarly, long-standing gaps between boys' and girls' performances on standardized math tests have eroded to parity over time (Hyde et al. 2008). While there is no evidence to suggest that spending alone can account for these shifts, monetary investment should be related to achievement and, if nothing else, serves as a reflection of parents' level of motivation to invest in their children.

Finally, we find that the shape of parental investment over the course of children's lives has changed as well. Prior to the 1990s, parents appeared to either invest most in children in their early teen and teen years. In the late 1990s and the 2000s, however, spending was greatest when children were quite young and when they were in their mid-twenties. These results thus provide

an important characterization of trends in parents' monetary investment to complement existing research documenting changes in parents' investment with time.

Still, there are a number of unanswered questions which deserve further scrutiny. First, in this paper we relied on pre-tax income rather than post-tax income in an expectation that it was the most reliable measure and most consistent over time. Yet taxes would lead to some equalization of the income distribution, and would particularly mean that the reported share of income spent on children would be higher among the rich than reported here. Local taxes may also be an interesting and important source of variation – since many of these taxes are dedicated to education, they can provide another measure of the extent of investment in children.

A second area which deserves further investigation is the shift which occurs in the most recent time period. Unlike earlier periods, parental expenditures in at least some portions of the income distribution declined for the first time between the 1990s and the late 2000s. One possible explanation for this decline is simply that parents reduced their investments because they perceived them, for whatever reason, to be ineffective. However, another explanation could be that the years observed – 2006 and 2007 – were exceptional because they took place during a speculative boom in housing, leading households to extend themselves to purchase housing. Observing subsequent years could show whether these years were aberrations or represented a shift in the trajectory of parental investment.

In conclusion, parents invest in their children's outcomes in many ways. This paper tracks one measure of parents' contributions to their children – their monetary investments – over time and finds that in the race to the top, higher income children are at an ever greater advantage because their parents can and do spend more on childcare, pre-school, and the and growing costs of post-secondary education. The costs borne by the family impose a growing

burden on low and moderate income families whose incomes have stagnated over the past several decades. It seems evident that unless constraints on less advantaged households are reduced, the children of low and moderate income families will continue to lose ground. Thus, contemporary increases in inequality may lead to even greater increases in inequality in the future, as advantage and disadvantage are passed across the generations through investment.

Appendix 1: Expenditure codes and categories by year

1972-3

Goods – clothing, toys, games, enrichment:

10001-10079: *Clothing for boys*

12001-12079: *Clothing for girls*

13001-13091: *Clothing for infants*

21083-21088, 22004, 21020-2102: *Toys, Bicycles, Tricycles and battery powered carts, Playground equipment, Major camping equipment, Swimming pool, Encyclopedias and other sets of books, Piano, Organ, Other musical instruments, Musical accessories, Piano repair, Organ repair*

6066-6070, 6073, 6076, 6077: *Servicing for above goods*

7271-7274, 7278, 7284, 7286: *Service contracts for above goods*

21057-21060, 21069, 21070: *Rental of above goods*

7053-7057: *Cribs and mattresses, Playpens, Other infants furniture, Nursery chests or dressers, Baby carriage or stroller*

Child care:

6009, 23001, 23008, 23015, 23016: *Daily childcare center service, Nursery or kindergarten private school, tuition, Nursery or kindergarten public school, tuition, School books or supplies for private nursery school or kindergarten, School books or supplies for public nursery school or kindergarten*

6007: *Babysitting services*

Education:

1004, 1006, 4089: *Board, School meals purchased, Lodging at school or college*

23003, 23004, 23007, 23010, 23011, 23014, 23019, 23020, 23021, 23022, 23023, 23024: *College tuition, books, and other expenses*

23002, 23006, 23009, 23013, 23017, 23018: *Elementary and high school tuition, books, and other expenses*

23005, 23012, 23025-23030, 21096: *Tuition, books, and other expenses for other public and private school*

21096: *Lessons including golf, swimming, dancing, etc.*

1984-2007

Goods – clothing, toys, games, enrichment:

370110, 370120, 370130, 370211, 370212, 370213, 370220, 370311, 370312, 370313, 370901, 370902, 370903, 370904, 400210: *Clothing for boys*

390110, 390120, 390210, 390221, 390222, 390230, 390310, 390321, 390322, 390901, 390902, 400220: *Clothing for girls*

410110, 410111, 410112, 410120, 410121, 410122, 410130, 410131, 410132, 410140, 410141, 410142, 410901, 410902, 410903, 410904: *Clothing for infants*

290420, 320130: *Infants furniture and equipment*

600310, 600410, 610110, 610120, 610130, 620904, 660310: *Bicycles, Camping equipment, Toys, games, arts, crafts, tricycles, and battery powered riders, Playground equipment, Musical*

instruments, supplies, and accessories, Rental and repair of musical instruments, supplies, and accessories.

Child care:

*340210, 340211, 340212: Babysitting or other child care in own and someone else's home
660900, 660901, 670310: School books, supplies, and equipment for day care centers and
nursery schools, Other expenses for day care centers and nursery schools, including tuition*

Education:

*190901, 210310, 790430: Food or board at school, Housing for someone at school, School
meals for preschool and school-age children
660110, 670110: School books, supplies, and equipment for college, Tuition for college
660210, 670210: School books, supplies, and equipment for elementary and high school, Tuition
for elementary and high school
670901, 660902: School books, supplies, and equipment for other schools, Tuition for other
schools
670902: Rentals of books and equipment, and other school-related expenses
530902: Private school bus
620310: Fees for recreational lessons or other instructions*

Works Cited

- Becker, G.S. 1975. *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education, Second Edition*. University of Chicago Press: Chicago.
- Bianchi, S.M. 2000. "Maternal Employment and Time with Children: Dramatic Change or Surprising Continuity?" *Demography* 37(4):401-414.
- Bianchi, S.M., J.P. Robinson, and M.A. Milkie. 2006. *Changing Rhythms of American Family Life*. Russell Sage Foundation: New York.
- Bianchi, S.M., P.N. Cohen, S. Raley, and K. Nomaguchi. 2004. "Inequality in Parental Investment in Child-Rearing: Expenditures, Time, and Health." In *Social Inequality* ed. K.M. Neckerman. Russell Sage Foundation.
- Bourdieu, P. 1984. *Distinction: A Social Critique of the Judgment of Taste*. Harvard University Press: Cambridge.
- Cohen, P.N. 1998. "Replacing Housework in the Service Economy: Gender, Class, and Race-Ethnicity in Service Spending." *Gender & Society* 12(2):219-231.
- Danziger, S. and P. Gottschalk. 1995. *America Unequal*. New York: Russell Sage Foundation.
- Danziger, S. and C. Rouse. 2007. Eds. *The Price of Independence: the Economics of Early Adulthood*. New York: Russell Sage.
- De Ruijter, E., J.K. Treas and P. N. Cohen. 2005. "Outsourcing the Gender Factory: Living Arrangements and Service Expenditures on Female and Male Tasks." *Social Forces* 84(1): 305-322.
- Duncan, G. J., J. Boisjoly, and K. M. Harris. 2001. "Sibling, Peer, Neighbor, and Schoolmate Correlations as Indicators of the Importance of Context for Adolescent Development." *Demography* 38(3):437-447.
- Duncan, G. J. and K. A. Magnuson. 2005. "Can Family Socioeconomic Resources Account for Racial and Ethnic Test Score Gaps?" *Future of Children* 15(1):35-54.
- Ehrenreich, B. 1989. *Fear of Falling: the Inner Life of the Middle Class*. New York: Harper Collins.
- Folbre, N. 2008. *Valuing Children: Rethinking the Economics of the Family*. Cambridge, Mass: Harvard University Press.
- Furstenberg, F.F. Jr., S. Kennedy, V.C. McLoyd, R.G. Rumbaut, and R.A. Settersten, Jr. 2004. "Growing Up is Harder to Do." *Contexts* 3(3):33-41.

- Gauthier, A. H., T.M. Smeeding, and F.F. Furstenberg Jr. 2004. "Are Parents Investing Less Time in Children? Trends in Selected Industrialized Countries." *Population and Development Review* 34(4):647-671.
- Gilbert, G. 2008. *Rich and Poor in America: A Reference Handbook*. Santa Barbara: ABC-CLIO, Inc.
- Harris, K.M. and S.P. Morgan. 1991. "Fathers, Sons, and Daughters: Differential Paternal Involvement in Parenting." *Journal of Marriage and the Family* 53:531-544.
- Hertz, R. 1997. "A Typology of Approaches to Child Care: The Centerpiece of Organizing Family Life for Dual-Earner Couples." *Journal of Family Issues* 18(4):355-385.
- Hyde, J.S., S.M. Lindberg, M.C. Linn, A.B. Ellis, and C.C. Williams. 2008. "Gender Similarities Characterize Math Performance." *Science* 25(321): 494-5.
- Katzev, A.R., R.L. Warner, and A.C. Acock. 1994. "Girls or Boys? Relationship of Child Gender to Marital Instability." *Journal of Marriage and the Family* 56(1):89-100.
- Kenney, C.T. 2008. "Father Doesn't Know Best? Parents' Control of Money and Children's Food Insecurity." *Journal of Marriage and Family* 70:654-669.
- Lareau, A. 2003. *Unequal Childhoods: Class, Race, and Family Life*. Berkeley: University of California Press.
- Lazear, E. P. and R.T. Michael. 1988. *Allocation of Income within the Household*. Chicago: University of Chicago Press.
- Levy, F. 1998. *The New Dollars and Dreams: American Incomes and Economic Change*. New York: Russell Sage Foundation.
- Lino, M. and A. Carlson. 2009. *Expenditures on Children by Families, 2008*. U.S. Department of Agriculture, Center for Nutrition Policy and Promotion. Miscellaneous Publication No. 1528-2008.
- Lundberg, S., R. Pollak, and T. Wales. 1997. "Do Husbands and Wives Pool Resources? Evidence from the U.K. Child Benefit." *Journal of Human Resources* 33:463-80.
- Lundberg, S. and E. Rose. 2002. "The Effects of Sons and Daughters on Men's Labor Supply and Wages." *Review of Economics and Statistics* 84:251-268.
- Lundberg, S. and E. Rose. 2004. "Investments in Sons and Daughters: Evidence from the Consumer Expenditure Survey. In eds. A. Kalil and T. DeLeire *Family Investments in Children's Potential: Resources and Parenting Behaviors that Promote Success*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers.

Magnuson, K. and E. Votruba-Drzal. 2009. "Enduring Influences of Childhood Poverty." In eds. M. Cancian and S. Danziger *Changing Poverty, Changing Policies*. New York: Russell Sage Foundation.

Mayer, S.E. 1997. *What Money Can't Buy: Family Income and Children's Life Chances*. Cambridge: Harvard University Press.

OECD. 2009. *What Are Equivalence Scales?* Retrieved online January 19, 2011 at <http://www.oecd.org/dataoecd/61/52/35411111.pdf>

Pollard, M.S. and S.P. Morgan. 2002. "Emerging Parental Gender Indifference? Sex Composition of Children and the Third Birth." *American Sociological Review* 67:600-13.

Reardon, S.F. Forthcoming. "The Widening Achievement Gap between the Rich and the Poor: New Evidence and Possible Explanations." In *Social Inequalities and Educational Disadvantage*. Murnane, R.M. and Duncan, G. (eds.). Washington, D.C: Brookings Institution.

Sahr, R. "Consumer Price Index (CPI) Conversion Factors to Convert to 2008 Dollars using the CPI-U-RS series, an Experimental CPI Measure." Retrieved online February 25, 2010 at <http://oregonstate.edu/cla/polisci/faculty-research/sahr/cv2008rs.pdf>.

Sayer, L.C., S.M. Bianchi, and J. P. Robinson. 2004. "Are Parents Investing Less in Children? Trends in Mothers' and Fathers' Time with Children." *American Journal of Sociology* 110(1):1-43.

Schoeni, R. and K. Ross. 2005. "Material Assistance Received from Families during the Transition to Adulthood." in eds. R.A Settersten, F.F. Furstenberg, and R.G. Rumbaut *On the Frontier of Adulthood: Theory, Research, and Public Policy*. Chicago: University of Chicago Press.

Schor, J.B. 2004. *Born to Buy: The Commercialized Child and the New Consumer Culture*. New York: Scribner.

Slesnick, D.T. 2001. *Consumption and Social Welfare: Living Standards and their Distribution in the United States*. Cambridge: Cambridge University Press.

Stewart, K.J. and S.B. Reed. 1999. "Consumer Price Index Research Series using Current Methods, 1978-98." *Monthly Labor Review* 122(6):29-38.

Yeung, W. J., J.F. Sandberg, P.E. Davis-Kean, and S.L. Hofferth. 2001. "Children's Time with Fathers in Intact Families." *Journal of Marriage and the Family* 63(1):146-154.

Ziol-Guest, K.M, A. Kalil, and T. DeLeire. 2004. "Expenditure Decisions in Single-Parent Households." in eds. A. Kalil and T. DeLeire *Family Investments in Children's Potential: Resources and Parenting Behaviors that Promote Success*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers.

Table 1: Average spending per child by year and percent of expenditures in each area for all households with children age 0 to 24.

	1972-3		1983-4		1994-5		2006-7	
	\$	%	\$	%	\$	%	\$	%
Children's Accessories	513	39	605	36	641	32	463	21
Education	621	47	743	44	937	46	1189	54
Day Care	22	2	170	10	294	14	416	19
Babysitting	159	12	172	10	161	8	128	6
Child Care total	179	14	343	20	455	22	544	25
Total Spending on Children	1315	100	1690	100	2031	100	2196	100
% Change from Previous Period			28.5%		20.2%		8.1%	
Household Spending, all Goods	42704		49629		52875		60559	
% Change from Previous Period			16.2%		6.5%		14.5%	
n	10181		7177		7223		8575	

Table 2: Total spending on children, income, and spending as a percentage of income, by income decile.

	Income Decile	1972-3	1983-4	1994-5	2006-7
Total spending on children	1	1126	1522	1429	1318
	2	1495	1378	1558	1516
	3	1763	1623	2010	1813
	4	1953	2021	2277	1878
	5	2230	2524	2527	2217
	6	2468	2481	2851	3081
	7	3001	2870	3192	3355
	8	3337	3452	3991	4585
	9	4115	4007	5139	5857
	10	6246	6276	8389	11013
Income (in 1000s)	1	12.9	7.6	7.9	8.6
	2	25.6	16.8	17.8	21.2
	3	36.1	25.0	26.8	30.8
	4	45.0	33.3	36.3	40.6
	5	53.1	42.1	45.6	52.0
	6	61.1	50.9	55.8	64.2
	7	70.0	60.9	67.7	78.1
	8	80.9	73.5	81.7	96.6
	9	96.2	91.6	101.8	125.3
	10	135.4	139.2	155.5	228.5
Spending as a % of income	1	8.72	24.24	21.33	19.26
	2	5.83	8.76	8.83	7.16
	3	4.89	6.19	7.20	6.32
	4	4.34	5.83	6.35	4.81
	5	4.20	6.45	5.40	4.58
	6	4.04	4.84	5.74	5.25
	7	4.29	4.68	4.96	4.67
	8	4.13	4.70	4.82	5.18
	9	4.28	4.31	5.31	4.91
	10	4.61	4.47	5.48	5.33

Note: Dollar figures adjusted to year 2008 dollars using the CPI-U-RS.

Table 3: Spending per child, 1-person equivalent household income, and spending as a percentage of equivalized income, by equivalized income decile.

	Income Decile	1972-3	1983-4	1994-5	2006-7
Spending per child	1	607	961	779	750
	2	701	737	850	900
	3	845	1049	1204	1117
	4	952	1029	1306	1087
	5	1143	1493	1548	1421
	6	1195	1553	1651	1809
	7	1342	1702	1947	2003
	8	1611	2026	2297	2616
	9	1933	2597	3192	3701
	10	2832	3759	5551	6573
Income (in 1000s)	1	7.7	4.1	4.3	4.6
	2	14.1	8.8	9.4	11.0
	3	19.3	13.1	14.2	16.1
	4	23.5	17.4	19.0	21.4
	5	27.4	21.8	23.9	27.1
	6	31.3	26.4	29.1	33.3
	7	35.7	31.4	35.0	40.3
	8	41.6	37.8	42.3	49.6
	9	49.7	47.0	52.7	64.4
	10	69.3	71.7	80.5	117.4
Spending as a % of income	1	7.9	23.4	18.1	16.3
	2	5.0	8.3	9.0	8.2
	3	4.4	8.0	8.5	6.9
	4	4.1	5.9	6.9	5.1
	5	4.2	6.8	6.5	5.2
	6	3.8	5.9	5.7	5.4
	7	3.8	5.4	5.6	5.0
	8	3.9	5.4	5.4	5.3
	9	3.9	5.5	6.1	5.8
	10	4.1	5.2	6.9	5.6

Note: Dollar figures adjusted to year 2008 dollars using the CPI-U-RS.

Table 4: Comparison of spending in households with only female and only male children age 0 to 24. All spending figures are in adjusted (2000) dollars.

	1972-3		1983-4		1994-5		2006-7		
	All male children	All female children	All male children	All female children	All male children	All female children	All male children	All female children	
Children's Accessories	531.8	526.1	637.4	694.3	691.6	704.0	458.5	540.8	***
Day Care	30.2	22.9	210.4	208.5	317.9	395.5	440	510.9	
Babysitting	201.4	194.3	211.4	216.7	179.7	184.8	107.5	166.4	*
Education	896.1	636.6	834.6	889.2	1141.0	1088.6	1239.6	1557.1	*
Total	1659.5	1379.8	1893.7	2008.7	2330.2	2373.0	2245.5	2775.1	***
n	2313	3024	2257	2005	2270	2057	2739	2532	

Note: *: p<.05, **: p<.01, ***: p<.001, two-tailed t-tests for differences in means, performed with assumption of unequal variances. Totals may not equal sum of components due to rounding.

Table 5: Means and standard deviations of variables used in regression analysis. Numbers may not match others listed perfectly because of multiple imputation for missing data.

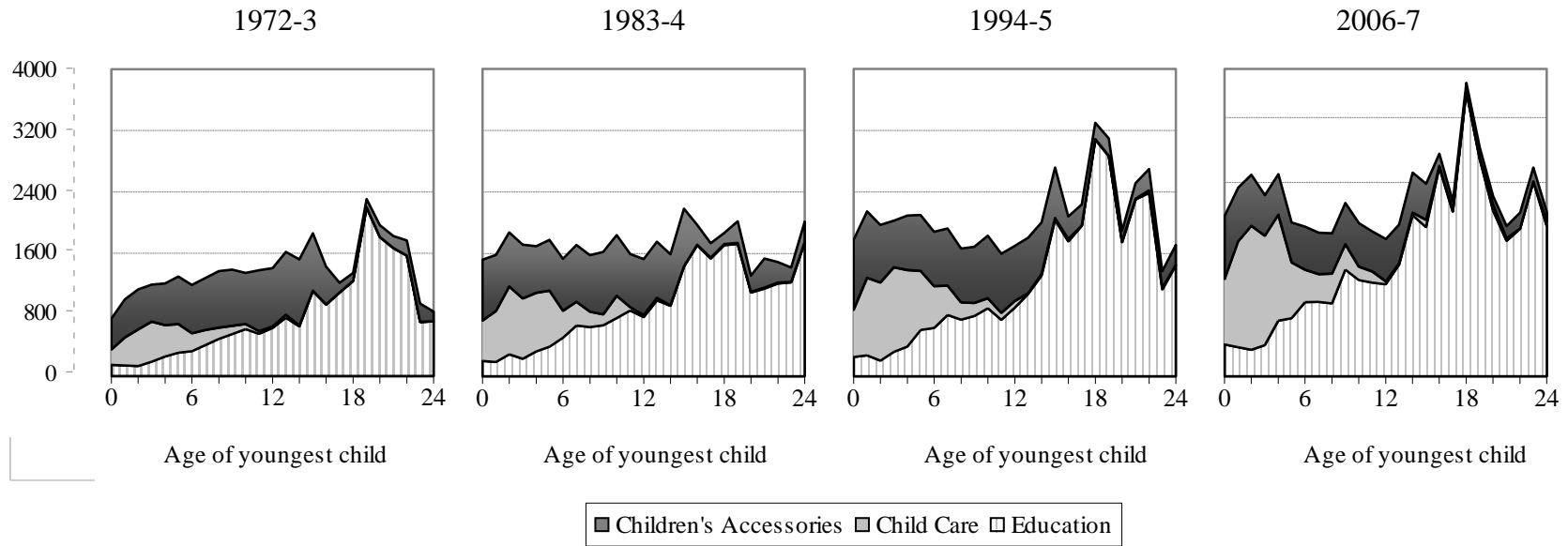
Variable	1972-3		1983-4		1994-5		2006-7	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Total spending per child	1315.12	2072.68	1690.35	2634.79	2031.82	3504.94	2196.74	4838.34
Age of youngest child	9.34	7.16	9.19	7.17	8.87	6.98	9.14	6.91
Household income in 1000s of dollars	61.63	34.92	52.70	39.49	57.01	44.13	66.42	68.41
Proportion of earnings from wife	.13	.21	.31	.37	.37	.39	.40	.39
Wife works part time	.31	.46	.29	.45	.26	.44	.23	.42
Wife works full time	.14	.35	.11	.32	.17	.37	.18	.38
High school graduate	.35	.48	.34	.47	.35	.47	.27	.44
Some college	.14	.35	.20	.40	.24	.42	.29	.45
College degree	.16	.37	.23	.42	.24	.42	.27	.44
Single mother	.12	.32	.12	.32	.14	.34	.13	.33
Single father	.01	.12	.01	.10	.02	.13	.02	.14
Other families	.01	.11	.15	.34	.18	.38	.19	.39
Only girls	.30	.46	.29	.45	.29	.45	.30	.46
Mixed gender	.49	.50	.40	.49	.40	.49	.39	.49
One child	.31	.46	.16	.37	.16	.36	.16	.37
Two children	.31	.46	.39	.49	.38	.49	.38	.49
Three children	.20	.40	.35	.48	.37	.48	.37	.48

Table 6: Regression Results, Pooled Analysis using imputed data. R-square=.19.

Variable	1972-3	1983-4	1994-5	2006-7	Period Significance		
					83	94	06
Intercept	-1735.7 ***	-368.2	-1056.4	2688.9 ***	***	***	*
Age of youngest child	67.5 ***	-43.2	-88.2 ***	-145.9 ***			**
Age of youngest child squared	-3.6 ***	1.5	3.0 **	6.2 ***	**		*
Household income in 1000s of dollars	25.1 ***	1.1	12.2 *	-12.3 *	***	***	***
Proportion of earnings from wife	407.9 ***	-40.1	-177.8	-222.8	***	*	
Wife works part time	-7.2	338.6 **	190.7	519.8 ***	***		***
Wife works full time	141.4	308.7	244.7	211.5	***	**	*
Parental education (no high school degree is reference category)							
High school graduate	124.9 **	162.4	145.8	85.0	***	*	
Some college	307.0 ***	356.9 *	363.0 *	388.4 **	***	***	***
College degree	805.3 ***	798.6 ***	743.6 ***	931.3 ***	***	***	***
Family structure (two-parent family is reference category)							
Single mother	521.7 ***	-559.0 **	-481.3 **	-379.3 *			
Single father	240.0 *	-78.5	-58.9	-320.8			
Other families	-97.4	-196.5	-254.1	-334.6	**	**	**
Gender of children (boys only is reference category)							
Only girls	-120.1 *	170.6	193.1	562.0 ***			***
Mixed gender	-51.3	47.3	193.9	272.0			
Number of children (four or more is reference category)							
One	1017.9 ***	318.4	863.1 ***	773.3 ***	***	***	***
Two	498.4 **	62.5	297.0	348.2 *	***	***	***
Three	230.0	-23.7	27.0	-43.5			
Earnings decile (top decile is reference category)							
1	1013.6 ***	839.3	1212.4	-1873.8 **	***	***	*
2	942.1 ***	536.5	991.1	-2461.6 ***	***	***	***
3	838.4 ***	347.7	809.9	-2456.3 ***	***	***	***
4	715.1 ***	368.2	769.1	-2285.4 ***	***	***	***
5	616.8 ***	603.6	475.2	-2562.1 ***	***	**	***
6	438.8 **	265.9	522.0	-2054.4 ***	**	*	***
7	436.4 **	172.3	153.3	-2172.9 ***	**		***
8	295.9 *	281.3	-5.9	-2040.8 ***	**		***
9	285.4 **	-101.8	-86.1	-1637.4 ***			***

Notes: *: p<.05, **: p<.01, ***: p<.001, two-tailed t-tests. Significance levels for 1972-3 are for the hypothesis that the coefficient is equal to zero while tests for other years are tests of whether the coefficient is significantly different than the coefficient for 72-73. Within-period significance levels are listed in the right 3 columns.

Figure 1: Per-child spending on education, child care, and children’s toys, games, and clothes by year and age of youngest child in the household.



Note: Spending for all years is inflated to year 2008 dollars.

Figure 2: Total Spending on Children by Income Decile by Year.

