Review and Update of Florida's Child Support Guidelines

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Executive Summary

The Family Support Act of 1988 mandated that every state adopt a set of child support guidelines to be used as a "rebuttable presumption" in child support cases. The guidelines were to be based on economic data. The 1988 act also required the states to periodically review and update their schedules of child support obligations.

The Florida schedule of obligations was reviewed in 1992 and updated in 1993 to reflect changes in the Consumer Price Index. The guidelines were reviewed again in 1997[1], in 2004[2], in 2008[3], and in 2011.[4] Each of these reviews made recommendations for significant changes in both the schedule and the underlying methodology. None of the updated schedules was ever adopted by the Florida Legislature, nor were any of the recommendations for changes in the methodology. Although specific provisions of the guidelines have been modified, the dollar amount of child support obligation for each income level has remained unchanged since 1993.

In July 2013, the Florida Legislature through its Office of Economic and Demographic Research contracted with the Department of Economics at Florida State University to undertake the present review. The review included seven tasks:

1. Select the most appropriate statistical methodologies to establish the cost of raising children in Florida compared to overall consumption expenditures, as the term is commonly used within the economics profession taking into account the age of children as well as any geographic considerations not otherwise addressed within the consumption calculations.

2. Establish the relationship between consumption and income using different data sets.

3. Provide a comparison of Florida data to national data using the varying data sets.

4. Using the preferred methodology and data, revise the child support guidelines incorporating findings from tasks 1–3 above, which are based on the cost of raising children in Florida.

5. Provide a means for assuring that parents paying child support do not fall below the poverty level.

6. Provide a methodology that addresses various parent-child timesharing arrangements.

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[1] Robert G. Williams, David J. Price, and Jane C. Venohr, *Economic Basis for Updated Child Support Schedule, State of Florida,* Policy Studies, Inc., January 30, 1997.
[2] Thomas S. McCaleb, David Macpherson, and Stefan Norrbin, *Review and Update of Florida's Child Support Guidelines, Report to the Florida Legislature*, Department of Economics, Florida State University, March 5, 2004.
[3] Thomas S. McCaleb, David Macpherson, and Stefan Norrbin, *Review and Update of Florida's Child Support Guidelines, Report to the Florida Legislature*, Department of Economics, Florida State University, November 17, 2008.
[4] Stefan Norrbin, David Macpherson, and Thomas S. McCaleb, *Review and Update of Florida's Child Support Guidelines, Report to the Florida Legislature*, Department of Economics, Florida State University, December 14, 2011.

7. Provide continuing consulting services through the 2014 Legislative Session to the end of the contract period.

Florida's current schedule of child support obligations is based on the income shares model of child support. The income shares model is the most common model in the United States. In 2011, this model formed the basis for child support guidelines in 37 states and the District of Columbia. In the income shares model, a child support obligation is calculated as a percent of the combined incomes of both parents. This obligation is then prorated between the parents in proportion to their respective shares of the combined income. The obligor parent's share of the obligation becomes the legally mandated child support payment.

The next most common model is the percent of obligor income model used in 2011 in ten states. In this model, the child support payment is calculated as a percent of the obligor parent's income alone. The percent varies with the number of children and in three states with the obligor parent's income as well. There is, however, no systematic difference in the amount of child support payments in income shares states and in percent of obligor income states.

Florida's current schedule of obligations was based on a study of average family expenditures on children. The study was from 1984, based on Consumer Expenditure Survey data for 1972-73.[5] The process of developing the current Florida schedule of child support obligations from this study was not rigorous, but depended on a large number of assumptions and *ad hoc* statistical procedures. As a result, the links between the original data and the final schedule are many and weak.

The updated schedule in this report follows the income shares model but was developed using a different methodology and different data sets from the current schedule. The updated estimates of expenditures on children use data from both the most recent U.S. Consumer Expenditure Surveys and the University of Michigan Panel Study of Income Dynamics surveys. The methodology attempts to correct for implausible estimates of total family consumption and income in the Consumer Expenditure Survey, and ultimately combines the data from the two sets by averaging. Chapters 2 and 3 describe in detail the methodology adopted in this report. The proposed updated schedule of child support obligations is described in Chapter 4 and is contained in the Appendix 4-1.

The methodology used in this report to estimate expenditures on children finds a statistically significant difference between children younger than six and children six and older. Therefore, the updated child support obligations in the schedule are for children aged six and older. They are uniformly higher than the basic obligations in the current schedule. A discount factor must then be applied to these basic obligations for children younger than six. The adjustment for younger children is described step-by-step in Chapter 4. After adjustment, the obligations for younger children are quite close to those in the current schedule.

- *Recommendation:* Replace the current schedule of child support obligations with the proposed updated schedule in Appendix 4-1 including the adjustment for younger children.

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[5] Thomas J. Espenshade, *Investing in Children*, The Urban Institute Press, Washington, DC, 1984.

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- *Recommendation:* Limit applicability of the proposed updated schedule to newly-issued child support orders by including a provision that the new schedule cannot be a basis for modification of an existing order.

Florida's current schedule of child support obligations, like those in other income shares states, includes a "self-support reserve" and a range of incomes over which the full child support obligation is phased in. The purpose of these provisions is to ensure that the payment of child support does not push an obligor parent into poverty. The analysis in both our 2008 review and our 2011 review showed that these provisions are not effective because they apply to very few parents.

The effectiveness of the provisions is unintentionally limited by certain features of the child support guidelines:

- applicability is determined by comparing the parents' *combined* income to the *single-person* poverty guideline.
- the amount of the self-support reserve is not indexed to the federal poverty guideline and is now substantially out of date.
- the provisions are applied only to the basic child support obligation and not to the total obligation including childcare and children's health expenses.

The ineffectiveness of the low-income provisions is exacerbated by the common practice of imputing incomes to parents for whom data on actual income is unavailable. Traditionally, income has been imputed in an amount equal to full-time, year-round minimum wage earnings. As we describe in Chapter 5, the ineffectiveness problem has grown since our original review in 2004 as the minimum wage has increased faster than the federal poverty threshold. Even if the self-support reserve and phase-in had been indexed to the poverty threshold, the rapid increase in the minimum wage would put more and more parents out of reach of these low-income provisions.

Moreover, the child support guidelines were recently revised to require imputation at *median* earnings rather than minimum wage earnings. Median earnings are approximately two-and-a-half times higher than minimum wage earnings, which clearly means that any parents to whom income is imputed will be totally unaffected by the low-income provisions no matter how low their actual income may be and even if the guidelines were corrected for all three of the problems listed above.

After reviewing these problems, our primary recommendation with respect to the treatment of low-income obligors is to eliminate any low income adjustment from the schedule of obligations and make the adjustment to the total obligation, not just the basic obligation, in the child support worksheet. Along the way, the low-income adjustment should be indexed to the federal poverty threshold and it should apply only to the obligor's income, not the combined income of both parents. A sample revised worksheet is included in Appendix 5-1.

- *Recommendation:* Eliminate the self-support reserve and the phase-in range from the schedule of obligations and include an adjustment to the child support obligation for low-income parents in the child support worksheet, as shown in the Appendix 5-1.

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- *Recommendation:* To ensure that the low-income provision does not lose its effectiveness, provide for a continuing adjustment in the provision to reflect changes in the federal single-person poverty guideline.

Our proposed updated schedule of obligations reflects this recommendation by omitting any self-support reserve or phase-in. Even if the current schedule is retained, however, it should be revised to adjust the self-support reserve to the current poverty threshold and the phase-in should be applied only to the obligor parent's income.

To account for the costs of shared parenting incurred by the obligor parent, child support payments in Florida may be reduced whenever the obligor parent's parenting time equals or exceeds a threshold. This creates a "cliff" effect where a very small change in parenting time may cause a large change in the child support payment.

The threshold in 2008 was 40 percent of the overnights. Imposing such a high threshold before allowing any adjustment discourages parents from adopting any alternative custody arrangement less than 40 percent. It is also likely to be a source of excessive disputes and litigation among the parents. Therefore, in the 2008 review of Florida's guidelines, we recommended that a visitation and shared parenting adjustment applying to all levels of shared parenting be adopted. Although this recommendation was not implemented as proposed, the threshold was reduced to its current level of 20 percent.

The "cliff" effect is still present even at a 20 percent threshold. However, it is much smaller and applies to many fewer parents. There is a presumption in favor of some level of visitation or shared parenting, and as we show in Chapter 6 and Appendix 6-1, even a standard or baseline level of visitation exceeds the 20 percent threshold.

An appropriate shared parenting credit recognizes the duplicate expenses of maintaining two separate living accommodations (fixed cost) and the cost shifting that occurs when the child spends time with the obligor parent (variable cost). Florida's fixed multiplier of 1.5 is tantamount to assuming that all expenses are lumpy and not dependent on the amount of parenting time. A more reasonable assumption is that the amount of the variable cost depends on the extent of shared parenting.

In Chapter 6, we compare Florida's current shared parenting adjustment with the cubic formula used in Michigan. The cubic formula provides a smooth, continuous adjustment that more likely reflects the actual pattern of these duplicated expenses. Accordingly, we recommend adoption of a smooth and continuous shared parenting adjustment to the basic child support obligation similar to Michigan's cubic formula for all levels of shared parenting or visitation. This could be accomplished simply as we show in the example worksheet in Appendix 6-3 or by the use of a variable multiplier in place of the current fixed multiplier.

- *Recommendation:* Adopt a smooth and continuous shared parenting adjustment beginning at minimal levels of shared parenting, either by using a formula similar to Michigan's cubic formula or by using a variable multiplier.

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Chapter 1

Introduction and Background

Federal law requires that each state periodically review and update its child support guidelines based on the most recently available economic data. In July 2013, the Florida Legislature, through its Office of Economic and Demographic Research, contracted with the Department of Economics at Florida State University to undertake this review. The members of the team conducting the review were:

Stefan C. Norrbin, Ph.D.	Professor of Economics, Florida State University
David A. Macpherson, Ph.D.	E. M. Stevens Professor of Economics, Trinity University, San Antonio, Texas (formerly Rod and Hope Brim Eminent Scholar and Abba P. Lerner Professor of Economics, Florida State University)
Thomas S. McCaleb, Ph.D.	Associate Professor of Economics (retired) and Assistant in Economics, Florida State University
Onsurang Norrbin, Ph.D.	Associate in Economics, Florida State University
William Jared Parmer	Graduate Research Assistant and M.S. Student in Economics, Florida State University
Molly Domingo	Graduate Research Assistant and Masters Student in Economics, Florida State University

The project team was assigned the following tasks:

1. Select the most appropriate statistical methodologies to establish the cost of raising children in Florida compared to overall consumption expenditures, as the term is commonly used within the economics profession taking into account the age of children as well as any geographic considerations not otherwise addressed within the consumption calculations.

2. Establish the relationship between consumption and income using different data sets.

3. Provide a comparison of Florida data to national data using the varying data sets.

4. Using the preferred methodology and data, revise the child support guidelines incorporating findings from tasks 1–3 above, which are based on the cost of raising children in Florida.

5. Provide a means for assuring that parents paying child support do not fall below the poverty level.

6. Provide a methodology that addresses various parent-child timesharing arrangements.

7. Provide continuing consulting services through the 2014 Legislative Session to the end of the contract period.

Introduction and Background

The rest of this chapter describes the history of child support guidelines, alternative child support models, alternative approaches to estimating expenditures on children on which the child support schedules are based, and the methodology used to develop Florida's current schedule of child support obligations. The following chapter computes the percentage of a family's consumption devoted to children. Two methodologies, Engel and Rothbarth, are used to compute the percentages. Both models use the Consumer Expenditure Survey that provides the most detailed consumption data available for the U.S. Chapter 3 computes saving rates using both the Consumer Expenditure Survey and the University of Michigan Panel Study of Income Dynamics, compares the results, and makes a recommendation to use an average of the two saving rates to determine the consumption-to-income ratio. In Chapter 4 the child support obligations corresponding to each net income are computed and a proposed updated schedule of child support obligations for Florida is provided.

Chapter 5 reviews the treatment of low-income obligors in Florida's guidelines and shows that the low-income provisions in the guidelines apply to very few obligors and are generally ineffective. The chapter concludes with recommendations for updating these provisions using the most recent federal poverty guidelines and moving the low-income adjustment out of the schedule of obligations and into the child support worksheet. Chapter 6 reviews the current treatment of shared parenting, taking into account the recent reduction in the shared-parenting adjustment threshold to 20 percent, and recommends considering as an alternative a smooth continuous adjustment similar to the Michigan cubic formula.

History and Current Status of Child Support Guidelines

Before the mid-1970's, child support was almost exclusively governed by the states. Significant involvement by the federal government began with the passage of Title IV-D of the Social Security Act.[6] The federal involvement initially focused primarily on child support enforcement, with an emphasis on families eligible for the Aid to Families with Dependent Children (AFDC) program. Title IV-D mandated that the states establish a variety of offices and programs as well as adopt techniques to aid in child support collection.

Although formal child support guidelines first appeared in 1975 in Illinois and Maine, the Federal Child Support Enforcement Amendments of 1984 required all states to adopt advisory child support guidelines. Between 1984 and 1988, federal interest in child support significantly increased with the appointment of the Federal Advisory Panel on Child Support Guidelines. The panel released its recommendations in 1987 along with a report by Robert G. Williams, which developed a model for determining child support obligations including a proposed schedule of child support payments.

One year later, the Family Support Act of 1988 mandated that every state adopt a set of child support guidelines to be used as a "rebuttable presumption" in child support cases. The guidelines were to be based on the most current economic data. The 1988 act also required the states to periodically review and update their schedules of child support obligations. With little time to consider the issues involved, states tended to adopt one of two existing models for guidelines. The two choices were either the percent of obligor income model developed earlier in Wisconsin or Robert Williams's income shares model.

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[6] This discussion draws heavily from Andrea H. Beller and John W. Graham, *Small Change: The Economics of Child Support*, New Haven and London: Yale University Press (1993), p. 162-69.

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Florida adopted the income shares model, including Williams's model schedule of child support obligations. The Florida schedule was subsequently reviewed in 1992 and updated in 1993 to reflect changes in the Consumer Price Index. The guidelines were reviewed again in 1997[7], in 2004[8], in 2008,[9] and in 2011.[10] Each of these reviews made recommendations for significant changes in both the schedule and the underlying methodology. None of the updated schedules was ever adopted by the Florida Legislature, nor were any of the recommendations for changes in the methodology. Although specific provisions of the guidelines have been modified, the dollar amount of child support obligation for each income level has remained unchanged since 1993.

Alternative Models of Child Support

State child support guidelines follow one of three models: the percent of obligor income model developed and implemented in the early 1980's in Wisconsin, the income shares model developed in 1987 by Williams, and the Melson formula, named after Judge Elwood F. Melson of the Delaware Family Court and explained and first adopted in Delaware in 1989.

Percent of Obligor Income: By 2011, the percent of obligor income model was used in only ten states. It is the simplest and most transparent of the existing approaches to child support. It calculates the child support payment as a percentage of the obligor parent's income alone. Therefore, the payment is not affected by the obligee parent's income. The premise of the percent of obligor income model as stated in the Wisconsin guidelines: "a child's standard of living should, to the degree possible, not be adversely affected because his or her parents are not living together."[11]

Child support guidelines in these ten states exhibit considerable variation. The major differences among the states arise from the definition of income and the percentages applied to that income. Some states apply the percentage to gross income, while others use net income. The percentages in all states increase with the number of children, but only rarely does the percentage vary with the obligor parent's income. Table 1-1 compares the percentages applied to obligor parent income in selected states in 2011.

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[7] Robert G. Williams, David J. Price, and Jane C. Venohr, *Economic Basis for Updated Child Support Schedule, State of Florida,* Policy Studies, Inc., January 30, 1997.
[8] Thomas S. McCaleb, David Macpherson, and Stefan Norrbin, *Review and Update of Florida's Child Support Guidelines, Report to the Florida Legislature*, Department of Economics, Florida State University, March 5, 2004.
[9] Thomas S. McCaleb, David Macpherson, and Stefan Norrbin, *Review and Update of Florida's Child Support Guidelines, Report to the Florida Legislature*, Department of Economics, Florida State University, November 17, 2008.
[10] Stefan Norrbin, David Macpherson, and Thomas S. McCaleb, *Review and Update of Florida's Child Support Guidelines, Report to the Florida Legislature*, Department of Economics, Florida State University, December 14, 2011.
[11] Wisconsin Child Support Guidelines, Chapter DWD 40.

Table 1-1 Percentages Utilized by Selected Percent of Obligor Income States				
	Percentage of Income			
Number of Children	Gross Income		Net Income	
	New York	*Nevada*	*Mississippi*	*Illinois*
1	17%	18%	14%	20%
2	25%	25%	20%	28%
3	29%	29%	22%	32%
4	31%	31%	24%	40%
5	35%	33%	26%	45%
6	35%	35%	26%	50%

Income Shares: The income shares model is the basis for state child support guidelines in the majority of the states.[12] The premise of the income shares model is essentially the same as that of Wisconsin's percent of obligor income model: a child should receive the same amount of expenditure as if the family were intact, even if the child is not the product of an intact family. The child support obligation is determined as a percentage of the combined income of both parents. In Robert Williams's original formulation of the model, the percentage was derived from estimates of average expenditures on children as a function of the income of intact two-parent households.

In this approach, the incomes of the two parents are combined. The basic child support obligation equals the average amount that an intact family with this level of income spends on the child(ren), not including expenditures on childcare or children's extraordinary medical expenses.[13] This basic support obligation is apportioned to the parents in proportion to their respective shares of the combined income. The obligee parent is simply assumed to spend the apportioned amount on the child(ren). The guidelines create at most a "moral obligation" but not a legal obligation for the obligee parent. The obligor parent's share of the basic obligation becomes a court-ordered, legally mandated and enforced child support payment from the obligor parent to the obligee parent.

Expenditures on childcare and on children's health care (primarily health insurance) are excluded from the expenditure estimates from which the basic child support obligations are derived. After determining the basic obligation, the actual amounts expended by the parents for these items are added to the basic obligation and apportioned between the parents. The obligor parent's share of these expenses is then added to the court-ordered child support payment.[14]

Williams's original formulation of the income shares model relied on estimates of expenditures on children by Thomas Espenshade using what is known as the Engel approach to determining family equivalence.[15] More recently, alternative estimates of expenditures on

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[12] Between 2004 and 2011, four states and the District of Columbia adopted the income shares model. Three of these (Tennessee, Georgia, and Minnesota) previously utilized the percent of obligor income model, and Massachusetts and the District of Columbia utilized a hybrid model.

[13] The basic obligation is supposed to include a minimal amount for routine health care.

[14] In practice, the additional amount for children's health care is usually the premium cost of health insurance coverage for the child.

[15] Thomas J. Espenshade, *Investing in Children*, The Urban Institute Press, Washington, DC, 1984.

children have been developed by David Betson using a Rothbarth approach to determining family equivalence.[16] Both approaches are more fully described below.

Many states that have revised their child support guidelines since 1990 have converted from estimates derived using the Espenshade-Engel approach to estimates derived using the Betson-Rothbarth approach. The 1997 review of Florida's guidelines recommended a revised schedule based on the Rothbarth approach, but because Florida continues to use a slightly updated version of Williams's original model, the current schedule is still based on the Espenshade-Engel approach.[17]

Melson Formula: The Melson formula model was used in three states (Delaware, Hawaii, and Montana) in 2011. It is a more complicated version of the income shares model.[18] Delaware's Melson formula consisted of two parts. First, a primary support allowance, based solely on the number of children, was determined. The primary support allowance was designed to meet the minimum basic needs of the children while also allowing the obligor to maintain a minimum standard of living. Second, if the obligor still had income available above the amount needed to maintain a minimum standard of living, a standard-of-living adjustment (SOLA) was applied. The standard-of-living adjustment let the child share in the portion of the parent's income that exceeded the amount needed to maintain a minimum standard of living. Table 1-2 shows Delaware's primary support allowances and SOLA percentages.

Table 1-2 Delaware's Primary Support Allowance and SOLA Percentage[19]		
Number of Children	**Primary Support Allowance**	**SOLA Percentage**
1	$530	17%
2	$710	24%
3	$970	29%
Each additional	+$220	+4%

Alternative Approaches To Estimating Expenditures on Children

Whichever child support model is used, most states claim to base their child support payments on estimates of actual average family expenditures on children. Direct estimates of

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[16] David Betson, "Alternative Estimates of the Cost of Children from the 1980-1986 Consumer Expenditure Survey," U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, September (1990). Betson subsequently updated his estimates using data from the 1996-1998 Consumer Expenditure Survey in "Chapter 5: Parental Expenditures on Children." in Judicial Council of California, *Review of Statewide Uniform Child Support Guideline,* San Francisco, California (2001). His most recent estimates are in "Appendix A: Parental Expenditures on Children: Rothbarth Estimates", Judicial Council of California, Administrative Office of the Courts, *Review of Statewide Uniform Child Support Guidelines: A Report to the California Legislature*, November 2010.

[17] As of 2011, about seven states including Florida continued to use schedules derived using the Espenshade-Engel approach. Jane Venohr, Ph.D., *Economic Basis of an Updated Child Support Schedule for Georgia*, Center for Policy Research, December 14, 2010, page 10.

[18] See Laura Wish Morgan, *Child Support Guidelines: Interpretation and Application*, Aspen Publishers, 1996, or http://library.findlaw.com/1999/Jan/1/241469.html for a more complete description of the Melson formula.

[19] The Family Court of the State of Delaware, *Delaware Child Support Formula Evaluation and Update*, November 1, 2010. These are estimates of the monthly primary support allowances and SOLA percentages applicable to the years 2011 and 2012.

family expenditures on children are not possible because a majority of a family's expenditures are for shared goods (housing, for example) rather than for goods that are consumed by a specific individual within the family. This has led to the use of indirect estimates.

The indirect approach attempts to compare families with children to equivalent families without children. Equivalence means the families have the same standard of living. The difference between total consumption expenditures of a family with one child and an equivalent family with no children is assumed to be the marginal cost of the first child. Similarly, the difference between the total consumption expenditures of a family with two children and an equivalent family with one child is assumed to be the marginal cost of a second child.

Crucial to this methodology is the definition of equivalence. The approaches most commonly used to determine when two families are equivalent or have the same standard of living are the Engel approach and the Rothbarth approach. The Engel approach was used by Espenshade and therefore forms the basis for Florida's child support schedule. More recently, most states using the income shares model have adopted schedules of child support obligations based on the Rothbarth approach adopted by David Betson and promoted by Policy Studies, Inc., and more recently, the Center for Policy Analysis, the largest private players in the child support enforcement industry.

Engel Approach: The Engel approach assumes that families that spend the same proportion of their incomes on food are equally well off.[20] In the Engel approach, as total spending increases, the budget share or percent devoted to food should decrease, freeing up expenditures for other goods, and as family size increases, the food share of the budget should also increase.

Rothbarth Approach: The Rothbarth approach measures family equivalence using the level of "excess income" available to the household after all necessary expenditures have been made.[21] Rothbarth postulated that this excess income would be used for savings and luxuries, which he considered to be alcohol, tobacco, entertainment, and sweets. Subsequent implementation of the Rothbarth approach to develop child support guidelines has used expenditures on adult consumption goods (specifically, adult clothing, tobacco, and alcohol) as the measure of excess income.

In the Rothbarth approach, expenditure on adult goods increases as total consumption expenditure increases, but expenditure on adult goods decreases as household size increases. Betson tested several different measures of adult consumption goods but found that the results were only minimally affected by the choice of expenditure items to include. Once a variable for adult consumption goods has been chosen, the Rothbarth approach proceeds in the same way as the Engel approach.

Development of Florida's Current Schedule of Child Support Obligations

As noted earlier, Florida initially adopted Robert Williams's model guidelines schedule of child support obligations developed for the Office of Child Support Enforcement, U.S. Department of Health and Human Services. The starting point for Williams's schedule was a set

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[20] Ernst Engel, 1857, "Die Productions und Consumtionsverhaltnisse des Konigsreichs Sachsen,: *Zeitschrift des Statiscshen Bureaus des Koniglich Sachishen Ministeriums des Innern*.
[21] Erwin Rothbarth, "Note on a Method of Determining Equivalent Income for Families of Different Composition," in *War-Time Pattern of Saving and Spending* (ed. C. Madge). Cambridge: Cambridge University Press, (1943).

of percentages of household consumption spent on children derived by Espenshade using the Engel approach. Espenshade's analysis is described first, and then Williams's procedure to convert these percentages into a detailed schedule of support obligations follows.

Espenshade's Analysis: To implement the Engel approach, Espenshade used data from the 1972-73 Consumer Expenditure Survey conducted by the U.S. Bureau of Labor Statistics. He selected food consumed at home as a percentage of total consumption spending as his dependent variable. He then examined the relationship between this dependent variable and total consumption expenditures. Estimating expenditures on children using this approach proceeded in two steps.

First, expenditures on a single child were computed as the difference between total consumption expenditures for a one-child family and total consumption expenditures for an equivalent childless couple. Again equivalence means that each family spends the same share of its budget on food consumed at home. Second, expenditures on additional children are estimated by examining how expenditure patterns vary between families with different numbers of children.[22]

Espenshade estimated average total expenditures on children in dollars from birth to age eighteen. He also created three synthetic families defined by socioeconomic status. The families were differentiated by the educational attainment and the type of occupation of the head of household. The three families were:

Low SES Family	Elementary school education, blue-collar occupation
Medium SES Family	High school education, blue-collar occupation
High SES Family	College education, white-collar occupation

For these three families, he simulated the proportion of total family expenditure devoted to raising children from birth to age 18. His estimates for a family with two children were 40.4 percent for the low SES family, 40.7 percent for the medium SES family, and 41.3 percent for the high SES family.[23] These are the percentages that formed the starting point for Williams's model guidelines schedule.

Williams's Schedule of Child Support Obligations: Child support guidelines following the income shares model require estimates of the average amount spent on children as a proportion of family *income* rather than family *expenditures*. They also require the estimates for families at different income levels rather than families classified by different socioeconomic status variables. To develop the national model guidelines schedule, therefore, additional steps were necessary to transform the Espenshade percentages.

Williams used the income data in the 1972-73 CES to convert Espenshade's percentages of family expenditure devoted to children into percentages of family income devoted to children. The CES reports summary data for families grouped into twelve income categories or ranges based on their gross incomes. Williams converted the gross income ranges into net income ranges by subtracting from gross income the average amount of federal, state, and local taxes paid, an

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[22] Lewin/ICF, "Estimates of Expenditures on Children and Child Support Guidelines," submitted to Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services, October (1990).

[23] Espenshade, Table 20, p. 66.

estimate of the average amount of federal insurance (Social Security) contributions[24], and the average amount of union dues.

Although Espenshade's study was published in 1984, the data on which the percentages were based was at that time more than ten years old, and Williams was developing his model schedule in 1986. He first updated the income ranges to their 1984 equivalents. To do so, he plotted the cumulative relative frequency of households in each of the 1972-73 gross income categories. He then plotted the same relative frequency using 1984 data[25]. He assumed that the distribution of income had remained stable between 1972-73 and 1984 even as the actual incomes increased. By assuming unchanged relative frequencies, he established boundaries for income categories in 1984 that he deemed equivalent to the boundaries of the 1972-73 income categories.

For example, suppose one of the boundaries separating gross income categories in 1972-73 had been $5,000, and suppose 30 percent of families in 1972-73 had gross incomes below $5,000. If 30 percent of families in 1984 had gross incomes below $10,000, then Williams assumed that $10,000 in 1984 was equivalent to $5,000 in 1972-73. This procedure resulted in twelve gross income categories in 1984 dollars that were assumed equivalent to the twelve categories in 1972-73.

When the model guidelines schedule was developed, the 1984 data were the most recent available so it was necessary to further update the gross income categories from 1984 dollars to 1986 dollars. This was accomplished by a simple transformation of the data using the May 1986 Consumer Price Index. This method assumed that gross incomes between 1984 and 1986 increased at the same rate as the average prices of goods and services. Corresponding to the twelve gross income categories, twelve net income categories were derived by assuming that the ratio of gross income to net income in 1986 was identical to the ratio in 1972-73.

The ratio of consumption to net income in the five lowest net income categories exceeded one. Therefore, the ratios in these five categories were capped at one[26] and they were regrouped into two categories. The consumption-to-income ratios in the next two categories were identical so they were combined into a single category, as were the next two for the same reason. These adjustments reduced the number of categories from twelve to seven.

The child support obligation in the income shares model consists of a basic obligation based on the guidelines schedule plus actual amounts for childcare and extraordinary medical expenses. The amounts for childcare and extraordinary medical expenses are added to the basic obligation shown in the guidelines schedule. The Espenshade percentages, however, included average family expenditures on these items so they needed to be backed out of the consumption-to-net income ratios.

The 1972-73 CES included an expenditure variable for "cost of care", but this variable included both children and the elderly. To develop the guidelines schedule, the amount expended for children alone was estimated by apportioning the cost of care reported in the CES between children and the elderly on a per capita basis.

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[24] Federal insurance contributions were estimated as 5.525 percent (the average of the FICA rates for 1972 and 1973) of wages and salaries up to $9,902.
[25] *Money Income of Households, Families, and Persons in the U.S.: 1984*, Series P-60, No. 151, U.S. Department of Commerce, Bureau of Census, April 1986.
[26] The rationale for this is that "…families should not be required to spend more than their income." Venohr, p. 30.

Extraordinary medical expenses were defined as all medical costs not covered by insurance less a $200 deductible (equivalent to $79.16 in 1972-73). Medical costs not covered by insurance are included in the CES. These two items, estimated childcare expenses and extraordinary medical expenses, were added together and calculated as a percentage of net income. The consumption-to-net income ratio in each income category was then reduced by the ratio of childcare plus extraordinary medical expenses to net income.

The results of all these calculations and adjustments are shown in Table 1-3 below. The first column shows the net income categories adjusted to 1986 dollars. The second column assigns the three Espenshade percentages to these income categories.[27] Espenshade's percentage for low socioeconomic status families is assigned to the lowest three income categories. Espenshade's percentage for medium socioeconomic status families is assigned to the middle-income category. The percentage for high socioeconomic status families is assigned to the highest three income categories.

| | | **Table 1-3** | | |
| | | **Converting Expenditures on Children from a Percent of Consumption to a Percent of Net Income (Two Children)** | | |
Net Income Category	**Child Expenditure/Total Expenditure**	**Total Expenditure/Net Income**	**(Childcare + Medical)/Net Income**	**Child Expenditure/Net Income**
$0-5,600	40.4	1.000	3.40	37.0
$5,601-$10,650	40.4	1.000	3.69	36.7
$10,651-$16,725	40.4	0.985	3.66	36.1
$16,726-$28,200	40.7	0.907	3.40	33.5
$28,201-$39.975	41.3	0.860	2.86	32.7
$39,976-$51,875	41.3	0.815	2.49	31.2
$51,876 or more	41.3	0.718	1.97	27.7

Espenshade estimated the percentage of family expenditures devoted to children only for families with two children. Therefore, Williams had to construct estimates for one-child families and three-child families using other data in Espenshade's analysis. Elsewhere in the study, Espenshade computes total dollar amounts spent on children from birth to age 18. These estimates are disaggregated by socioeconomic status, children's birth order, children's ages, and wife's employment status, and they are computed separately for families with one, two, and three children.[28] For example, a one-child, medium socioeconomic status family with a wife working part-time is estimated to spend $106,200 (in 1981 dollars). A two-child family with the same characteristics spends $164,800, and a three-child family spends $206,400.

To derive expenditures on children as a percent of net income for one-child families, Williams divided Espenshade's total dollar expenditure on children for the one-child family by total dollar expenditure for the two-child-family. The ratio is 0.6444. He then multiplied the percentages in the last column of Table 1-3 by this ratio to yield corresponding percentages for families with one child.

[27] Williams does not explain the basis for these assignments. They apparently were done simply by assumption, although the Espenshade percentages are sufficiently alike that this makes little difference to the results.
[28] Espenshade, Table 3, p. 26-28.

Similarly, Williams derived percentages of net income spent on children in three-child families by first dividing Espenshade's total dollar expenditure in three-child families by the total dollar expenditure in two-child families to get a ratio of 1.2524. He then multiplied the percentages in the last column of Table 1-3 by this ratio to yield the corresponding percentages for three-child families.

However, as we showed in our 2011 review, this procedure leads to erroneous results for one-child and three-child families because Williams appears to have misinterpreted Espenshade's analysis. The percentages of net income spent on two children to which Williams applied these ratios are annual amounts; that is, the percentages in the last column of Table 1-3 represent the ratio of average expenditure on two children each year to average net income for that year. But Espenshade's estimate of the amount of expenditure on one child is the total over 18 years while his estimate of the amount for two children is the total over 20 years. These need to be converted to annual amounts before multiplying the percentages in Table 1-3 by their ratio.

Because the amount for one child would be divided by 18 while the amount for two children would be divided by 20, the ratio of the annual amounts would be larger than the ratio of the total amounts. Instead of Williams's 0.6444, the true ratio of the annual amounts would be 0.7160. Thus, Williams's estimates of expenditures on one child as a percent of net income were too low by an average of about ten percent, or about 2.5 percentage points.

Similarly, the amount for three children should be divided by 22. Therefore, the ratio of the annual amount for three children to the annual amount for two children should be smaller than the ratio of the total amounts. Instead of Williams's 1.2524, the true ratio of the annual amounts would be 1.1386. Thus, Williams' estimates of expenditures on three children as a percent of net income were too high by an average of about ten percent, or almost four percentage points.

Espenshade also provided no estimates of family expenditures on children for families with more than three children. To extend the proportions to four-child families, Williams used a set of Revised Equivalence Scales developed by the Bureau of Labor Statistics based on 1968 data. These equivalence scales show how much more proportionately a family with four children needs to spend than a three-child family.

The BLS equivalence scales only extended to families with four children, but Williams wanted to include five-child and six-child families in his schedule. He assumed the equivalence scale would increase at a constant but decreasing rate (presumably reflecting economies of scale in family size). This allowed him to calculate equivalence values for five and six children. He then increased his estimated percentage of net income spent on four children by these equivalence values to derive estimated percentages for five and six children.

The final result was a set of forty-two child support percentages corresponding to seven net income categories each for families with one through six children. The next and last step to derive the model guidelines schedule was to convert the seven annual net income categories into a table of child support obligations expressed in dollars corresponding to monthly net incomes in increments of $50.

The percentage of net income devoted to children in each of the seven net income categories was assigned to the mid-point net income for that category. For example, the third income category was $888-$1,394 per month with a mid-point of $1,141. The percent of income devoted to children in this category is estimated to be 36.1. So the child support obligation for

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parents with two children and a combined net income of $1,141 is $412 (36.1 percent of $1,141). The mid-point of the next income category is $1,873, and child expenditure as a percentage of net income in this category is 33.5. Therefore, the child support obligation for parents with two children and a combined net income of $1,873 is $627 (33.5 percent of $1,873).

Between adjacent midpoints, child support amounts at each net income were interpolated. The marginal percentage separating net incomes within each net income range was calculated. Then, support obligations corresponding to each net income were calculated so that the marginal percentage separating each support obligation was the same as the marginal percentage separating each net income.

For example, the difference between a net income of $1,500 and the next lower mid-point income, $1,141, is $359. This is 49 percent of the difference between the two adjacent midpoints, $1,141 and $1,873. Therefore, the difference in the support obligation for a net income of $1,500 and the next lower mid-point support obligation, $412, is also 49 percent of the difference between the two adjacent mid-point support obligations, $412 and $627.

In this way, the entire model schedule that was originally adopted by Florida and continues with small modifications to provide the schedule of child support obligations today was created. While the basis for the schedule is economic data on household spending from the Consumer Expenditure Survey, many assumptions must be made in transforming the basic CES data into the final schedule. Many of the assumptions are purely arbitrary and have no particular economic or statistical justification. Estimates of expenditures on children are sensitive to the specification of the estimating equation, the choice of variables to include in the equation, and the data series used in the estimation.

It is important not to place excessive reliance on the precision of these estimates. They are the result of a process that originates with economic data (the Consumer Expenditure Survey), but with a large amount of human intervention between the data and the result. Despite the appearance that the schedule of child support obligations following the income shares model is somehow firmly grounded in economic data, the linkages between the underlying data and the final schedule are many and weak. Development of a usable schedule from the basic Consumer Expenditure Survey data requires so many assumptions and so many *ad hoc* statistical procedures that it is not possible to say for certain that any resulting schedule accurately reflects average expenditures on children by intact families.

For this reason, the schedules of obligations adopted by different states vary widely even when they purport to use the same methodology. As we previously noted, differences in the underlying data are most unlikely to account for the wide variation in schedules of obligations across states. While the choice of a particular schedule of obligations matters greatly to parents who receive and pay child support, economically, statistically, and methodologically, there are no strong grounds for preferring any one schedule to any other.

Chapter 2

Calculating the Cost of Children

Economic methods of child-rearing expenditure measurement attempt to determine how much income a household with two adults and one child needs in order to enjoy the same level of economic welfare as a childless couple. The problem is how to separate the proportion of household expenditure devoted to a child's consumption from the proportion devoted to jointly consumed goods such as housing, food, utilities, etc. Families have three things they can do with the income they earn. They can consume, pay taxes, or save. Figure 2-1 shows how a family might divide their spending.

Figure 2-1
Breakdown of Gross Family Income

Taxes
Savings
Adults' Share
Children's Share
Consumption
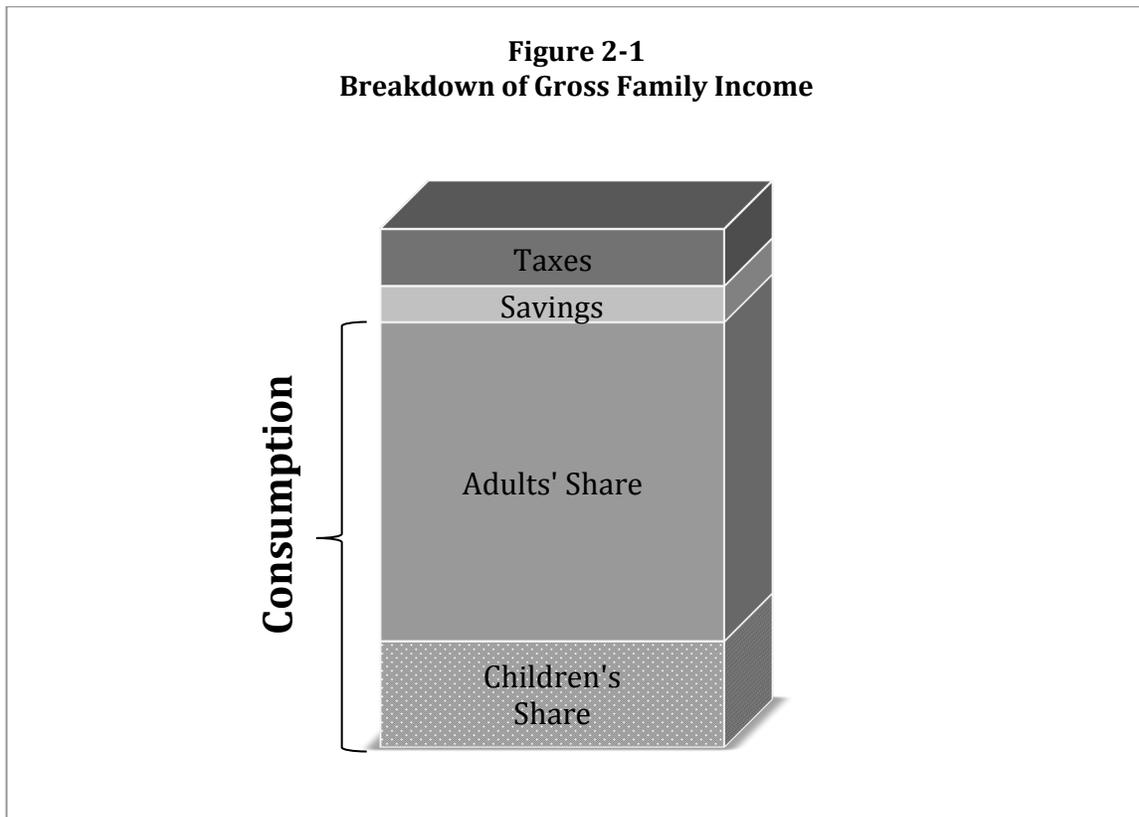
Alternative Methods of Apportioning Household Consumption between Adults and Children

The difficult task, for an economist, is to apportion a family's total consumption between the parents and the children.[29] As Chapter 1 noted, the two most common models used to estimate the marginal cost of rearing a child are Engel (1895) and Rothbarth (1943). To maintain a couple with a child and a childless couple equally well off, Engel uses food as a share of total expenditure while Rothbarth uses expenditure on adult-specific goods.

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[29] As noted in Chapter 1, the premise of the income shares model on which Florida's child support guidelines are based is that a child's standard of living should be the same as if the child were in an intact family. Clearly this assumption results in higher costs of children than if child support payments were intended only to underwrite the minimum subsistence costs of the child.

The Engel Methodology: The presence of a child increases the proportion of family budget devoted to food. The cost of a child can be measured by calculating the compensation that would have to be paid to the parents to restore the household food share to its prenatal level. Food share is an indicator of welfare in this model. Two households with the same food share are assumed to enjoy the same level of welfare regardless of family size, demographic composition, and total expenditure. Thus, by comparing total expenditure of a couple with a child and a childless couple, where both couples spend the same proportion of total expenditure on food, an equivalence scale can be derived. The additional total expenditure required by the couple with a child is the cost of maintaining that couple at the same welfare level as the childless couple.

Figure 2-2
Computing the Share of Consumption Devoted to Children Using the Engel Method
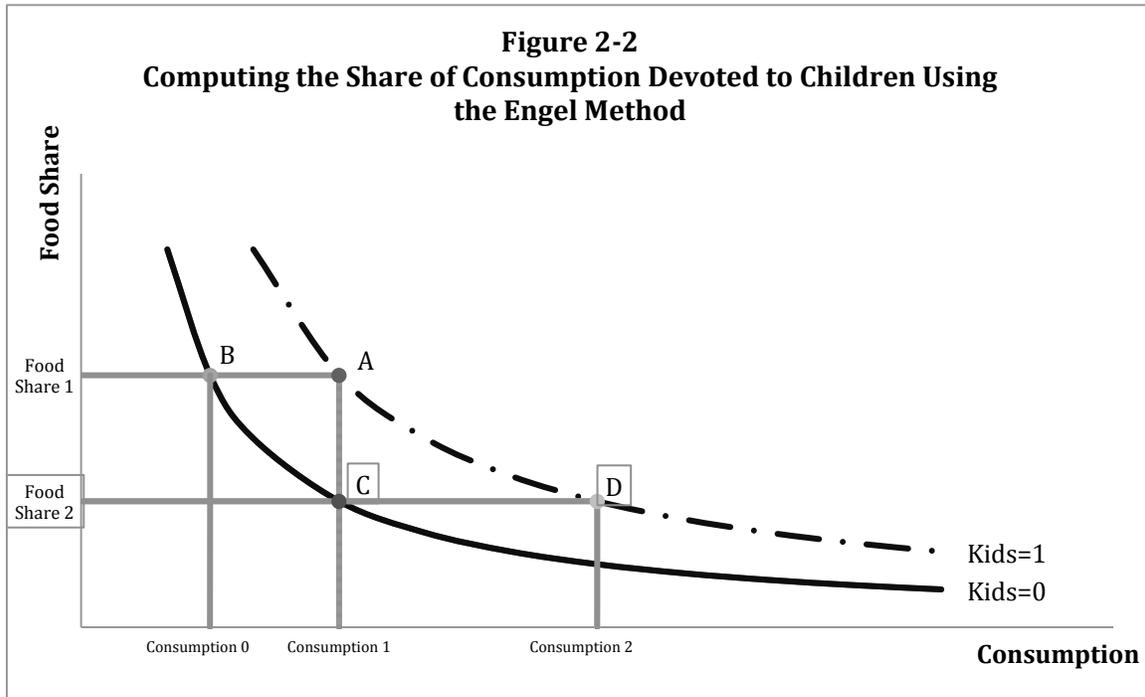
In Figure 2-2 we start with a particular consumption level for a family with one child (point A), and compute the consumption level that is necessary for a childless couple to achieve the same food share (point B). The percentage change from Consumption 1 to Consumption 0 is the fraction of consumption devoted to one child. Note also that due to the nonlinearity in the Engel curves, the food share may vary with the level of consumption. For example, in Figure 2-2 the distance from D to C is not the same as from A to B.

As Table 2-1 shows, there is a significant literature using the Engel method to estimate the cost of a child. The estimates vary from 22 percent to 45 percent in the studies listed in the table. For two of the four studies, the cost is even greater than average per capita cost, which would be considered implausible by most economists.

	Table 2-1 Engel Method of Estimating Child-Rearing Expenditures		
Author(s)	**Cost of One Child (percent of total consumption)**	**Data**	**Sample**
Deaton and Muellbauer (1986)[30]	Indonesia: 45% Sri Lanka: 41%	Socioeconomic Survey of Sri Lanka (1969-70) Indonesia Survey (1978)	Indonesia: 6,500 observations Sri Lanka: 10,000 observations
Tsakloglou (1991)[31]	Greece: 33.4%	Greek Household Expenditure Survey (1981-82)	2-adult couple with head age less than 55 years with a child age 0-13 years old (1,669 observations)
Lancaster and Ray (1998)[32]	Australia: 22.4%	Australia Household Expenditure Survey (1984, 1988-89)	Various demographic groups, 1984 data (4,302 observation), 1988-89 data (6,895 observations)
Espenshade (1984)[33]	USA: 26-30%	U.S. CEX data (1972-73)	Two adult couple with head less than 55 years old. Children 0-18 years of age.

Rothbarth Methodology: The goods and services consumed by households can be divided into (i) adult-specific goods (consume exclusively by adults) and (ii) other goods (jointly consumed by adults and children). The presence of children is assumed to affect the total expenditure on adult-specific goods, and the consumption of adult-specific goods determines the adult's welfare in this model. If two households with the same number of adults spend the same amount of money on adult-specific goods, they are considered to enjoy the same level of welfare, regardless of their total expenditure and regardless of household size. The Rothbarth method calculates the sum of money that would restore the same level of expenditure on adult-specific good of a couple with a child to the level of a childless couple.

Following Rothbarth's approach, the identification of the children's share of household consumption requires the observation of expenditures of adult-specific goods. The model

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[30] Deaton, Angus S. and John Muellbauer. "On Measuring Child Costs: With Applications to Poor Countries," *Journal of Political Economy*, Vol. 94, No. 4 (1986), pp. 720-744.

[31] Tsakloglou, Panos. "Estimation and Comparison of Two Simple Modes of Equivalence Scales for the Cost of Children," *The Economic Journal*, Vol. 101, No. 405 (March 1991), pp. 343-357.

[32] Lancaster, Geoffrey and Ranjan Ray. "Comparison of Alternative Models of Household Equivalence Scales: the Australian Evidence on Unit Record Data," *The Economic Record*, Vol. 74, No. 224 (March 1998), pp. 1-14.

[33] Espenshade, Thomas. *Investing in Children*: The Urban Institute Press, Washington, D.C., 1984.

specification by Bargain and Donni (2012), illustrates the method. The purchases of adult-specific goods (Q_A) are:[34]

$$Q_A = a + b(X - \theta)$$

where a and b are parameters which are the same for different demographic groups, X is total household expenditure, and θ is expenditures specifically devoted to children. So, we can obtain the expenditure on children θ by estimating:

$$\theta = X + (a - Q_A)/b$$

Graphically we can see how the percentage of consumption devoted to children is computed in Figure 2-3. Starting at a total consumption level Consumption 1, we can compute the amount of adult goods that a family with 1 child has. Thereafter, we can solve for point B by finding the total consumption level that would give us the same amount of adult goods as the family with one child. The percentage difference between the family with a child and without a child gives us the share of consumption devoted to one child.

Figure 2-3
Computing The Share Of Consumption Devoted To Children Using The Rothbarth Method
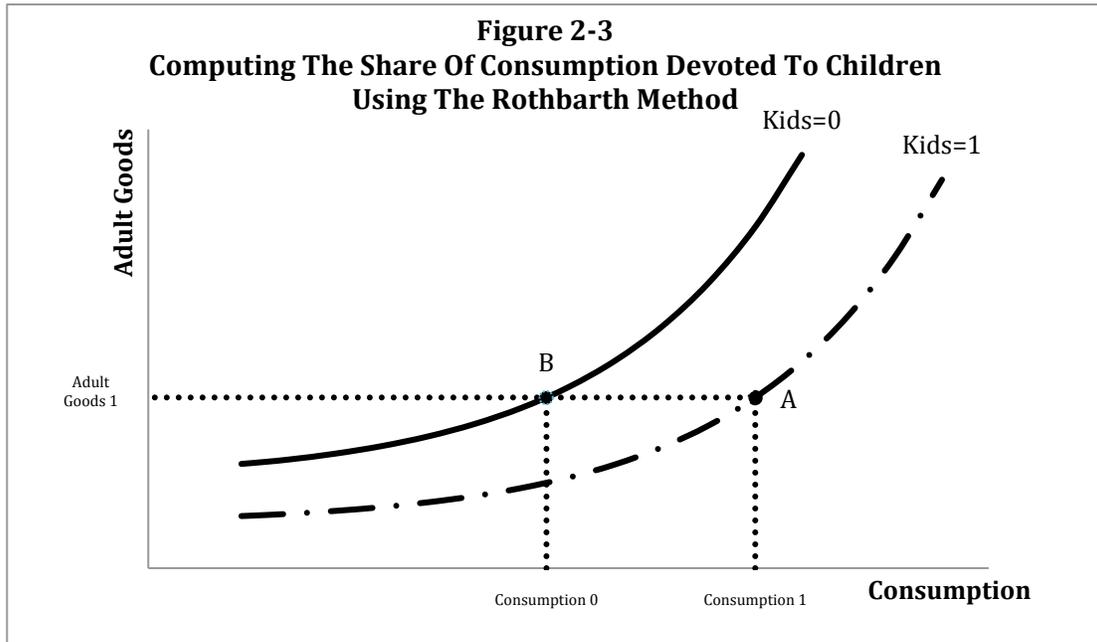
Many estimates exist in the literature of Rothbarth type models. The results vary widely depending on the type of adult goods used in the analysis. Table 2-2 presents the results from six studies using the Rothbarth approach. The cost of a child ranges from 15 percent to 27 percent of total consumption in studies that use clothing as the adult good. Studies that use broader measures of adult goods range from ten percent to twelve percent.

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[34] Bargain, Oliver and Oliver Donni. "The Measurement of Child Costs: Evidence form Ireland," *The Economic and Social Review*, Vol. 41, No. 1 (Spring 2010), pp. 1-20.

Table 2-2 Rothbarth Method of Estimating Child-Rearing Expenditures				
Author(s)	Cost of One Child (percent of total consumption)	Data	Sample	Adult Specific Goods
Bargain and Donni (2012)[35]	France: Boy: 27% France: Girl: 23%	French Household Budget Survey (year 2000)	18-59 age, working adult, have 1 child younger than 14 years old (2,153 observations)	Clothing
Bargain, Donni, and G444bakou (2010)[36]	Ireland: 20%	Irish Household Budget Survey (year 2005)	25-64 age, working adult, have 1 child age 0-4 years old	Clothing
Deaton and Muellbauer (1986)[37]	Indonesia: 10% Sri Lanka: 12%	Socioeconomic Survey of Sri Lanka (1969-70) Indonesia Survey (1978)	Indonesia: 6,500 observations Sri Lanka: 10,000 observations	All non-food
Tsakloglou (1991)[38]	Greece: 11.7%	Greek Household Expenditure Survey (1981-82)	Two-adult couple with head age less than 55 years with a child age 0-13 years old (1,669 observations)	meals out, alcohol, tobacco, adult clothing and footwear, entertainment.
Lancaster and Ray (1998)[39]	Australia (Food Takeaway): 5.5% Australia (Adult clothing): 14.9%	Australia Household Expenditure Survey (1984, 1988-89)	Various demographic groups, 1984 data (4,302 observation), 1988-89 data (6,895 observations)	food away from home, adult clothing, adult education, alcohol, entertainment, and tobacco.

[35] Bargain, Oliver and Oliver Donni. "The Measurement of Child Costs: Evidence form Ireland," *The Economic and Social Review*, Vol. 41, No. 1 (Spring 2010), pp. 1-20.
[36] Bargain, Oliver, Oliver Donni and Monnet Gbakou. "Expenditure on Children: A Rothbarth-type method consistent with Scale Economies and Parents' Bargaining," *European Economic Review*, Vol. 56 (2012), pp. 792-813.
[37] Deaton, Angus S. and John Muellbauer. "On Measuring Child Costs: With Applications to Poor Countries," *Journal of Political Economy*, Vol. 94, No. 4 (1986), pp. 720-744.
[38] Tsakloglou, Panos. "Estimation and Comparison of Two Simple Modes of Equivalence Scales for the Cost of Children," *The Economic Journal*, Vol. 101, No. 405 (March 1991), pp. 343-357.
[39] Lancaster, Geoffrey and Ranjan Ray. "Comparison of Alternative Models of Household Equivalence Scales: the Australian Evidence on Unit Record Data," *The Economic Record*, Vol. 74, No. 224 (March 1998), pp. 1-14.

Calculating the Cost of Children

Author(s)	Cost of One Child (percent of total consumption)	Data	Sample	Adult Specific Goods
Gronau (1991)[40]	USA (Clothing): 15%	U.S. CEX data, 1972-73	Two adult couples, children less than 16 years of age	Clothing

Comparison of the Results in the Literature of the Two Approaches: Both the Engel and Rothbarth approaches are single equation estimation models. The Engel approach uses an expenditure item considered to be a family necessity, food consumed at home. Two families are considered to have equal living standards if they spend the same share of their total consumption on this item, regardless of differences in income or in family size. The Rothbarth approach uses an expenditure item that benefits only the adults in the family, items such as adult clothing or tobacco or alcohol. Two families are considered to have equal living standards if they spend the same amount on the adult-only goods regardless of family size. These two single-equation approaches could conceivably be combined into a multi-equation approach, but doing so has not been very successful in practice, so most studies continue to use one or the other of the two approaches.

There is no theoretical reason that one set of single-equation estimates should be systematically lower than the other, but in general the Rothbarth estimates are lower than the Engel estimates. In early Engel studies, the estimates tended to be very high. However, growth in incomes has resulted in less reliance on food consumed at home in industrialized countries. Therefore, the difference in the food-at-home consumption variable between families with and without children has decreased, resulting more recently in lower Engel method estimates.

In contrast to the falling pattern of Engel estimates, the Rothbarth computations based on clothing indicate a slight increase over time. This might be expected as growing incomes in industrialized countries result in a greater ability to buy adult clothing. An increased importance of clothing might lead to more substantial differences in clothing consumption of families with and without children.

For both methods, the literature indicates that cost estimates might be changing over time and that they are sensitive to the specification of the functions used to estimate the models.

Computing the Cost of Children

To find an appropriate current cost of children for Florida, we turn next to estimating both the Engel and Rothbarth models using updated Consumer Expenditures Survey (CES) data.

Data: Data for the analysis comes from the 2006-2011 CES conducted by the U.S. Bureau of the Census for the U.S. Bureau of Labor Statistics (BLS). The CES provides comprehensive information on family expenditures and income as well as on socioeconomic and demographic characteristics of U.S. families.

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[40] Gronau, Reuben. "The Intrafamily Allocation of Goods – How to Separate the Adult from the Child," *Journal of Labor Economics*, Vol. 9, No. 3 (July 1991), pp. 207-235.

Calculating the Cost of Children

The 2006-2011 survey consists of two parts: (1) a quarterly interview survey which includes monthly out-of-pocket expenditures on such items as housing, apparel, transportation, health care, insurance, and entertainment, and (2) a diary survey which includes weekly expenditures on frequently purchased items such as food and beverages, tobacco, personal care products, and nonprescription drugs and supplies.[41] The update uses only the public use file from the quarterly interview survey.

Interviews were conducted for each consumer unit. A consumer unit consists of (1) all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; (2) a person living alone or sharing a household with others, or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but who is financially independent; or (3) two or more persons living together who use their income to make joint expenditure decisions. Financial independence is determined by the three major expense categories: housing, food, and other living expenses. To be considered financially independent, at least two of the three major expense categories have to be provided entirely or in part by the respondent.[42] The quarterly interview data file was used to construct a hypothetical annual data set. Each household was identified by a unique number and linked across quarters.

The number of children in a household was averaged across quarters. It is therefore possible for some households to have fractional children if a child was present in the household for less than the full year. Total expenditures, childcare, and medical care are averaged across quarters and multiplied by four to arrive at an estimate of the annual amount.

For analysis purposes, a more restricted sub-sample than the full CES sample of consumer units is used. The full sample consists of 61,776 consumer units and our usable sub-sample is 2,629. The restrictions imposed on the sample and the number of units deleted from the full sample by each restriction are shown in Table 2-3.

Table 2-3 Sample Restrictions		
Sample Restriction	**Deletions**	**Remaining Sample Size**
Total Number of Consumer Units		61,776
Full Year	36,563	25,213
Income Not Imputed	11,541	13,672
Family Income Greater Than 0	44	13,628
Married	6,904	6,724
Under Age 55 If No Children	2,162	4,562
All Children Age 15 or Younger	1,542	3,020
No Non-Family Members living with Family	210	2,810
Not missing Data on Location	10	2,800
Gross Income Above $9,000 and Below $400,000 in $2013	60	2,740
Three or fewer children	111	2,629

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[41] CES Overview, http://www.bls.gov/cex/csxgloss.htm
[42] CES Glossary of Terms, http://www.bls.gov/cex/csxgloss.htm

Calculating the Cost of Children

Only consumer units for which a full year (five quarters) of data was available were included. This restriction resulted in the largest number of deletions, eliminating more than half the full sample. Another 11,541 consumer units were deleted because only imputed incomes, not actual incomes, were reported. The usable sub-sample was also restricted to consumer units where the parents are married, where the head of household is either under age 55 or over age 55 with children, where all children in the household are age 15 or younger, and where the household includes no non-family members. These restrictions eliminated an additional 10,818 consumer units from the full sample. Finally, only units with incomes greater than zero, three or fewer children, gross income above $9,000 and below $400,000 in 2013 constant dollars, and with data on location were included, although these restrictions eliminated only 225 units from the full sample.

Table 2-4 shows the after-tax or net income of the CES sample in five net income quintiles created by sorting the data into evenly spaced categories.[43] The table shows that average consumption within each net income quintile rises less rapidly than net income. These quintiles are employed in our computations of the cost of children,

Table 2-4 Total Consumption by Net Income Quintile			
Quintile	Lowest Net Income	Highest Net Income	Consumption
1	$12,650	$43,200	$34,355
2	$43,200	$64,400	$45,333
3	$64,400	$86,450	$53,549
4	$86,450	$116,600	$63,637
5	$116,600	$200,000	$79,477

Table 2-5 shows the mean and share of total consumption by net income quintile for each of the expenditure categories used in either the Engel or the Rothbarth methodology. As expected, spending on food at home rises with net income but its share of all consumption declines. Mean spending on food at home rises from $5,295 in the lowest net income quintile to $7,339 in the highest net income quintile. Food at home as a share of consumption falls from 15 percent in the lowest quintile to nine percent in the highest net income quintile.

Both the level of spending and the share of consumption of food away from home and adult clothing rise as net income rises, and this too is expected.[44] For both goods the level and share of spending is about three times higher in the highest quintile than in the lowest quintile. For tobacco and alcohol, there is no consistent pattern; as net income rises, spending on these two goods is either two percent or three percent of total consumption.

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[43] Note that the top quintile has slightly fewer observations because income distribution is skewed to the right.
[44] Adult clothing includes spending on clothing for those 16 and older in the CES. As a result, we exclude those families with children aged 16 and 17 since their purchases would be counted as adult clothing.

		Food at Home		Food Away From Home		Tobacco and Alcohol		Adult Clothing	
				Table 2-5					
				Mean Spending and Share of Consumption, by Net Income Quintile					
Quintile	Net Income	Dollars	Share	Dollars	Share	Dollars	Share	Dollars	Share
1	12,650- 43,200	5,295	0.15	1,653	0.05	664	0.02	321	0.01
2	43,201- 64,400	5,715	0.13	2,257	0.07	826	0.02	457	0.01
3	64,401- 86,450	5,941	0.11	3,072	0.09	923	0.03	652	0.02
4	86,451- 116,600	6,442	0.10	3,600	0.10	794	0.02	793	0.02
5	116,601- 200,000	7,339	0.09	4,828	0.14	1,003	0.03	1,188	0.03

Updated Engel Estimates: The following equation for food as a share of total consumption is estimated using the 2006-2011 CES data:

$$\ln(F) = \delta \ln(S) + \beta \ln(S)^2 + \alpha(K/FS) + \phi \ln(FS) + \gamma(X)$$

The dependent variable, ln (F), is the log of the food budget share. The variable from the CES used to measure the food budget share is food purchased for home consumption. The food budget share is assumed to be a linear function of (1) the log of total spending, $\delta ln(S)$, and its square, $\beta \phi$ $ln(S)^2$; (2) the number of children in the family in different age groups divided by family size, $\alpha(K/FS)$; (3) the log of family size, $\phi ln(FS)$; and (4) a set of characteristics of the adults in the family, $\gamma(X)$. The exponential term is included to allow for nonlinearity in the relationship between food and total consumption.

We estimate the Engel model in several ways. The first is to examine the effect of characteristics of the family on the estimated share of food consumed at home. We divide the characteristics into two categories; characteristics of the parents and characteristics of the children. For the parents' characteristics, we use the socio-economic background of the parents. For example, parents with a high education level may be expected to spend a higher amount on children than less educated parents. Because we have few observations on characteristics of children, we limit the characteristics used in the estimation to age. Examining each age separately would require an excessive amount of data, so we group the ages into three categories: 0-5, 6-10, and 11-15. Note that we exclude 16-17 year olds due to the high probability that their clothing purchases would be counted as adult clothing, and we want to maintain consistency between our Engel estimates and our Rothbarth estimates.

Table 2-6 reports the results of regressing the share of food consumed at home on the various adult characteristics that we use and the ages of the children in addition to expenditures and family size. The first column includes the parents' characteristics as well as the ages of children. The second column excludes the parent's characteristics, but retains the ages of the

children. The third column excludes the parent's characteristics and the ages of the children, but does control for the presence of children in the family.

Table 2-6 Log Food Share Regression Models with Characteristics of Parents and Children			
Variable	(1)	(2)	(3)
Log (Expenditures/1,000)	-0.0551	-0.229	-0.233
	(-0.209)	(-0.859)	(-0.874)
Log (Expenditures/1,000) ^{2}	-0.0729	-0.0549	-0.0540
	(-2.228)	(-1.656)	(-1.630)
Share of Family Age 0 to 5	-0.176	-0.217	
	(-0.711)	(-0.873)	
Share of Family Age 6 to 10	0.123	0.0857	
	(0.481)	(0.333)	
Share of Family Age 11 to 15	0.214	0.178	
	(0.846)	(0.697)	
Log(Family Size)	0.369	0.415	0.519
	(2.162)	(2.414)	(3.026)
Husband: Less Than H.S Degree	0.0368		
	(0.974)		
Husband: More than H.S. Degree	-0.0242		
	(-1.392)		
Wife: Less Than H.S Degree	-0.00996		
	(-0.222)		
Wife: More than H.S. Degree	-0.0253		
	(-1.340)		
Wife: Number of Weeks Worked Per Year	-0.00109		
	(-2.714)		
Wife: Usual Works 35 or more hours per week	-0.00581		
	(-0.320)		
Husband and Wife both Work	-0.0106		
	(-0.488)		
Share of Family Age 0 to 15			-0.169
			(-0.674)
Constant	-1.154	-0.873	-0.946
	(-2.142)	(-1.608)	(-1.749)
Observations	2,629	2,629	2,629
R-squared	0.490	0.485	0.472

The R-squared measures the regression's ability to explain movements in the dependent variable. The greater the number of variables included in the regression, the higher the R-squared should be. However, adding seven variables capturing parents' characteristics in this regression results in very little change in the R-squared. The R-squared falls only slightly, from 0.490 to 0.485. This indicates that the parents' characteristics have limited importance in explaining the variation in the food shares, and thus in the cost of children. This is also supported in practice as no state requires information about the characteristics of the parents in order to determine child support payments.

The ages of the children have a greater impact on the explanatory power of the food share variable. Without the children's ages, the R-squared falls from 0.485 to 0.472. That is a substantial fall in explanatory power. Thus, we need to examine which age groups are responsible for the fall in R-squared.

Table 2-7 shows F-tests for differences between age groups in their effect on the log of food share. The results indicate that the effects of young children aged 0 to 5 on the log of food share differ significantly from the effects of older children since the p-value for the F-tests is less than 0.05. However, the effect of children aged 6 to 10 are not significantly different from the effect of children aged 11 to 15 since the p-value for the F-test is greater than 0.05.

Table 2-7
F-test of Differences between Age Groups

Group	F-Statistic	p-value
Age 0 to 5-Age 6 to 10	30.75	0.001
Age 0 to 5-Age 11 to 15	52.90	0.001
Age 6 to 10-Age 11 to 15	2.003	0.157

In summary, the models show that parents' characteristics are not important to the regression, but two age groups are necessary, young (between 0-5 years) and older (ages 6-15). In the remainder of the report, the models will be estimated without the characteristics of parents but with two age variables for children, one for children under six years old and one for children age six and older.

Three different specifications are presented in Table 2-8. The first model shows the results for a model with a family size variable with the expenditure variable divided by family size. The second model shows the same family size model, but with the expenditure variable in log levels instead of per capita. The third model excludes family size but includes a binary variable for children accounting for them separately rather than in the family size variable.[45] The R-squared is quite similar across the three models. Thus, accounting for children individually with binary variables does not increase the explanatory power of the model. The choice of which model to utilize depends on the reasonableness of the predicted cost of children that results from each one.

Table 2-8
Alternative Log Food Share Regression Models

Variable	(1)	(2)	(3)
Log((Expenditures/1000)/Family Size)	-0.368		-0.405
	(-3.490)		(-3.844)
Log((Expenditures/1000)/Family Size)^2	-0.0520		-0.0444
	(-2.854)		(-2.439)
Log(Expenditures/1000)		-0.229	
		(-0.857)	

[45] Note that the expenditure is in per capita form in the third column

Variable	(1)	(2)	(3)
Log(Expenditures/1000)^2		-0.0550	
		(-1.659)	
Share of Family Age 0 to 5	-0.298	-0.186	
	(-1.189)	(-0.749)	
Share of Family Age 6 to 15	0.0481	0.164	
	(0.187)	(0.647)	
Log(Family Size)	-0.194	0.387	
	(-1.116)	(2.258)	
One Child Age 0 to 5			-0.116
			(-6.912)
One Child Age 6 to 15			-0.0674
			(-3.654)
Two Children Age 0 to 5			-0.226
			(-9.518)
Two Children Age 6 to 15			-0.0607
			(-2.957)
Three Children Age 0 to 5			-0.380
			(-6.472)
Three Children Age 6 to 15			-0.124
			(-3.393)
Constant	-0.470	-0.855	-0.575
	(-2.247)	(-1.573)	(-3.660)
Observations	2,629	2,629	2,629
R-squared	0.485	0.484	0.484

Table 2-9 shows our estimates of the cost of children as a percentage of consumption using the Engel method. We used the regression results in Table 2-8 to compute the food share at a particular consumption level for a family with one, two, or three children and then computed the total consumption level at which a family without children would have the same food share as the family with children. The difference represents the cost of children. The costs are computed for both young (ages 0 to 5) and old children (ages 6 to 15). The total cost of a child is calculated as a weighted average of the cost of a young child and the cost of an older child through age 17.

Table 2-9 Cost of Children as a Percentage of Consumption Using the Engel Methodology					
	Quintile 1	**Quintile 2**	**Quintile 3**	**Quintile 4**	**Quintile 5**
Total Consumption[46]	34,355	45,333	53,549	63,637	79,477

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[46] Average consumption for each quintile

Calculating the Cost of Children

		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
One Child						
A. Family size and per capita consumption	Old	26.3	26.6	26.8	27	27.2
	Young	11.8	12.8	13.4	14	14.7
	Average	**21.5**	**22.0**	**22.3**	**22.7**	**23.0**
B. Family size and level of consumption	Old	29.8	28.5	27.8	27.1	26.3
	Young	14.4	13.8	13.4	13.1	12.6
	Average	**24.7**	**23.6**	**23.0**	**22.4**	**21.7**
C. Binary variable and per capita consumption	Old	25.8	26.1	26.2	26.4	26.6
	Young	19.8	20.4	20.7	21	21.4
	Average	**23.8**	**24.2**	**24.4**	**24.6**	**24.9**
Two Children						
A. Family size per capita consumption	Old	39.9	40.4	40.7	41	41.3
	Young	20.8	22.3	23.2	24	25
	Average	**33.5**	**34.4**	**34.9**	**35.3**	**35.9**
B. Family size and level of consumption	Old	45	43.3	42.3	41.3	40.2
	Young	25.3	24.2	23.6	23	22.2
	Average	**38.4**	**36.9**	**36.1**	**35.2**	**34.2**
C. Binary variable and per capita consumption	Old	38.2	38.7	39	39.3	39.6
	Young	13.2	15	15.9	16.9	18.1
	Average	**29.9**	**30.8**	**31.3**	**31.8**	**32.4**
Three Children						
A. Family size and per capita consumption	Old	48.3	48.9	49.3	49.6	50
	Young	27.5	29.4	30.4	31.4	32.6
	Average	**41.4**	**42.4**	**43.0**	**43.5**	**44.2**
B. Family size and level of consumption	Old	54.5	52.6	51.4	50.3	49
	Young	33.5	32.1	31.3	30.6	29.7
	Average	**47.5**	**45.8**	**44.7**	**43.7**	**42.6**
C. Binary variable and per capita consumption	Old	38.9	39.9	40.4	41	41.6
	Young	NA	NA	NA	NA	NA
	Average	**NA**	**NA**	**NA**	**NA**	**NA**

There are both similarities and differences in the results across the three models. In all three models where the cost of children can be computed, the cost of younger children is lower

than the cost of older children. Model C, which has binary variables for the number of children and the log of per capita consumption spending as independent variables, differs from the other models since it is unable to compute the cost of three young children. As a result, it is not a useful model for generating child support guidelines.

Models A and B, which both include the log of family size as an independent variable, yield similar costs for children at the middle net income quintile. However, models A and B differ in the cost of children as net income rises. Model A yields increasing costs of children as net income rises, while the reverse is true for model B. Because one expects that spending on children would fall as net income rises, we prefer model B, which includes the log of family size and the log of the level of consumption spending as independent variables.

Updated Rothbarth Estimates: To use the Rothbarth method, we estimate the following equation from the 2006-2011 CES with different measures of adult goods as the dependent variable:

$$\ln(A) = \delta \ln(S) + \beta \ln(S)^2 + \alpha(K/FS) + \phi \ln(FS)$$

The dependent variable, ln (*A*), is the log of real spending on adult goods. We use three different variables as measures of adult goods: food away from home, adult clothing, and tobacco and alcohol. Spending on adult goods is assumed to be a linear function of (1) the log of total spending, $\delta ln(S)$, and its square, $\beta\phi\, ln(S)^2$; (2) the number of children in the family in different age groups divided by family size, $\alpha(K/FS)$; and (3) the log of family size $\phi\, ln(FS)$. Again, the exponential term is included to allow for nonlinearity in the relationship between food and total consumption.

Table 2-10 shows the regression results. The results for the log of adult clothing yield coefficients most consistent with expectations. That is, spending on adult clothing rises with total consumption but at a decreasing rate. In addition, older children have a larger negative effect on spending on adult clothing than younger children. Neither the food away from home variable nor the tobacco and alcohol variable exhibit this pattern.

Table 2-10			
Log of Adult Good Spending Regression Models			
Variable	**Log (food away from home)**	**Log (adult clothing)**	**Log (tobacco and alcohol)**
Log (Expenditures/1,000)	2.607	1.633	-1.541
	(6.518)	(2.993)	(-1.919)
Log (Expenditures/1,000)^2	-0.192	-0.0536	0.269
	(-3.854)	(-0.785)	(2.708)
Share of Family Age 0 to 5	-0.167	-0.649	-0.903
	(-0.295)	(-0.821)	(-0.720)
Share of Family Age 6 to 10	0.443	-1.126	-0.157
	(0.762)	(-1.398)	(-0.122)
Log(Family Size)	-0.285	-0.0576	-0.195
	(-0.727)	(-0.104)	(-0.221)
Constant	0.737	0.839	8.381
	(0.832)	(0.716)	(4.808)
Observations	2,587	2,410	2,056
R-squared	0.330	0.269	0.049

Table 2-11 presents a more complete listing of the Rothbarth estimates for the cost of children based on spending on adult clothing as the adult good. The results are generally consistent with expectations. For example, older children are more costly than younger children. In addition, there are economies of scale with children. That is, the cost of two children is less than twice the cost of one child.

Table 2-11 Cost of Children Using Rothbarth Methodology with Adult Clothing		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Total Consumption		34,355	45,333	53,549	63,637	79,477
One Child	Old	26.9	27.5	27.8	28.2	28.6
	Young	17.3	17.6	17.9	18.1	18.5
	Average	**23.7**	**24.2**	**24.5**	**24.8**	**25.2**
Two Children	Old	37.6	38.3	38.7	39.1	39.7
	Young	25	25.5	25.8	26.11	26.6
	Average	**33.4**	**34.0**	**34.4**	**34.8**	**35.3**
Three Children	Old	43.3	44	44.5	45	45.6
	Young	29.3	29.9	30.3	30.7	31.2
	Average	**38.6**	**39.3**	**39.8**	**40.2**	**40.8**

Previous analyses using the Rothbarth method exclude families with zero spending on adult clothing. To examine the impact of this sample restriction, Table 2-12 compares the characteristics of families with zero spending on adult clothing with the characteristics of the full sample. As the table shows, families with zero adult clothing consumption average 0.42 more children than the full sample. In addition, their net income is 27 percent, or $21,413, less than the full sample. Not surprisingly, zero adult clothing families have a 4.5 percentage point higher share of spending on food at home.

Table 2-12 Comparison of Sample with Zero Clothing Expenditure and Full Sample	Zero Clothing Sample	Full Sample
Net income	$58,035	$79,448
Number of Children	1.65	1.23
Share of Spending on Food at home (%)	17.2	12.7
Spending on Adult Clothing ($2013)	0	654
Sample Size	219	2,629

To examine how the inclusion of the zero adult clothing families would affect the cost of children, two additional models were estimated. The first assigns a value of $0.01 to observations with zero spending on adult clothing so that the log of adult clothing can be calculated. The second estimates a Tobit model, which explicitly handles observations that are censored at zero.

Calculating the Cost of Children

Table 2-13 reports the cost of children including the observations with zero consumption values for adult clothing. Adding the small number of families (8.3 percent of the sample) with zero adult clothing to the analysis dramatically alters the results in several ways. First, the cost of children for the middle quintile changes little for one child, but it rises five and ten percentage points for two and three children respectively. In fact, the Rothbarth cost is above the cost for the Engel approach for two and three children. Second, the cost of children as a percentage of spending rises significantly with higher consumption levels. This increase in cost is implausibly large. Thus, the models that exclude the zero consumption observations yield more reasonable estimates of the cost of children.

Table 2.13 Rothbarth Estimates Using Adult Clothing and Including Zero Consumption Observations						
		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Total Consumption		34,355	45,333	53,549	63,637	79,477
One Child						
Clothing	Old	26.9	27.5	27.8	28.2	28.6
(no zeroes)	Young	17.3	17.6	17.9	18.1	18.5
	Average	**23.7**	**24.2**	**24.5**	**24.8**	**25.2**
Clothing	Old	26.5	29	30.7	32.6	35.5
(with zeroes)	Young	10	11.1	11.9	12.9	14.5
	Average	**21.0**	**23.0**	**24.4**	**26.0**	**28.5**
Clothing	Old	26	28.7	30.6	32.7	35.9
(Tobit estimate)	Young	9.5	10.7	11.6	12.7	14.4
	Average	**20.5**	**22.7**	**24.3**	**26.0**	**28.7**
Two Children						
Clothing	Old	37.6	38.3	38.7	39.1	39.7
(no zeroes)	Young	25	25.5	25.8	26.11	26.6
	Average	**33.4**	**34.0**	**34.4**	**34.8**	**35.3**
Clothing	Old	41.3	44.5	46.5	48.8	52
(with zeroes)	Young	22.1	24.3	25.8	27.6	30.2
	Average	**34.9**	**37.8**	**39.6**	**41.7**	**44.7**
Clothing	Old	40.8	44.2	46.4	48.9	52.4
(Tobit estimate)	Young	21.6	24	25.6	27.6	30.5
	Average	**34.4**	**37.5**	**39.5**	**41.8**	**45.1**
Three Children						
Clothing	Old	43.3	44	44.5	45	45.6
(no zeroes)	Young	29.3	29.9	30.3	30.7	31.2
	Average	**38.6**	**39.3**	**39.8**	**40.2**	**40.8**
Clothing	Old	50.8	54	56.1	58.4	61.5
(with zeroes)	Young	32	34.8	36.7	38.8	41.9
	Average	**44.5**	**47.6**	**49.6**	**51.9**	**55.0**
Clothing	Old	50.3	53.7	56	58.4	61.8
(Tobit estimate)	Young	31.6	34.6	36.6	39	42.4
	Average	**44.1**	**47.3**	**49.5**	**51.9**	**55.3**

Comparison of Florida to National Average Data: Table 2-14 shows the log of food share regression (Engel) models with and without Florida controls. The first column shows the

preferred model from Table 2-8 as a baseline model. The second column adds a binary variable for residence in Florida to the base model. The coefficient on Florida is statistically significant and indicates a higher average food share in Florida. The last column adds interactive terms for Florida for all of the independent variables in the base model. An F-test for the interaction terms indicates that they are jointly statistically significant, implying that the determinants of the log of food share are different in Florida.

Table 2-14 Log of Food Share Regression Models with Florida Controls			
Variable	(1)	(2)	(3)
Log (Expenditures/1,000)	-0.229	-0.221	-0.192
	(-0.857)	(-0.837)	(-0.656)
Log (Expenditures/1,000)^2	-0.0550	-0.0553	-0.0590
	(-1.659)	(-1.683)	(-1.627)
Share of Family Age 0 to 5	-0.186	-0.190	-0.124
	(-0.749)	(-0.773)	(-0.488)
Share of Family Age 6 to 10	0.164	0.153	0.225
	(0.647)	(0.608)	(0.868)
Log(Family Size)	0.387	0.396	0.353
	(2.258)	(2.321)	(2.016)
Florida		0.199	0.0465
		(7.481)	(0.0398)
Log (Expenditures/1,000) * Florida			-0.205
			(-0.403)
Log (Expenditures/1,000)^2 * Florida			0.0270
			(0.401)
Share of Family Age 0 to 5 * Florida			-1.245
			(-1.063)
Share of Family Age 6 to 10 * Florida			-1.320
			(-1.105)
Log(Family Size) * Florida			0.832
			(1.004)
Constant	-0.855	-0.899	-0.928
	(-1.573)	(-1.669)	(-1.566)
Observations	2,629	2,629	2,629
R-squared	0.484	0.494	0.495

Adjusting our Engel model results, reported in Table 2-9, for the Florida effect we observe a slight increase in the fraction of consumption devoted to children. The adjusted results are reported later in Table 2-18. For a single child, in a family with a middle quintile income, the share goes from 23 percent to 23.3 percent. A family with two children has an increase from 36.1 percent to 36.6 percent, and a three-child family goes from 44.7 percent to 45.3 percent.

Table 2-15 shows the log of adult clothing regression (Rothbarth) models with and without Florida controls. The first column shows the preferred model from Table 2-10 as a baseline model. The second column adds a binary variable for residence in Florida to the base model. The coefficient on Florida is statistically significant and indicates lower average spending

independent variables in the base model. An F-test for the interaction terms indicates that they are not jointly statistically significant. This means that the determinants of the log of food share expenditure are no different in metropolitan and non-metropolitan locations.

Table 2-16 Log of Food Share Regression Models with Non-Metro Controls			
Variable	(1)	(2)	(3)
Log (Expenditures/1,000)	-0.229	-0.234	-0.136
	(-0.857)	(-0.871)	(-0.438)
Log (Expenditures/1,000)^2	-0.0550	-0.0547	-0.0655
	(-1.659)	(-1.644)	(-1.716)
Share of Family Age 0 to 5	-0.186	-0.189	-0.187
	(-0.749)	(-0.762)	(-0.717)
Share of Family Age 6 to 10	0.164	0.161	0.145
	(0.647)	(0.633)	(0.541)
Log(Family Size)	0.387	0.389	0.393
	(2.258)	(2.269)	(2.181)
Non-Metro		-0.0291	0.253
		(-1.307)	(0.236)
Share of Family Age 6 to 10	0.164	0.161	0.145
	(0.647)	(0.633)	(0.541)
Log(Family Size)	0.387	0.389	0.393
	(2.258)	(2.269)	(2.181)
Non-Metro		-0.0291	0.253
		(-1.307)	(0.236)
Log (Expenditures/1,000) * Non-Metro			-0.120
			(-0.223)
Log (Expenditures/1,000)^2 * Non-Metro			-0.000330
			(-0.00466)
Share of Family Age 0 to 5 * Non-Metro			-0.450
			(-0.534)
			(-0.334)
Log(Family Size) * Non-Metro			0.254
			(0.437)
Constant	-0.855	-0.837	-1.055
	(-1.573)	(-1.529)	(-1.651)
Observations	2,629	2,629	2,629
R-squared	0.484	0.485	0.486

Table 2-17 presents the log of adult clothing regression models with and without non-metropolitan status controls. The first column shows the preferred model from Table 2-10 as a baseline model. The second column adds a binary variable for residence in a non-metropolitan location to the base model. The coefficient on residence in non-metropolitan location is not statistically significant and indicates no difference in average spending on adult clothing between non-metropolitan and metropolitan locations. The last column adds non-metropolitan interaction terms for all of the independent variables in the base model. An F-test for the interaction terms indicates that the interaction terms are not jointly statistically significant. This implies that the

determinants of the log of adult clothing expenditure are not different in non- metropolitan and metropolitan locations.

Table 2-17 Log Adult Clothing Spending Regression Models with Non-Metro Controls			
Variable	**(1)**	**(2)**	**(3)**
Log (Expenditures/1,000)	1.633	1.620	1.301
	(2.993)	(2.989)	(2.366)
Log (Expenditures/1,000) ^{2}	-0.0536	-0.0527	-0.0124
	(-0.785)	(-0.776)	(-0.180)
Share of Family Age 0 to 5	-0.649	-0.665	-0.393
	(-0.821)	(-0.840)	(-0.485)
Share of Family Age 6 to 10	-1.126	-1.142	-0.742
	(-1.398)	(-1.416)	(-0.905)
Log(Family Size)	-0.0576	-0.0470	-0.290
	(-0.104)	(-0.0844)	(-0.511)
Non-Metro		-0.0665	-6.746
		(-0.912)	(-1.742)
Log (Expenditures/1,000) * Non-Metro			3.096
			(1.677)
Log (Expenditures/1,000) ^{2} * Non-Metro			-0.416
			(-1.704)
Share of Family Age 0 to 5 * Non-Metro			-1.453
			(-0.509)
Share of Family Age 6 to 10 * Non-Metro			-2.538
			(-0.875)
Log(Family Size) * Non-Metro			1.456
			(0.731)
Constant	0.839	0.880	1.669
	(0.716)	(0.759)	(1.445)
Observations	2,410	2,410	2,410
R-squared	0.269	0.269	0.273

Comparison and Preferred Model: Over time the Engel estimates have fallen from an effective percentage of about 30 percent to 23.8 percent for one child using current data.[47] However, Rothbarth appears to have increased over the same time period from about 15 percent to 25.1 percent using current data. In fact the Rothbarth one-child estimate exceeds the Engel estimate using updated data. Similar patterns exist for two-child and three-child families. However, the Engel estimates remain slightly higher for two and three child families.

Table 2-18 shows the Engel model with a Florida adjustment, the Rothbarth model with a Florida adjustment, and an average of the two models. Two patterns are evident from this table. First, the cost of children as a percentage of consumption falls modestly at higher consumption levels with the Engel approach and rises modestly at higher consumption levels with the

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[47] Note that the current guidelines in Florida use a lower amount than 30 percent, due to the way that Espenshade's original estimates were used in computing the original Florida guidelines.

Calculating the Cost of Children

Rothbarth approach. The average of the two models yields a very slight decline in the cost of children as consumption levels increase. Second, there are significant economies of scale in the cost of children. For the middle quintile, the cost of children is 23.9 percent for one child, 35.6 percent for two children, and 42.8 percent for three children.

Table 2-18 Engel, Rothbarth and Combined with Florida Adjustment		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Total Consumption		34,355	45,333	53,549	63,637	79,477
One Child						
Engel with Florida adjustment	Old	30.0	28.8	28.0	27.3	26.5
	Young	14.9	14.2	13.8	13.5	13.0
	Average	**25.0**	**23.9**	**23.3**	**22.7**	**22.0**
Rothbarth with Florida adjustment	Old	26.8	27.4	27.8	28.2	28.7
	Young	17.3	17.7	17.9	18.2	18.6
	Average	**23.6**	**24.2**	**24.5**	**24.9**	**25.3**
Combined with Florida adjustment	Old	28.4	28.1	27.9	27.8	27.6
	Young	16.1	16.0	15.9	15.9	15.8
	Average	**24.3**	**24.1**	**23.9**	**23.8**	**23.7**
Two Children						
Engel with Florida adjustment	Old	45.5	43.7	42.7	41.7	40.5
	Young	26.0	24.9	24.3	23.6	22.9
	Average	**39.0**	**37.4**	**36.6**	**35.7**	**34.6**
Rothbarth with Florida adjustment	Old	37.7	38.4	38.9	39.4	40.0
	Young	25.2	25.8	26.2	26.5	27.0
	Average	**33.5**	**34.2**	**34.7**	**35.1**	**35.7**
Combined with Florida adjustment	Old	41.6	41.1	40.8	40.6	40.3
	Young	25.6	25.4	25.3	25.1	25.0
	Average	**36.3**	**35.8**	**35.6**	**35.4**	**35.2**
Three Children						
Engel with Florida adjustment	Old	55.1	53.1	51.9	50.8	49.4
	Young	34.5	33.0	32.2	31.4	30.5
	Average	**48.2**	**46.4**	**45.3**	**44.3**	**43.1**
Rothbarth with Florida adjustment	Old	43.6	44.4	44.9	45.4	46.1
	Young	29.9	30.6	31.0	31.4	32.0
	Average	**39.0**	**39.8**	**40.3**	**40.7**	**41.4**

|		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Combined with Florida adjustment	Old	49.4	48.8	48.4	48.1	47.8
	Young	32.2	31.8	31.6	31.4	31.3
	Average	**43.6**	**43.1**	**42.8**	**42.5**	**42.3**

It is difficult to argue that one or the other of the methodologies is unambiguously better, and the results are quite close. Moreover, because Florida appears to be statistically significantly different from the national averages, an adjustment to the costs of children for Florida appears to be necessary. However, the number of Florida observations is only 141. This is too small a sample size to estimate a complete model with only Florida observations. Therefore, we recommend using an average of the Engel and Rothbarth estimates with a Florida adjustment to the national models to develop the schedule of child support obligations for Florida parents.[48]

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[48] At the time of our 2011 review, at least one state, our neighboring state of Georgia, based its schedule of child support obligations on an average of estimates of the cost of children obtained using the Engel and Rothbarth methods.

Chapter 3

Computing Total Saving for Families in Florida

In the previous chapter we computed the share of total consumption that is devoted to children. We cannot use these shares to compute directly the amount of net income devoted to children or the appropriate child support obligations. Figure 3.1 shows the division of family income among its components. To compute the amount of net income devoted to children at each level of net income, we first need to compute the total consumption of families at different income levels. As Figure 3.1 shows, saving is part of net income, so to arrive at the family's total consumption, we first need to remove the saving component from net income. In this chapter, we compute the expected saving amount for families at different income levels.

Figure 3-1
Allocation of Family Gross Income
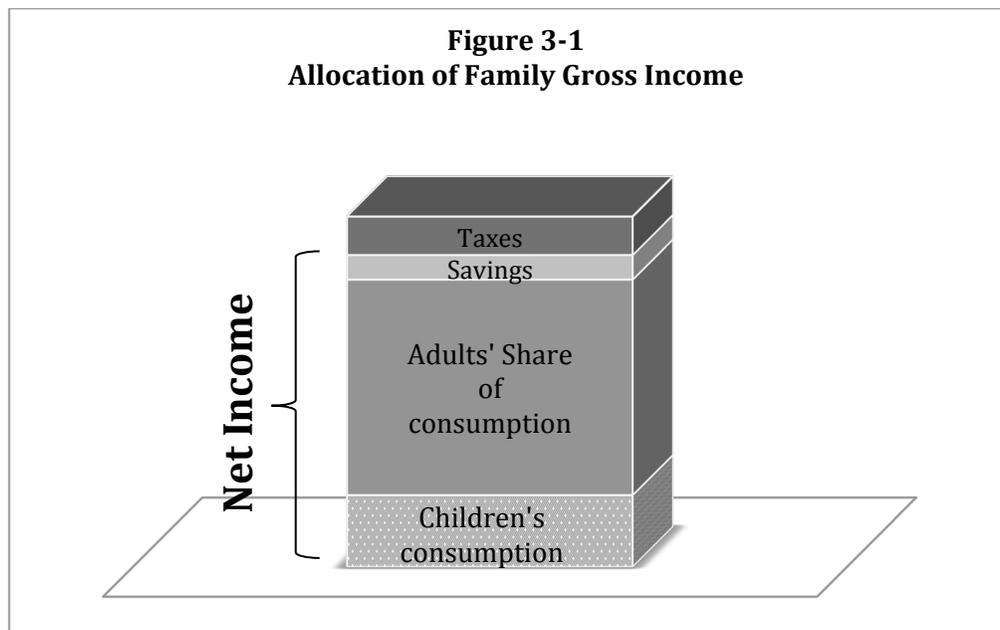
The Bureau of Economic Analysis computes the saving rate for the U.S. using the National Income and Products Accounts (NIPA). This is the accounting framework that provides gross domestic product and is used to assess growth in the economy. The NIPA measure of saving subtracts total consumption and taxes from gross income for the entire nation.

$$S = Y - C - T$$

where S is total saving by households, Y is gross household income, C is total household consumption, and T represents personal taxes paid by the household. Figure 3.2 shows the NIPA saving rates over time as a fraction of both gross and net income.

Computing Total Saving for Families in Florida

Figure 3-2
NIPA Saving Rate
(in percent)

*Source: Bureau of Economic Analysis*
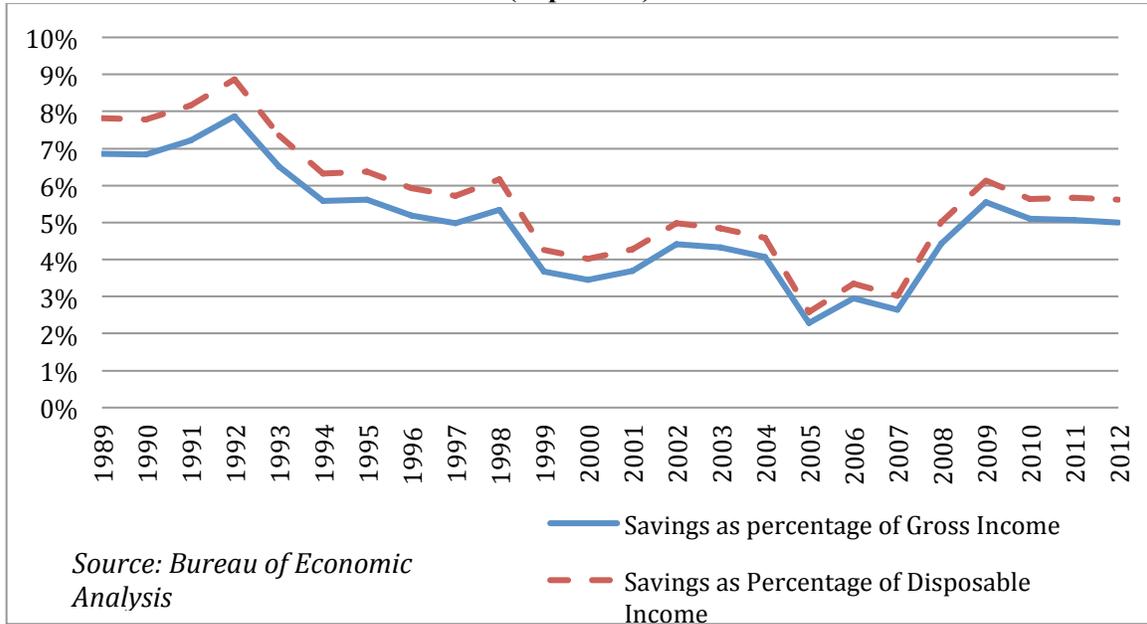
Figure 3-2 shows that saving rates are quite low for the U.S. and have steadily decreased since 1989, but have recovered slightly after the end of the 2007 recession.

The saving rates in Figure 3-2 are national averages for all households. For our purpose, we need averages only for families with two adults at different income levels. These saving rates are not available from the BEA. Therefore, we have to compute them using survey data. We use two different surveys, the Consumer Expenditure Survey used in Chapter 2 and the Panel Study of Income Dynamics surveys conducted by the University of Michigan since 1968.[49]

Implicit Saving Rate Using the Consumer Expenditure Survey

The Consumer Expenditure Survey provides detailed information about household consumption. The CES also includes survey responses about income, but it does not provide detailed information about household saving. Instead, one must compute an implicit saving rate from the total consumption and income data.

Using total consumption and income from the CES, we compute the implicit amount of saving for each household and use the computed saving amounts to estimate the following regression:

$$S_i = \text{constant} + a_1 * income_i + a_2 * income_i^2 + e_i$$

where S_i is saving, computed as the difference between net income and total consumption for the ith family, and $income_i$ is the income of the ith intact family in the period. All data is converted to

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[49] Panel Study of Income Dynamics, public use dataset. Produced and distributed by the Survey Research Center, Institute for Social Research, University of Michigan, Ann Arbor, MI 2013.

constant 2013 dollars using the Consumer Price Index, and the equation is computed over the entire 2006-2011 time period. The estimated parameters are reported in Table 3-1.

Table 3-1 CES Saving Function Parameters	
Variable	**Parameter Estimate**
Income	0.393
	(11.88)
Income^2	5.76e-07
	(4.274)
Constant	-16,643
	(-10.50)
Observations	2,629
R-squared	0.685
(t-statistics in parentheses)	

The dependent variable is the level of household saving. Income is the gross income of the family. The R-squared is fairly high, at 0.685, and all variables are significant at a one percent level. The coefficients have the expected signs, except the square of income, which is expected to be negative. A positive coefficient on the square of income indicates that saving increases at an increasing rate as income grows: that is, as household income rises, saving as a share of income also rises. The unexpected negative coefficient could become a problem at higher income levels.

Table 3-2 provides the estimated saving rates from the CES data at different income levels. The analysis implies that low-income families consume much more than their incomes. Saving remains negative up to about a $40,000 annual income level, after which it rises rapidly, reaching almost 20 percent of income for households with annual incomes equal to $70,000. At $180,000 a household is expected to save over 40 percent of its gross income. On average, saving is 30 percent of gross income and 34 percent of net income. By contrast, the average saving rate in the NIPA data is only 4.8 percent of net income, for the same period. The large difference between the saving rate estimated from the CES and the NIPA estimate leads us to look for an alternative data set from which to estimate saving.

Table 3-2 Estimated Saving Rates from Consumer Expenditure Survey (in percent)	
Gross Income	**Saving Rate**
10,000	-126.6%
20,000	-42.8%
30,000	-14.4%
40,000	0.0%
50,000	8.9%
60,000	15.0%

Computing Total Saving for Families in Florida

Gross Income	Savings rate
70,000	19.6%
80,000	23.1%
90,000	26.0%
100,000	28.4%
110,000	30.5%
120,000	32.3%
130,000	34.0%
140,000	35.5%
150,000	36.8%
160,000	38.1%
170,000	39.3%
180,000	40.4%
190,000	41.5%
200,000	42.5%

Panel Study of Income Dynamics Saving Rates

Household saving in any given year is not likely to be equal to the household's saving over multiple years. For example, if an income earner in the household is laid off from employment in a given year, household income suddenly drops but the family continues to spend at the same or similar level as before in the expectation that the duration of unemployment will be relatively short. The family would have a low income and a negative saving rate in the current year, but higher income and a positive saving rate in years prior and subsequent to the current year. A major advantage of the Panel Study of Income Dynamics is that, unlike the Consumer Expenditure Survey, which focuses on a single year, it follows the same family for a long period of time. Using the PSID we can determine the average saving rate over a period of years. This is a more accurate reflection of household behavior than single-year saving rates.

In addition, measurement error is always a problem in surveys. Some economists have noted that saving in the CES appears to be too high, which in turn means that consumption is understated. The result is too high saving rates, especially at higher income levels.[50] The overstatement of saving rates in the CES is apparent from a comparison of the CES, the PSID, and the Federal Reserve Board's Survey of Consumer Finance in Dynan et al.[51]

Methodology: Our analysis using the PSID closely follows the methodology used by Juster, Lupton, Smith, and Stafford[52] to construct their wealth and saving variables. The guiding principle for the relationship between a household's change in wealth and its active and passive saving for any asset class *i* is given by

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[50] See Branck, Raphael, 1994, "The Consumer Expenditure Survey: A Comparative Analysis," *Monthly Labor Review*, 117 (December) pp. 47-55.

[51] Dynan, Karen, Jonathan Skinner and Stephen Zeldes, "Do the Rich Save More?" *Journal of Political Economy*, 2004, vol. 112, no.2.

[52] Juster, Thomas, Joseph Lupton, James Smith, and Frank Stafford, "The Decline in Household Saving and the Wealth Effect," *The Review of Economics and Statistics*, vol. 88(1) 20-27 and mimeo University of Michigan, 2004.

Computing Total Saving for Families in Florida

$$W_i = AS_i + PW_i$$

where W_i is the change in wealth stored in asset i, AS_i is the total active saving into that asset, and PW_i is the change in passive wealth stored in that asset over the period being analyzed.

As described below, however, our analysis allocates household saving to the household's main dwelling unit (AS_1) differently than does Juster. The remaining asset classes are subdivided into two categories, similar to Juster. One class consists of assets where changes in wealth are a function of both active saving and capital gains or losses (that is, passive wealth changes). The second class includes assets where changes in wealth are a function only of active saving—that is, they are taken to have no passive wealth component. In the first class we include saving in real estate (AS_2), farms and businesses (AS_3), and corporate equities (AS_6). In the second class, we include automobiles (AS_4), checking and saving accounts (AS_5), miscellaneous saving vehicles (AS_7), and debt (AS_8). The particulars of each category will be described below.[53]

A.1 Own-Home Saving: While Juster distinguished only between moving and non-moving households, our analysis adds categories for renters and for households that changed living status from renting to owning or vice versa. In all such cases, following Juster, the household's change in own-home wealth, W_1, is equal to the change in home equity over the time period being analyzed. However, active saving (AS_1) in each category differs substantially. Accordingly, passive saving (PW_1) also differs in each category, since $W_1 = AS_1 + PW_1$.

Renters are households that report zero home equity in both the first and last years of the period. These households have an active saving of zero because they cannot accumulate wealth in their primary dwelling. By arithmetic identity, this means they also are not accumulating any passive wealth earnings in their home.

Renters who become homeowners or homeowners who become renters are treated as a special kind of mover. These households are identified in the data as having non-zero home equity in one period and zero home equity in the other. Movers' saving is calculated in the same manner that Juster calculated saving for their "mover" category, that is, as the change in reported home equity between the first and last years of the period with any wealth data in intermediate years being ignored. This means that passive wealth must be zero in this instance, $W_1 = AS_1$.

Non-movers are identified as those who reported non-zero equity in both the first and last periods and did not report moving at any time in between. As before, only the wealth data from the first and last years in the study were used for home equity, but every year in which there was available data was consulted to determine whether the household moved. For example, in the 1989-1994 analysis, data on home equity was drawn from 1989 and 1994, while data on whether the household had moved since the previous year was drawn from the 1990, 1991, 1992, 1993, and 1994 surveys. Active saving for these households also followed the example set by Juster as the change in mortgage principal plus any expenditure on home improvement.[54] Thus, since W_1 is

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[53] All figures are converted to 2013 dollars using the Federal Reserve Bank of St. Louis's Personal Consumption Expenditures Chain-type Price Index (PCEPI), Seasonally Adjusted. The final period is August 2013. Any figures meant to represent some value at a given point in time (e.g., total automobile wealth as of 1989, or total income from the year 1994, etc.) were inflated using that year's price index, while any figures meant to represent expenditures over some multi-year period (such as total real estate purchases from 1989 to 1994) were inflated using an average price index over those same years.

[54] For the 1989-1994 analysis, only the first mortgage principals in each year were examined, as second-mortgage principals were not yet a part of the PSID survey as of 1989. From 1994 onward, however, the

the change in home equity, passive saving (PW$_1$) will be any change in home equity that cannot be explained by mortgage pay down or home improvement.

Homeowners who move are treated in a similar manner as Juster's "movers"; their saving is calculated as the change in home equity over the entire time period. This implies that Juster assumed their passive saving to be zero, since W$_1$=AS$_1$=change in home equity. However, because in reality the change in home equity captures both active saving (from paying down mortgage principal and home improvement expenditures) and passive saving (increases in home prices), we make one additional adjustment that attempts to separate these saving components.

Based on the assumption that non-movers' homes rise in price at the same rate as movers' homes, on average, the passive equity for movers can be estimated by looking at how non-movers' homes appreciate or depreciate and comparing that to how these same homeowners pay down their mortgages and improve their homes. This approach generates an *expected change* in passive wealth, e.g., for the *k*th household in the 1989-1994 analysis, as below:

$$E\left(PW_{1,k}\right) = \frac{\sum \Delta equity_k - \sum \Delta mortgage_k - \sum\ ome\ improvement_k}{\sum equity_{1989,k}} * equity_{1989,k}$$

Since W$_1$=AS$_1$+PW$_1$, we can generate an estimate of active saving, $\widehat{AS_1} = W_1 - E(PW_1)$, which is the difference between a homeowner's change in home equity and his or her expected change in passive wealth (the expected rate of change times his or her home equity in the first period—e.g., 1989).

A.2 Assets with Capital Gains or Passive Saving: Since the PSID surveys provide wealth data on families across all time periods, it is simple to construct W$_i$ as the change in wealth in asset *i* from the beginning of the period under analysis until the end. This basic methodology does not change, whether the analysis contained a five-year period such as 1989-1994 or a six-year period such as 2005-2011.[55] However, since W$_i$=AS$_i$+PW$_i$, this wealth data had to be parsed further to capture the active and passive saving components for three asset types: real estate, farm and business holdings, and financial assets (stocks, bonds, etc.). This is because the wealth that a household has in any one asset class can change either because the household is investing more or less of its income in that asset class (active saving) or because the prices of assets in that class have changed over time (capital gains or passive saving).[56]

Determining active saving in an asset class like real estate is simply a matter of comparing a household's total purchases of real estate within a given period against any real estate holdings that they sold. Both figures are provided in the PSID surveys for each year in which wealth questions were asked of respondents. During the five-year analyses (1989-1994 and 1994-1999), AS$_2$ is simply the difference in real estate purchases and sales. Since the respondents were asked about the total value of purchases or sales made in the past five years, data for the

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sum of the first and second mortgages was compared across time periods. In addition, for the two six-year analyses conducted (1999-2005 and 2005-2011), home-improvement expenditures were drawn from the biennial surveys (e.g., for the 1999-2005 analysis, this would be the 2001, 2003, and 2005 surveys) and summed to produce total six-year expenditures.

[55] Note that the PSID survey changed from having a wealth supplement every five years to every two years, resulting in a change in our intervals from a five-year interval to a six-year interval.

[56] Unlike wealth or saving in one's own home, which was calculated differently depending on the living status (e.g., renting vs. owning) of the family, the same treatment was applied to all households being analyzed for the other asset classes.

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1989-1994 analysis was drawn from the 1994 survey, and data for the 1994-1999 analysis was drawn from the 1999 survey. AS_3, corresponding to saving in farms and businesses, and AS_6, corresponding to saving in stocks, bonds, etc., were calculated similarly.

The six-year analyses (1999-2005 and 2005-2011) each span three biennial surveys that contain wealth components. In these biennial surveys, households were asked about their purchases and sales in a given asset class in the past two years—i.e., since the last survey had been conducted. Therefore, six-year total purchases and total sales had to be summed from three component figures. So, for example, the 1999-2005 analysis on real estate saving (AS_2) drew on the figures provided by the PSID surveys in 2001, 2003, and 2005. Here again, saving in farms and businesses (AS_3) and saving in equities like stocks and bonds (AS_6) were calculated in much the same way.

On the other hand, assets like real estate or corporate stocks can increase or decrease in value due to changes in their prices, which will cause the wealth that a household has in those assets to change over and above any household saving out of current income. Thus, changes in capital gains (or, in the language of Juster, passive wealth) also contribute to changes in household wealth. From $W_i=AS_i+PW_i$, it follows that $PW_i=W_i-AS_i$. In other words, any changes in total wealth that cannot be explained by a household's purchasing and selling activity for a given asset (whether real estate, farm or business, or financial) can be said to result from capital gains or losses, that is, changes in passive wealth.

A.3 Assets Without Capital Gains/Passive Saving: Following Juster, our analysis treats automobiles (AS_4), checking and savings accounts (AS_5), miscellaneous savings (AS_7), and total debt (AS_8) as assets or liabilities that are not susceptible to capital gains or losses and therefore have no passive saving component. Therefore, $W_i=AS_i$ for i=4, 5, 7, and 8. In generating these figures, our analysis drew from the PSID surveys that contain wealth components and compared the wealth in each asset class at the beginning of the time period against the wealth at the end, where W_i was the difference. This methodology applied equally well whether the analysis covered a five-year or six-year period.

A.4 Income and Saving Rate: For each period being analyzed, whether a five-year period like 1989-1994 or a six-year period like 2005-2011, total saving figures can be generated for each household in the data. In order to generate saving rates, however, income data must also be used.

All PSID figures on total family income in a given annual survey correspond to the total income that family earned in the *previous* year. Therefore, to generate a five-year total income figure for 1989-1994, for example, the annual surveys from 1990 through 1994 had to be used. The sum of these is the total income for a given household from the beginning of 1989 through the end of 1993. The ratio of a household's total active saving to its total multi-year income is the average saving rate for the period.

Results for Each Period: Table 3-3 shows the average saving for each of the four periods for all families.

| Table 3-3 Saving and Income for Families from the PSID Survey (in 2013 dollars)				
Variable	1989-1993	1994-1998	1999-2004	2005-2010
Homeowner	2,274	1,936	2,904	572
Other Real Estate	379	302	540	245

Computing Total Saving for Families in Florida

Variable	1989-1993	1994-1998	1999-2004	2005-2010
Farms/Business	522	635	698	629
Durable goods	342	529	174	-330
Demand Deposits	411	-198	1,324	556
Equities	1,139	1,102	269	312
Miscellaneous saving	774	-370	449	221
Other Debt	-321	308	-336	-174
Total Saving	**5,520**	**4,243**	**6,022**	**2,032**
Gross Income	**73,041**	**79,226**	**85,208**	**85,128**
Total Families	1,858	1,572	1,593	1,559
Saving Rate	**7.6%**	**5.4%**	**7.1%**	**2.4%**

Table 3-3 shows that the saving rate has fallen from 7.6 percent in the 1989-1993 period to 2.4 percent in the 2005-2010 period. We can compare these saving rates to the rates computed by the Bureau of Economic Analysis for the NIPA. Figure 3-3 shows the NIPA estimates of saving rates.

Figure 3-3
NIPA Estimates of the Saving Rates (in percent)
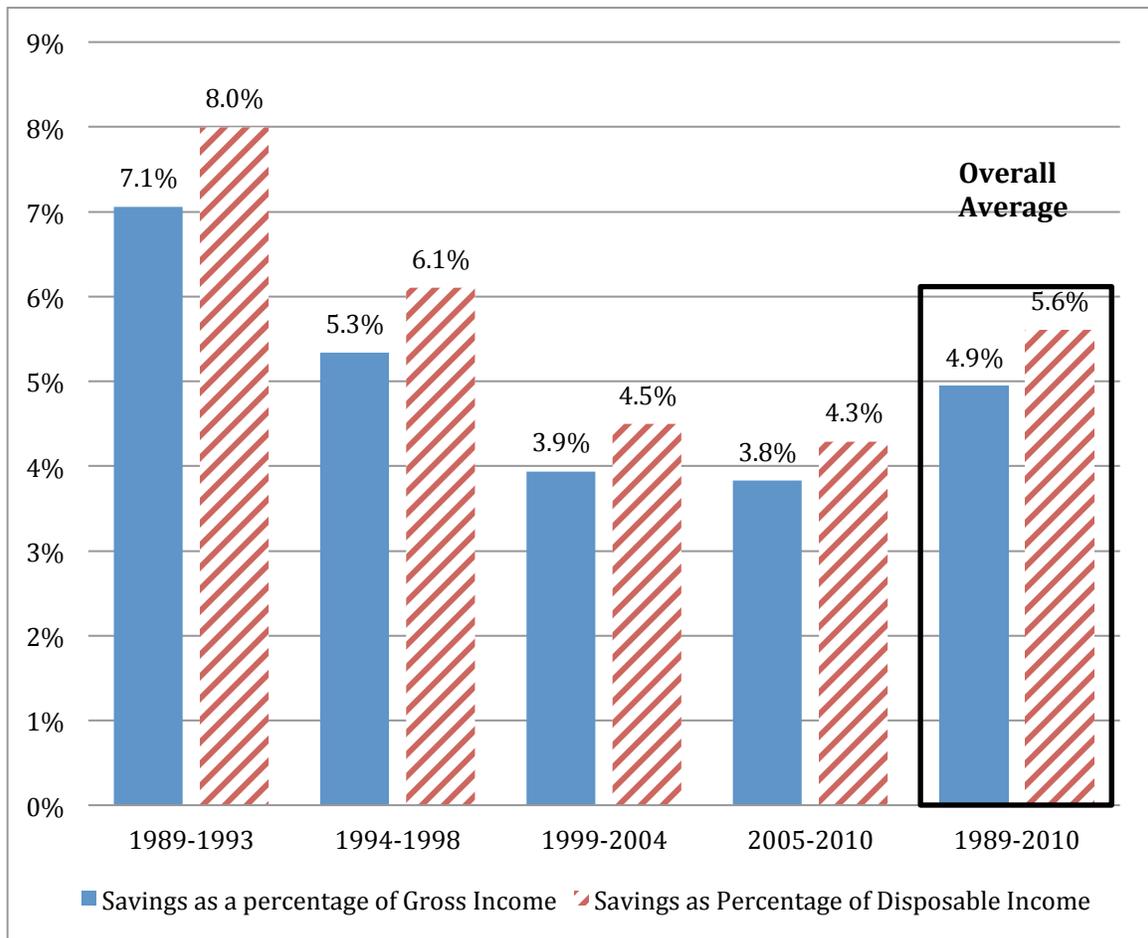
Source: Bureau of Economic Analysis, author's calculations

Comparing the saving rates from Table 3-3 and Figure 3-3, the gross saving rates are very similar in the first two periods, while the PSID estimates are higher than the NIPA values for 1994-2004 and lower for 2005-2010. [57] The average saving for PSID is for families with two adults with and without children, so it excludes single parent households and single adult households. In contrast, the NIPA estimates are for all households. The difference in the type of household surveyed could be part of the explanation for why the PSID estimates are a bit lower in the most recent period. However, the most important difference between the NIPA and PSID methodology is in the way housing is treated. Looking at the details of the saving patterns, the major adjustments have been in the homeowner variable.

In Table 3-4 we examine the details of the housing variable in the PSID. The PSID methodology counts the principal payments and home improvements for existing homeowners and changes in home equity if a homeowner moves or becomes a new homeowner. This gives us five categories of people in the homeowner variable calculation. About 33 percent of the families at the end of a period are renting instead of owning a home. There are two types of renters: renters who rented in the beginning of the period and at the end of the period, who do not affect the homeowner saving variable (category 5), and families that owned a home and sold it (category 3). The remaining three categories all own a home at the end of the period. They differ in that they might have rented and bought a home (category 1), or bought and sold a home (category 4), or remained in the same home (category 2).

Table 3-4 Saving in Own Home (in 2013 dollars)								
Category	1989-93		1994-1998		1999-2004		2005-2010	
	Obs.	Mean	Obs.	Mean	Obs.	Mean	Obs.	Mean
1. New homeowner	240	7,836	207	9,714	224	14,213	159	6,706
2. Own same home	775	3,336	653	1,701	626	1,753	618	4,654
3. Sold home	127	-9,205	117	-9,501	131	-7,364	161	-14,354
4. Sold and bought home	234	3,741	224	4,543	234	3,315	190	-987
5. Renter	482	0	371	0	378	0	431	0
Total Homeowner	1,858	**2,274**	1,572	**1,936**	1,593	**2,904**	1,559	**572**

Table 3-4 shows that there was a major change in the 1999-2004 period in that a larger fraction of families bought a new home and those who did put substantial equity into those homes. The average home equity investment for that period was $14,213, which increased household saving compared with the other periods. In contrast the 2005-2010 period saw fewer people becoming new homeowners, more people selling their homes, and fewer people adding to equity when they moved.

Aggregate Data: Because child support obligations extend over a multi-year time period, we aggregate the data across the entire 22-year period to obtain a period that is more relevant to the computation of child support payments. For example, if you have three children with a two-year spacing you might be obligated for support payments for the next 22 years.

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[57] Note that we would expect PSID estimates to be slightly higher than NIPA as PSID include durable goods saving. This makes the first two periods almost identical.

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The PSID asks questions about the saving of each family for the entire 22-year period, so we can aggregate the saving and family income responses for the entire period. Aggregating across the four time periods we obtain a total of 6,579 observations. The relationship between saving and income is computed using the following regression:

$$S_i = constant + a_1 * income_i + a_2 * income_i^2 + e_i$$

where S_i is the saving of the ith family and $income_i$ is the income of the ith intact family in the period. Once this regression is computed, we can predict a family's saving for a given income level. Table 3-5 shows the results of estimating the equation.

Table 3-5 Saving Function for PSID Data	
Variable	**Parameter Estimate**
Income	0.091
	(14.80)
Income^2	-3.50E-08
	(-2.797)
Constant	-2,653.27
	(-5.874)
Observations	6,579
R-squared	0.0688
(t-statistics in parentheses)	

The R-squared is low indicating that variables other than income are important in the decision to save. This is as expected as we do not have variables such as age and wealth in the regression. However, the income variables are highly significant with t-statistics of 14.80 and -2.80. The coefficients are as expected. Saving increases as income goes up, but at high incomes the rate of increase slows.

In Table 3-6 we use the estimates from Table 3-5 to generate the expected saving rate at various gross income levels.

Table 3.6 Saving Rates Using the PSID	
Gross Income	**Saving Rate**
10,000	-17.4%
20,000	-4.2%
30,000	0.2%
40,000	2.4%
50,000	3.7%
60,000	4.5%
70,000	5.1%
80,000	5.5%
90,000	5.9%
100,000	6.1%

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Gross Income	Saving Rate
110,000	6.3%
120,000	6.5%
130,000	6.6%
140,000	6.8%
150,000	6.8%
160,000	6.9%
170,000	7.0%
180,000	7.0%
190,000	7.1%
200,000	7.1%

The results in Table 3-6 show that at very low incomes families are expected to consume more than their income, but already at \$30,000 families would start saving some fraction of their income. At high incomes the saving rate levels out, and at \$200,000 the savings rate is 7.1 percent.

Comparing National Saving Rates to Florida Saving

Table 3-7 shows the CES saving function when we allow for a potentially different effect for Florida. The second equation, shown in the third column of the table, includes a binary variable for Florida, which is intended to capture the case of Florida saving more or less than the national average. The third equation adds an interactive term to capture potential differences in how Florida families save when Florida families earn more income.

Variable	Without Florida Adjustment	With Florida Binary Adjustment	With Florida Interactive Term
Table 3-7			
Saving Functions for Florida Using the CES			
Income	0.393	0.395	0.395
	(11.88)	(11.94)	(11.40)
Income^2	5.76e-07	5.71e-07	5.52e-07
	(4.274)	(4.246)	(3.917)
Constant	-16,643	-16,941	-16,674
	(-10.50)	(-10.62)	(-10.01)
Florida		2,600	-3,219
		(1.413)	(-0.704)
Florida*Income			0.0424
			(0.470)
Florida*Income^2			2.57e-07
			(0.821)

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Variable	Without Florida Adjustment	With Florida Binary Adjustment	With Florida Interactive Term
Observations	2,629	2,629	2,629
R-squared	0.685	0.685	0.686
(t-statistics in parentheses)			

The t-statistic on the Florida variable in the second equation is only 1.413 indicating an insignificant effect. However, in the third equation the three Florida variables are jointly significant at the 95 percent level with an F-statistic of 3.143 (a p-value of 0.024). Thus, Florida families have a different saving pattern when their income increases as compared to the national data. Therefore, we need to adjust the CES saving rate as shown in Table 3-9 below.

In Table 3.8 we also test the PSID results for a potential Florida specific effect. The three columns are specified the same way as in Table 3-7.

Table 3.8 Saving Functions for Florida Using the PSID			
Variables	**Without Florida Adjustment**	**With Florida Binary Adjustment**	**With Florida Interactive Term**
Income	0.091	0.091	0.091
	(14.80)	(14.80)	(14.59)
Income^2	-3.50E-08	-3.50E-08	-3.06E-08
	(-2.797)	(-2.797)	(-2.401)
Constant	-2,653.27	-2,641.73	-2685.89
	(-5.874)	(-5.828)	(-5.861)
Florida		-366.84	862.07
		(-0.308)	(0.312)
Florida*income			-0.0047
			(-0.129)
Florida*income^2			-6.83E-08
			(-1.020)
Observations	6,579	6,579	6,579
R-squared	0.0688	0.0688	0.0696

Table 3.8 shows that the Florida binary adjustment in the second equation is insignificant. The interactive term in the third equation appears to have some effect. However, the F-statistic of a joint effect of the three Florida variables is only 2.062 (p-value of 0.103), which is not significant at standard confidence levels. Therefore, no adjustment in the PSID saving rate is needed for Florida.

Comparison of the Two Methods

In the beginning of this chapter, we discussed how the Bureau of Economic Analysis computes a national saving rate for the U.S. However, they do not supply a saving rate for the families that we are analyzing. In addition, they do not have saving rates as a function of income. In this chapter we have computed the saving rate for families using both the CES and the PSID survey. The rates differ substantially.

The CES saving rates are clearly too high. In the CES families are only asked about their total income and detailed consumption pattern. It is possible that families are not responding correctly for either income or consumption, or both. The problem appears to be more severe at high incomes. For example, families with high incomes might be forgetting some consumption expenditures, resulting in an overestimated saving rate.

The PSID saving rate is more consistent with NIPA's overall estimate for all households. However, we do not know exactly what the family saving rate would be using the NIPA computation. Therefore, we cannot be certain that families responding to the PSID survey recall all their saving instruments. If families forget some saving instruments, then the PSID method would underestimate the saving rate.

Table 3-9 provides a simple average of the two saving rates as a way to handle a possible overestimation in the CES and underestimation in the PSID. Because the original Florida child support payments were computed using the potentially overestimated CES saving rate, the use of an average results in a less dramatic adjustment in calculated saving, total consumption, and therefore in child support obligations than if we used the PSID estimates alone.

Table 3-9 Comparison of Florida-Adjusted CES, PSID, and Average Saving Rates			
Gross Income	CES With Florida Adjustment	PSID	Average
10,000	-154.6%	-17.4%	-86.0%
20,000	-54.6%	-4.2%	-29.4%
30,000	-20.9%	0.2%	-10.4%
40,000	-3.8%	2.4%	-0.7%
50,000	6.7%	3.7%	5.2%
60,000	13.9%	4.5%	9.2%
70,000	19.2%	5.1%	12.2%
80,000	23.3%	5.5%	14.4%
90,000	26.6%	5.9%	16.3%
100,000	29.4%	6.1%	17.8%
110,000	31.8%	6.3%	19.1%
120,000	33.8%	6.5%	20.2%
130,000	35.7%	6.6%	21.2%
140,000	37.3%	6.8%	22.0%
150,000	38.8%	6.8%	22.8%
160,000	40.2%	6.9%	23.6%
170,000	41.5%	7.0%	24.2%
180,000	42.7%	7.0%	24.9%
190,000	43.8%	7.1%	25.5%
200,000	44.9%	7.1%	26.0%

Chapter 4

Computing a Schedule of Child Support Obligations for Florida

In this chapter we combine the results from Chapters 2 and 3 to compute the fraction of a family's net income devoted to children. To compute the child support obligation, we need the estimated fraction of consumption devoted to a child from Chapter 2. We then multiply that by the consumption share of net income from Chapter 3. Finally, because in the income shares model childcare and children's extraordinary health expenditures are not included in the schedule of basic obligations but are added to the basic obligation in the worksheet, we subtract these from our estimates of expenditures on children.

Adapting the Results To Compute the Schedule of Child Support Obligations

We model the fraction of consumption devoted to children using a quadratic function. Because the percentage of consumption is very flat in Chapter 2, this becomes close to an average. However, a slight downward slope is captured with the quadratic function.[58] To use the saving rates that were computed in Chapter 3, we need to convert the gross income levels into net incomes by subtracting a measure of taxes. We use the following regression equation:

$$Ninc = Constant + a_1 * Ginc + a_2 * Ginc^2 + a_3 * Florida + a_4 * Florida * Ginc + a_5 * Florida * Ginc^2$$

where Ninc is net income in 2013 dollars and Ginc is gross income in 2013 dollars. Because Florida does not have a state income tax, we also include a binary variable for Florida both in levels and as an interactive term.

The regression results are shown in Table 4-1. The data are from the Consumer Expenditure Survey. The first column includes controls for the number of children and the log of net income. The second column adds a binary variable for Florida, and the third adds an interaction of the log of net income with the Florida binary variable.

Table 4-1 Net Income Regression Results			
Variable	**(1)**	**(2)**	**(3)**
Ginc	0.828	0.830	0.825
	(44.25)	(44.49)	(42.33)
Ginc^2	8.56e-08	8.14e-08	8.75e-08
	(1.062)	(1.012)	(1.047)
Florida*Ginc			0.101
			(1.828)
Florida*Ginc^2			-1.24e-07
			(-0.436)
Florida		2,555	-4,266
		(3.548)	(-2.020)
Constant	4,017	3,725	4,119
	(4.931)	(4.585)	(4.823)

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[58] For one child this function is $28.80 + 1.54\text{-}05 * (\text{net income}) + 4.91\text{E-}11(\text{net income})^2$.

Computing Total Saving for Families in Florida

Variable	(1)	(2)	(3)
Observations	2,629	2,629	2,629
R-squared	0.951	0.951	0.951

The high R-squared indicates that over 95 percent of the variation in net income is explained by the regression, and the results are very close to personal taxes paid by households as reported by the Bureau of Economic Analysis. All significant variables, except the binary Florida variable, have the correct sign. The Florida variable switches signs between columns 2 and 3 because of the low number of observations and the inclusion of two interactive terms. Multicollinearity makes the individual coefficients harder to interpret, but this is not a concern as we only need the equation to predict net income. The combination of both levels and interaction terms in column 3 gives a very high F-statistic of 12.52, indicating at a very high confidence level (p-value of 0.0001) that there is a significant difference between Florida and the national average data. From this point forward, we use the results reported in column 3.

We use the Florida adjusted results to compute a net income equivalent to each gross income level used in Chapter 3. Next, we fit a quadratic function to the combined saving rate from Chapter 3 as a function of net income.[59] Using this function, we can estimate the saving rate for each net income level. Finally, subtracting saving from net income yields the estimated consumption level, from which we compute the consumption-to-net income ratio.

The CES family consumption data includes childcare expenditures and children's medical expenses, but as noted above, these must be subtracted from expenditures on children before deriving the schedule of basic obligations. Extraordinary medical expenses are defined as all medical costs that exceed a pre-determined amount to cover routine expenses. In 1986, Williams assumed this amount of routine health care to be \$200. Based on the medical services component of the Consumer Price Index, that converts to \$757 in 2013 dollars. We then use the following regression to estimate childcare and children's extraordinary health expenses as s function of net income:

$$MED=Constant+a_1*Child_1+a_2*Child_2+a_3*Child_3+a_4*\ln(Ninc)+a_5*Florida+a_6*Florida*\ln(Ninc)$$

where MED is childcare and extraordinary medical expenses as a share of total consumption, $\ln(Ninc)$ is the natural log of net income in 2013 dollars, and Florida is a binary variable set to one for Florida families and zero otherwise.

Table 4-2 reports the regression results for this equation. The first column includes controls for the number of children and the log of net income. The second column adds a binary variable for Florida, and the third adds an interaction of the log of net income with the Florida binary variable.

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[59] The quadratic function is only fitted to the positive part of the savings, because that is the only part that is relevant as any negative value is set to zero in the calculations. The fitted equation is -0.0816+3.70E-06*(net income) + -1.02E-11*(net income)^2.

Computing Total Saving for Families in Florida

Table 4-2 Medical and Childcare Expenses			
Variable	(1)	(2)	(3)
One Child	0.0154	0.0153	0.0153
	(6.666)	(6.617)	(6.611)
Two Children	0.0202	0.0202	0.0202
	(8.964)	(8.942)	(8.949)
Three Children	0.0194	0.0192	0.0193
	(5.405)	(5.372)	(5.389)
Ln(Ninc)	0.0143	0.0141	0.0138
	(7.326)	(7.192)	(6.749)
Ln(Ninc)* Florida			0.00482
			(0.854)
Florida		-0.00568	-0.0253
		(-1.690)	(-1.075)
Constant	-0.0515	-0.0504	-0.0493
	(-5.855)	(-5.669)	(-5.326)
Observations	2,475	2,475	2,475
R-squared	0.061	0.061	0.062
(t-statistics are reported in parentheses)			

The results show that childcare and extraordinary medical expenses are higher for families with two and three children than those with one child and rise with net income. The controls for residence in Florida are insignificant in both the second (t-statistic of -1.69) and third columns (F-statistic of 1.673 with a p-value of 0.188). Thus, no Florida adjustment is necessary in this case.

Table 4-3 illustrates the computation of the schedule of child support obligations. The example in the table is for one child and covers six monthly net income levels from 5,000 to 10,000.

Table 4-3 Computing the Share of Net Income Devoted to One Child				
Monthly Net Income	Children's Share of Consumption	Consumption As Share of Net Income	Daycare and Extraordinary Medical Expenses As Share of Net Income	Children's Share of Net Income
5,000	28.1	89.6	2.2	22.9
6,000	28.0	86.9	2.5	21.8
7,000	27.9	84.3	2.7	20.8
8,000	27.8	82.0	2.9	19.9
9,000	27.7	80.1	3.1	19.1
10,000	27.7	78.4	3.2	18.5
Note that columns may not add up due to rounding				

Computing Total Saving for Families in Florida

As Table 4-3 shows, for each net income level the child's share of consumption is multiplied by consumption's share of net income. This gives the percentage of net income devoted to the child's consumption. This percentage is then adjusted by subtracting the percentage of net income used for extraordinary medical expenses and daycare expenses to reach an adjusted percentage of net income devoted to the child. This percentage is computed for all net income levels and used to construct a schedule of child support obligations for Florida.

The CES and PSID have very few observations for families with more than three children. Therefore, support obligations for four, five, and six children must be extrapolated from the calculated support obligations for three or fewer children. The basis for extrapolation is essentially arbitrary. We use the following three-parameter formula advocated by Betson and Warlick (2006) and the Census Bureau:[60]

$$(2+.5C)^{.70}/2.1577$$

where C is the number of children in a family with two adults. Using this formula, a family with four children will have a 9.80 percent higher cost than a three-child family, a family with five children will have an 8.60 percent higher cost than a family with four children, and a family with six children family will have a 7.65 percent higher cost than a family with five children.

An Updated Schedule of Child Support Obligations

The proposed updated schedule of child support obligations is included in Appendix 4-1 at the end of this chapter. As we noted earlier in this review, there is a significant difference in the costs of children younger than six years of age and children age six and older. The updated schedule of obligations shows for each monthly net income the child support obligation for an older child. A support obligation for a younger child is computed by applying a discount factor to the obligation for an older child as described below.

Adjusting the Support Obligation for a Younger Child: Children under six years old were shown to consume a smaller share of the family's net income than older children. Therefore, the support obligation in the schedule must be adjusted based on the number of children below age six and the number of years each child will remain below six years old. For one child the adjustment is .43, for two it is .38, and for three children, .36. However, for two or more children, the adjustment is divided by the number of children so that each child's adjustment factor is .19 when there are two children and .12 when there are three children.[61]

To illustrate the adjustment, assume that a family has two children who are aged two and four when the support obligation is being determined. Also assume that the family has a net income of $5,000 a month giving them a basic monthly obligation of $1,703 using the proposed schedule.

> *Step 1*: Compute the number of years the children will remain below six years old. The younger child will remain below six years old for another four years and the older child will remain below six years old for another two years.

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[60] Betson, David, and Jennifer L. Warlick, "Measuring Poverty" in *Methods in Social Epidemiology* edited by Michael Oakes and Jay Kaufman, Jossey-Bass Press, 2006, 112-133.
[61] The CES has insufficient data for more than three children. We therefore assume the adjustment to be .36, the same as for three children. This implies that each child has a .09 adjustment for four children, a .072 adjustment for five children, and a .06 adjustment for six children.

Step 2: Convert the years remaining young into percentages of the remaining years up to majority at age 18. The younger child will remain young for 25.0 percent (4/(16) of the remaining years to which the child support order applies, and the younger child will remain young for 14.3 percent (2/(14) of the remaining years to which the order applies.

Step 3: Multiply the adjustment factor by the basic child support obligation. For two children, the adjustment factor is 0.19, so the basic obligation of $1,703 would be multiplied by 0.19 to yield $323.57.

Step 4: Add the percentages during which the children will be young from Step 2 (.25+.14=.39), and multiply this sum by the adjustment factor in Step 3 (.39*$323.57=$127.16). The final adjustment factor in this example is, therefore, $127.16.

Step 5: Subtract the final adjustment factor in Step 4 from the basic obligation yielding an adjusted basic obligation of $1,576 ($1,703-$127) per month.

The adjustment can be implemented by including these steps in the worksheet or it can be included in a simple computer routine requiring only input of the children's ages.

Comparing the Current and Proposed Schedules: Figure 4-1 compares the child support obligations as a share of net income in the current schedule and in the proposed schedule both with and without the adjustment for a younger child, assuming the younger child is newborn (in other words, this would be the maximum adjustment and the minimum support obligation).

Figure 4-1
**Share of Net Income for One Child**
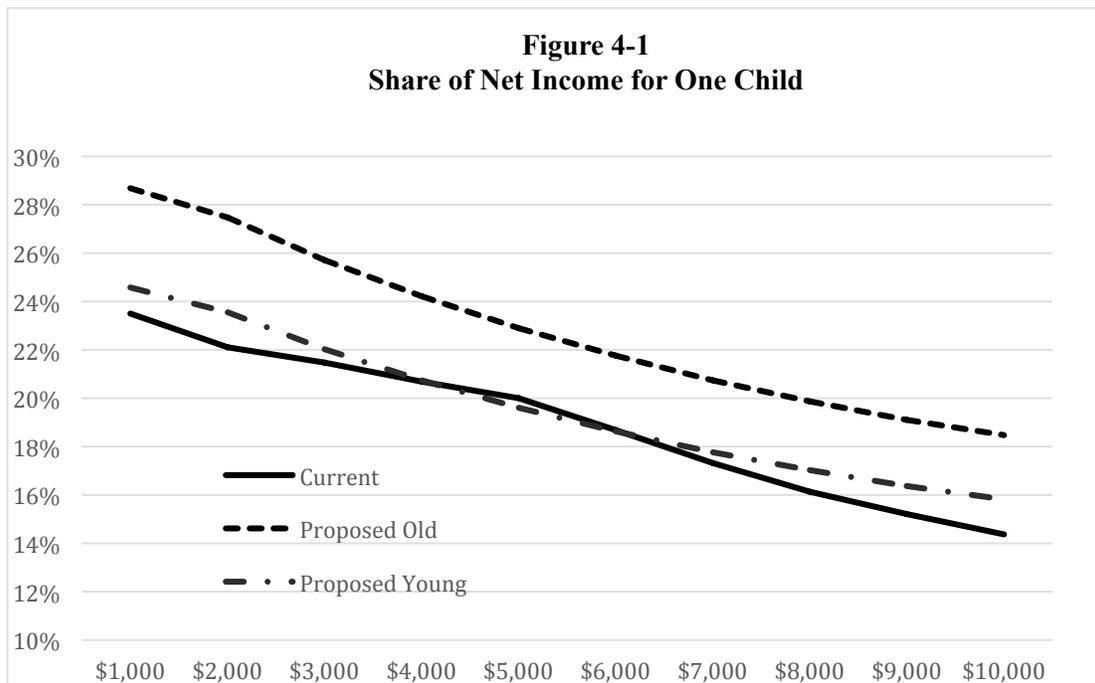
The ratio of the support obligation to net income is higher in the proposed schedule than in the current schedule. The obligation-to-income ratio decreases at a slower rate at higher income levels in the proposed schedule than in the current schedule. However, over the entire

period from newborn to age 18, the obligation as a share of net income in the proposed schedule is very similar to the current schedule. This is not surprising when one recalls that the current guidelines are based on Espenshade's estimates, which were computed as averages over all years of the child up to age 18.[62] Thus the proposed young estimate is closer to what Espenshade originally estimated.

Instead of comparing the obligations as a fraction of net income, we can compare the dollar amounts of the obligations in the two schedules at each monthly net income. Figure 4-2 shows that the obligation for one older child in the proposed schedule is higher than the obligation in the current schedule at all income levels. The obligation for a younger child is very similar to the current schedule at lower incomes but becomes higher as income rises.

Figure 4-2
Child Support Obligation for One Child
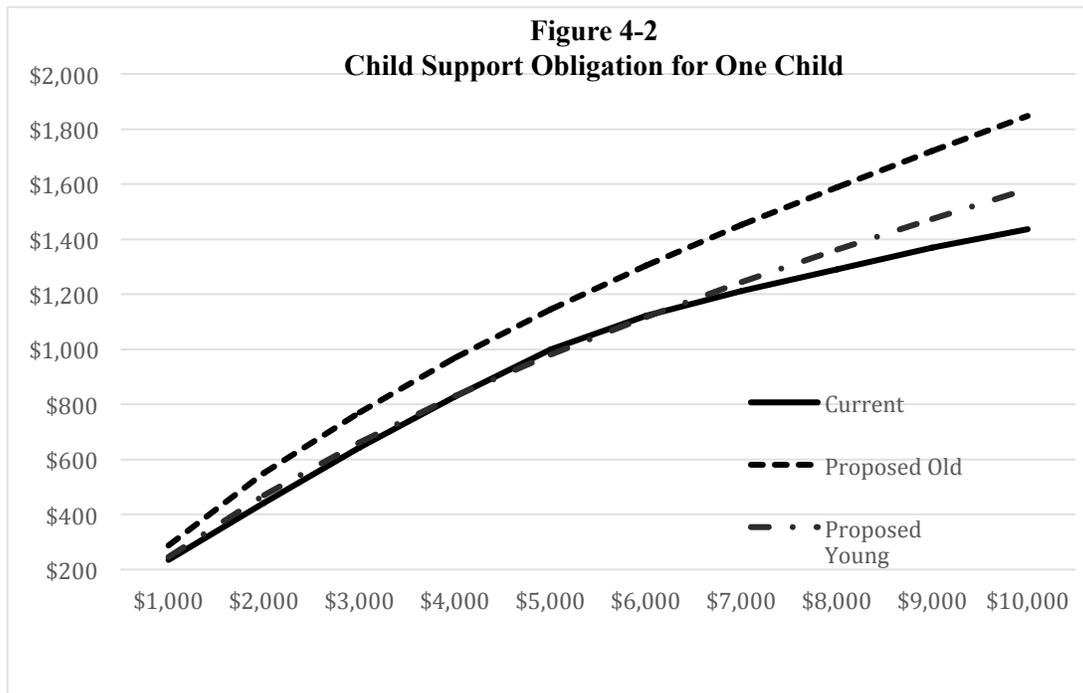
Figures 4-3 to 4-7 provide the same comparisons for two through six children. For the comparison including the younger-child adjustment, we assume that each family has a newborn (thereby maximizing the younger-child adjustment) and that the children are spaced one year apart. Thus a family with three children would have a newborn, a one-year old, and a two-year old. The patterns in Figures 4-3 to 4-7 are quite similar to the pattern in Figure 4-2 for one child. However, a family with young children would end up with a slightly lower obligation at low incomes and a higher obligation at higher incomes than in the current schedule. As the number of children becomes larger, the proposed schedule becomes more similar to the current schedule.

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[62] Espenshade, Thomas, *Investing in Children*, The Urban Institute, Washington, D.C., 1984.

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Figure 4-3
Child Support Obligation for Two Children

Figure 4-4
Child Support Obligation for Three Children
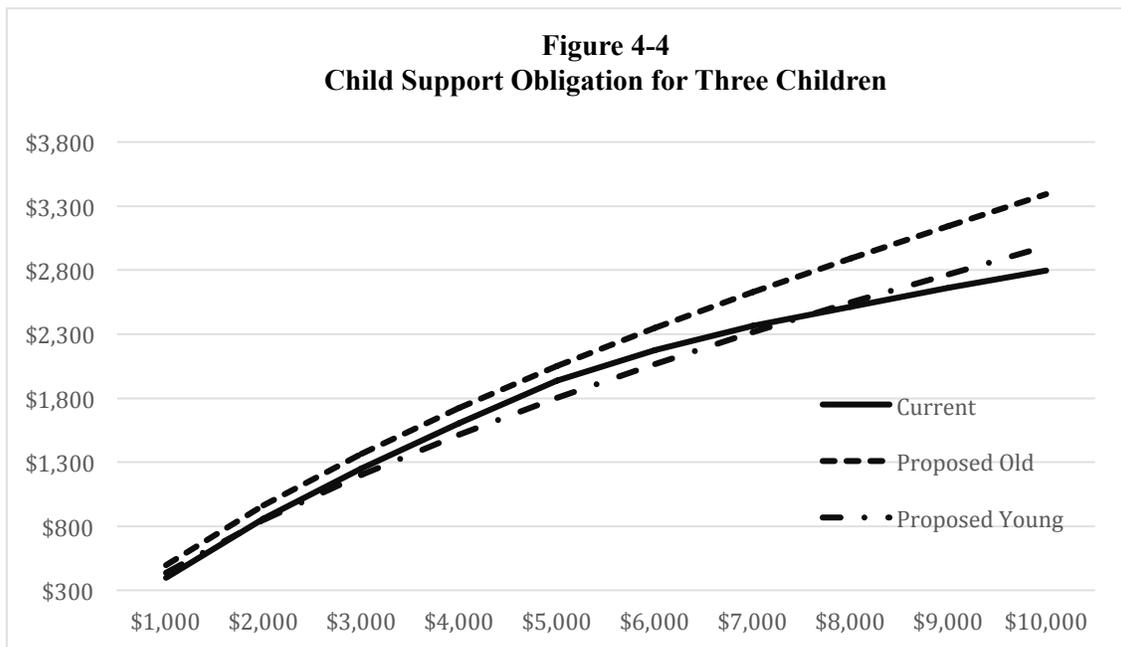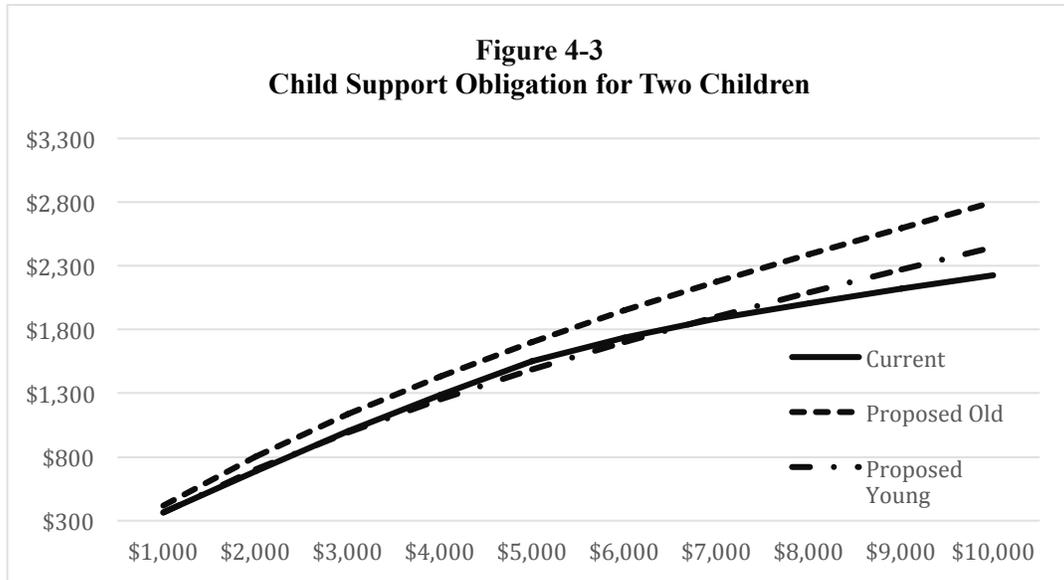
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Figure 4-5
Child Support Obligation for Four Children
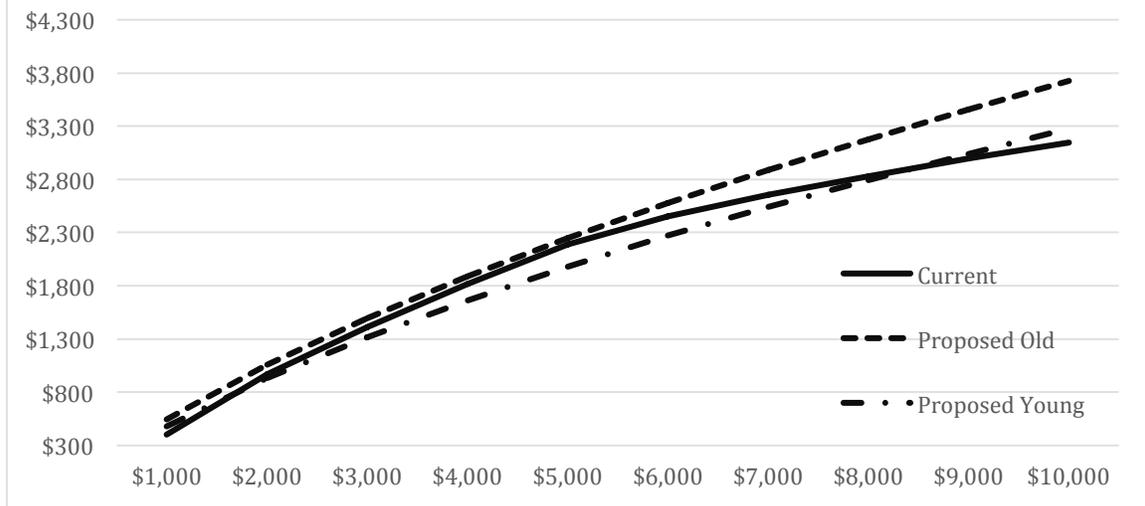
Figure 4-6
Child Support Obligation for Five Children
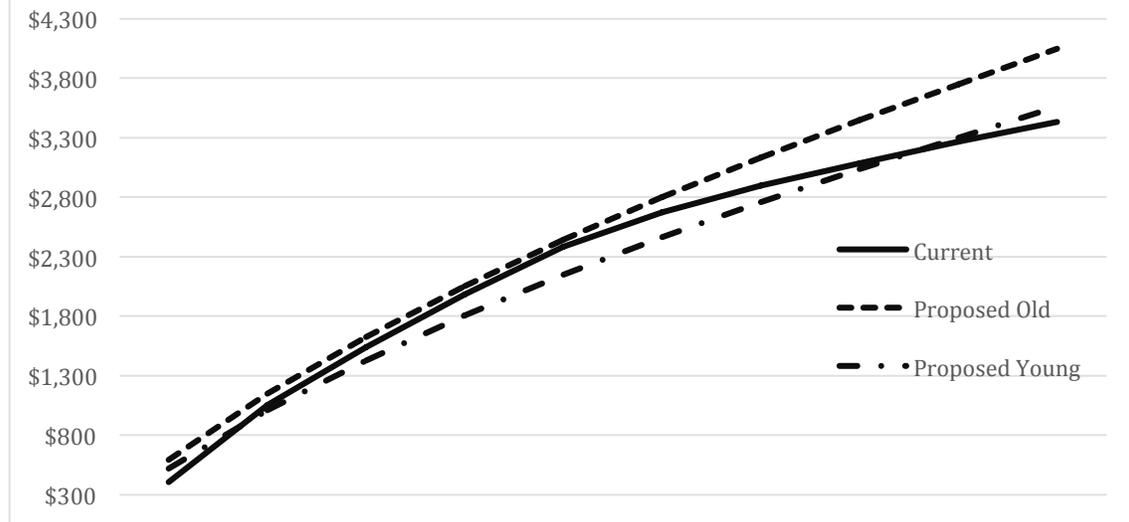
Figure 4-7
Child Support Obligation for Six Children
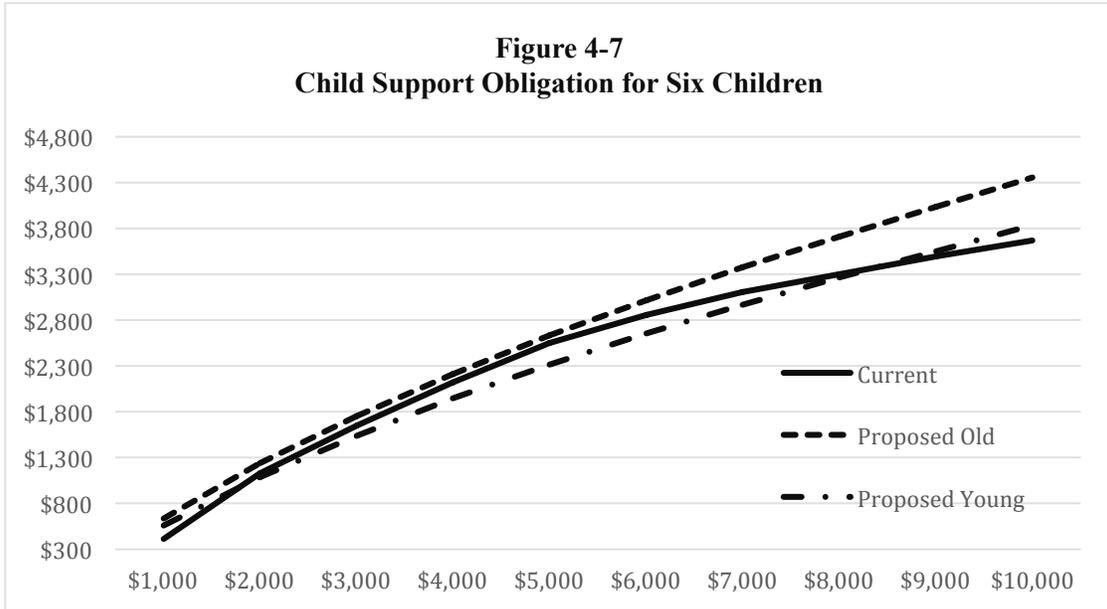
Appendix 4-1

Proposed Updated Schedule of Child Support Obligations
(For Children Six Years and Older)

Net Income	Children					
	One	*Two*	*Three*	*Four*	*Five*	*Six*
1,000	286	416	496	544	591	636
1,050	300	435	520	570	620	667
1,100	314	455	543	597	648	697
1,150	327	475	567	623	676	728
1,200	341	495	591	649	705	758
1,250	354	515	614	675	733	789
1,300	367	534	638	701	761	819
1,350	381	554	662	727	789	849
1,400	394	573	685	752	817	880
1,450	407	593	709	778	845	910
1,500	420	613	732	804	873	940
1,550	433	632	756	830	901	970
1,600	447	651	779	855	929	1,000
1,650	460	671	802	881	957	1,030
1,700	473	690	826	906	984	1,060
1,750	486	710	849	932	1,012	1,090
1,800	499	729	872	957	1,040	1,119
1,850	512	748	895	983	1,067	1,149
1,900	525	767	918	1,008	1,095	1,179
1,950	538	787	941	1,034	1,123	1,208
2,000	550	805	963	1,058	1,149	1,236
2,050	562	822	984	1,081	1,174	1,263
2,100	573	840	1,005	1,104	1,199	1,290
2,150	585	857	1,026	1,127	1,223	1,317
2,200	596	874	1,047	1,149	1,248	1,344
2,250	608	891	1,067	1,172	1,273	1,370
2,300	619	908	1,088	1,194	1,297	1,396
2,350	630	925	1,108	1,217	1,321	1,422
2,400	642	942	1,128	1,239	1,345	1,448
2,450	653	959	1,149	1,261	1,370	1,474
2,500	664	975	1,169	1,283	1,393	1,500
2,550	675	992	1,188	1,305	1,417	1,526
2,600	686	1,008	1,208	1,327	1,441	1,551
2,650	697	1,024	1,228	1,348	1,464	1,576
2,700	708	1,041	1,248	1,370	1,488	1,601
2,750	718	1,057	1,267	1,391	1,511	1,626
2,800	729	1,073	1,286	1,413	1,534	1,651
2,850	740	1,089	1,306	1,434	1,557	1,676
2,900	750	1,105	1,325	1,455	1,580	1,701

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Net Income	Children					
	One	Two	Three	Four	Five	Six
2,950	761	1,121	1,344	1,476	1,603	1,725
3,000	771	1,136	1,363	1,497	1,625	1,750
3,050	782	1,152	1,382	1,517	1,648	1,774
3,100	792	1,167	1,401	1,538	1,670	1,798
3,150	802	1,183	1,419	1,558	1,692	1,822
3,200	813	1,198	1,438	1,579	1,715	1,846
3,250	823	1,214	1,456	1,599	1,737	1,870
3,300	833	1,229	1,475	1,619	1,759	1,893
3,350	843	1,244	1,493	1,639	1,780	1,917
3,400	853	1,259	1,511	1,659	1,802	1,940
3,450	863	1,274	1,529	1,679	1,824	1,963
3,500	873	1,289	1,547	1,699	1,845	1,986
3,550	882	1,304	1,565	1,719	1,867	2,009
3,600	892	1,318	1,583	1,738	1,888	2,032
3,650	902	1,333	1,601	1,758	1,909	2,055
3,700	912	1,348	1,619	1,777	1,930	2,078
3,750	921	1,362	1,636	1,797	1,951	2,100
3,800	931	1,377	1,654	1,816	1,972	2,123
3,850	940	1,391	1,671	1,835	1,993	2,145
3,900	950	1,405	1,689	1,854	2,013	2,167
3,950	959	1,420	1,706	1,873	2,034	2,190
4,000	968	1,434	1,723	1,892	2,054	2,212
4,050	978	1,448	1,740	1,911	2,075	2,234
4,100	987	1,462	1,757	1,929	2,095	2,255
4,150	996	1,476	1,774	1,948	2,115	2,277
4,200	1,005	1,490	1,791	1,966	2,135	2,299
4,250	1,014	1,504	1,808	1,985	2,155	2,320
4,300	1,023	1,517	1,824	2,003	2,175	2,342
4,350	1,032	1,531	1,841	2,021	2,195	2,363
4,400	1,041	1,545	1,857	2,039	2,215	2,384
4,450	1,050	1,558	1,874	2,057	2,234	2,405
4,500	1,059	1,572	1,890	2,075	2,254	2,426
4,550	1,068	1,585	1,906	2,093	2,273	2,447
4,600	1,077	1,598	1,923	2,111	2,293	2,468
4,650	1,085	1,612	1,939	2,129	2,312	2,489
4,700	1,094	1,625	1,955	2,146	2,331	2,509
4,750	1,103	1,638	1,971	2,164	2,350	2,530
4,800	1,111	1,651	1,987	2,182	2,369	2,550
4,850	1,120	1,664	2,003	2,199	2,388	2,571
4,900	1,128	1,677	2,018	2,216	2,407	2,591
4,950	1,137	1,690	2,034	2,234	2,426	2,611
5,000	1,145	1,703	2,050	2,251	2,444	2,631
5,050	1,154	1,716	2,065	2,268	2,463	2,651
5,100	1,162	1,729	2,081	2,285	2,481	2,671
5,150	1,170	1,741	2,096	2,302	2,500	2,691

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Net Income	Children					
	One	*Two*	*Three*	*Four*	*Five*	*Six*
5,200	1,178	1,754	2,112	2,319	2,518	2,711
5,250	1,187	1,767	2,127	2,336	2,537	2,731
5,300	1,195	1,779	2,142	2,352	2,555	2,750
5,350	1,203	1,792	2,158	2,369	2,573	2,770
5,400	1,211	1,804	2,173	2,386	2,591	2,789
5,450	1,219	1,817	2,188	2,402	2,609	2,809
5,500	1,227	1,829	2,203	2,419	2,627	2,828
5,550	1,235	1,841	2,218	2,435	2,645	2,847
5,600	1,243	1,853	2,233	2,452	2,662	2,866
5,650	1,251	1,866	2,248	2,468	2,680	2,885
5,700	1,259	1,878	2,262	2,484	2,698	2,904
5,750	1,267	1,890	2,277	2,500	2,715	2,923
5,800	1,275	1,902	2,292	2,516	2,733	2,942
5,850	1,282	1,914	2,306	2,533	2,750	2,961
5,900	1,290	1,926	2,321	2,549	2,768	2,979
5,950	1,298	1,938	2,336	2,564	2,785	2,998
6,000	1,305	1,949	2,350	2,580	2,802	3,017
6,050	1,313	1,961	2,364	2,596	2,819	3,035
6,100	1,321	1,973	2,379	2,612	2,837	3,054
6,150	1,328	1,985	2,393	2,628	2,854	3,072
6,200	1,336	1,996	2,407	2,643	2,871	3,090
6,250	1,343	2,008	2,422	2,659	2,888	3,108
6,300	1,351	2,020	2,436	2,674	2,904	3,127
6,350	1,358	2,031	2,450	2,690	2,921	3,145
6,400	1,366	2,043	2,464	2,705	2,938	3,163
6,450	1,373	2,054	2,478	2,721	2,955	3,181
6,500	1,380	2,066	2,492	2,736	2,971	3,199
6,550	1,388	2,077	2,506	2,751	2,988	3,217
6,600	1,395	2,088	2,520	2,767	3,004	3,234
6,650	1,402	2,100	2,533	2,782	3,021	3,252
6,700	1,410	2,111	2,547	2,797	3,037	3,270
6,750	1,417	2,122	2,561	2,812	3,054	3,287
6,800	1,424	2,133	2,575	2,827	3,070	3,305
6,850	1,431	2,144	2,588	2,842	3,086	3,323
6,900	1,438	2,156	2,602	2,857	3,103	3,340
6,950	1,446	2,167	2,616	2,872	3,119	3,357
7,000	1,453	2,178	2,629	2,887	3,135	3,375
7,050	1,460	2,189	2,643	2,902	3,151	3,392
7,100	1,467	2,200	2,656	2,916	3,167	3,409
7,150	1,474	2,211	2,669	2,931	3,183	3,427
7,200	1,481	2,222	2,683	2,946	3,199	3,444
7,250	1,488	2,232	2,696	2,960	3,215	3,461
7,300	1,495	2,243	2,710	2,975	3,231	3,478
7,350	1,502	2,254	2,723	2,990	3,247	3,495
7,400	1,509	2,265	2,736	3,004	3,263	3,512

Computing Total Saving for Families in Florida

Net Income	Children					
	One	*Two*	*Three*	*Four*	*Five*	*Six*
7,450	1,515	2,276	2,749	3,019	3,278	3,529
7,500	1,522	2,286	2,762	3,033	3,294	3,546
7,550	1,529	2,297	2,776	3,048	3,310	3,563
7,600	1,536	2,308	2,789	3,062	3,325	3,580
7,650	1,543	2,318	2,802	3,076	3,341	3,597
7,700	1,550	2,329	2,815	3,091	3,357	3,613
7,750	1,556	2,340	2,828	3,105	3,372	3,630
7,800	1,563	2,350	2,841	3,119	3,388	3,647
7,850	1,570	2,361	2,854	3,134	3,403	3,663
7,900	1,576	2,371	2,867	3,148	3,418	3,680
7,950	1,583	2,382	2,880	3,162	3,434	3,697
8,000	1,590	2,392	2,893	3,176	3,449	3,713
8,050	1,596	2,403	2,905	3,190	3,465	3,730
8,100	1,603	2,413	2,918	3,204	3,480	3,746
8,150	1,610	2,424	2,931	3,218	3,495	3,762
8,200	1,616	2,434	2,944	3,232	3,510	3,779
8,250	1,623	2,444	2,957	3,246	3,526	3,795
8,300	1,630	2,455	2,969	3,260	3,541	3,812
8,350	1,636	2,465	2,982	3,274	3,556	3,828
8,400	1,643	2,475	2,995	3,288	3,571	3,844
8,450	1,649	2,486	3,007	3,302	3,586	3,861
8,500	1,656	2,496	3,020	3,316	3,601	3,877
8,550	1,662	2,506	3,033	3,330	3,616	3,893
8,600	1,669	2,516	3,045	3,344	3,631	3,909
8,650	1,675	2,527	3,058	3,358	3,646	3,925
8,700	1,682	2,537	3,071	3,371	3,661	3,942
8,750	1,688	2,547	3,083	3,385	3,676	3,958
8,800	1,695	2,557	3,096	3,399	3,691	3,974
8,850	1,701	2,567	3,108	3,413	3,706	3,990
8,900	1,707	2,577	3,121	3,427	3,721	4,006
8,950	1,714	2,588	3,133	3,440	3,736	4,022
9,000	1,720	2,598	3,146	3,454	3,751	4,038
9,050	1,727	2,608	3,158	3,468	3,766	4,054
9,100	1,733	2,618	3,171	3,481	3,781	4,070
9,150	1,739	2,628	3,183	3,495	3,796	4,086
9,200	1,746	2,638	3,196	3,509	3,810	4,102
9,250	1,752	2,648	3,208	3,522	3,825	4,118
9,300	1,758	2,658	3,220	3,536	3,840	4,134
9,350	1,765	2,668	3,233	3,550	3,855	4,150
9,400	1,771	2,678	3,245	3,563	3,870	4,166
9,450	1,777	2,688	3,258	3,577	3,885	4,182
9,500	1,784	2,698	3,270	3,591	3,899	4,198
9,550	1,790	2,708	3,282	3,604	3,914	4,213
9,600	1,796	2,718	3,295	3,618	3,929	4,229
9,650	1,803	2,728	3,307	3,631	3,944	4,245

Computing Total Saving for Families in Florida

Net Income	Children					
	One	Two	Three	Four	Five	Six
9,700	1,809	2,738	3,320	3,645	3,958	4,261
9,750	1,815	2,748	3,332	3,658	3,973	4,277
9,800	1,821	2,758	3,344	3,672	3,988	4,293
9,850	1,828	2,768	3,357	3,686	4,003	4,309
9,900	1,834	2,778	3,369	3,699	4,017	4,325
9,950	1,840	2,788	3,381	3,713	4,032	4,340
10,000	1,847	2,798	3,394	3,726	4,047	4,356
10,050	1,853	2,808	3,406	3,740	4,061	4,372
10,100	1,859	2,818	3,418	3,753	4,076	4,388
10,150	1,865	2,828	3,431	3,767	4,091	4,404
10,200	1,872	2,838	3,443	3,780	4,106	4,420
10,250	1,878	2,848	3,455	3,794	4,120	4,436
10,300	1,884	2,858	3,468	3,808	4,135	4,451
10,350	1,890	2,868	3,480	3,821	4,150	4,467
10,400	1,897	2,878	3,493	3,835	4,165	4,483
10,450	1,903	2,888	3,505	3,848	4,179	4,499
10,500	1,909	2,898	3,517	3,862	4,194	4,515
10,550	1,915	2,908	3,530	3,876	4,209	4,531
10,600	1,922	2,918	3,542	3,889	4,224	4,547
10,650	1,928	2,928	3,554	3,903	4,238	4,563
10,700	1,934	2,938	3,567	3,916	4,253	4,579
10,750	1,941	2,948	3,579	3,930	4,268	4,594
10,800	1,947	2,958	3,592	3,944	4,283	4,610
10,850	1,953	2,968	3,604	3,957	4,298	4,626
10,900	1,959	2,978	3,617	3,971	4,312	4,642
10,950	1,966	2,988	3,629	3,985	4,327	4,658
11,000	1,972	2,998	3,641	3,998	4,342	4,674
11,050	1,978	3,008	3,654	4,012	4,357	4,690
11,100	1,984	3,018	3,666	4,026	4,372	4,706
11,150	1,991	3,028	3,679	4,039	4,387	4,722
11,200	1,997	3,038	3,691	4,053	4,402	4,738
11,250	2,003	3,048	3,704	4,067	4,417	4,755
11,300	2,010	3,059	3,716	4,081	4,432	4,771
11,350	2,016	3,069	3,729	4,094	4,447	4,787
11,400	2,022	3,079	3,742	4,108	4,462	4,803
11,450	2,029	3,089	3,754	4,122	4,477	4,819
11,500	2,035	3,099	3,767	4,136	4,492	4,835
11,550	2,041	3,109	3,779	4,150	4,507	4,851
11,600	2,048	3,119	3,792	4,164	4,522	4,868
11,650	2,054	3,130	3,805	4,178	4,537	4,884
11,700	2,061	3,140	3,817	4,191	4,552	4,900
11,750	2,067	3,150	3,830	4,205	4,567	4,916
11,800	2,073	3,160	3,843	4,219	4,582	4,933
11,850	2,080	3,170	3,856	4,233	4,597	4,949
11,900	2,086	3,181	3,868	4,247	4,613	4,966

Computing Total Saving for Families in Florida

Net Income	Children					
	One	*Two*	*Three*	*Four*	*Five*	*Six*
11,950	2,093	3,191	3,881	4,261	4,628	4,982
12,000	2,099	3,201	3,894	4,276	4,643	4,998
12,050	2,105	3,212	3,907	4,290	4,659	5,015
12,100	2,112	3,222	3,920	4,304	4,674	5,031
12,150	2,118	3,232	3,933	4,318	4,689	5,048
12,200	2,125	3,243	3,945	4,332	4,705	5,065
12,250	2,131	3,253	3,958	4,346	4,720	5,081
12,300	2,138	3,264	3,971	4,361	4,736	5,098
12,350	2,144	3,274	3,984	4,375	4,751	5,115
12,400	2,151	3,285	3,997	4,389	4,767	5,131
12,450	2,158	3,295	4,010	4,403	4,782	5,148
12,500	2,164	3,306	4,024	4,418	4,798	5,165
12,550	2,171	3,316	4,037	4,432	4,813	5,182
12,600	2,177	3,327	4,050	4,447	4,829	5,199
12,650	2,184	3,337	4,063	4,461	4,845	5,215
12,700	2,191	3,348	4,076	4,476	4,861	5,232
12,750	2,197	3,359	4,089	4,490	4,876	5,249
12,800	2,204	3,369	4,103	4,505	4,892	5,266
12,850	2,211	3,380	4,116	4,519	4,908	5,284
12,900	2,217	3,391	4,129	4,534	4,924	5,301
12,950	2,224	3,401	4,143	4,549	4,940	5,318
13,000	2,231	3,412	4,156	4,563	4,956	5,335
13,050	2,237	3,423	4,170	4,578	4,972	5,352
13,100	2,244	3,434	4,183	4,593	4,988	5,370
13,150	2,251	3,445	4,197	4,608	5,004	5,387
13,200	2,258	3,456	4,210	4,623	5,020	5,404
13,250	2,265	3,467	4,224	4,638	5,037	5,422
13,300	2,272	3,477	4,237	4,653	5,053	5,439
13,350	2,278	3,488	4,251	4,668	5,069	5,457
13,400	2,285	3,500	4,265	4,683	5,086	5,475
13,450	2,292	3,511	4,279	4,698	5,102	5,492
13,500	2,299	3,522	4,292	4,713	5,118	5,510
13,550	2,306	3,533	4,306	4,728	5,135	5,528
13,600	2,313	3,544	4,320	4,744	5,152	5,546
13,650	2,320	3,555	4,334	4,759	5,168	5,564
13,700	2,327	3,566	4,348	4,774	5,185	5,582
13,750	2,334	3,578	4,362	4,790	5,202	5,600
13,800	2,341	3,589	4,376	4,805	5,218	5,618
13,850	2,348	3,600	4,390	4,821	5,235	5,636
13,900	2,355	3,612	4,405	4,836	5,252	5,654
13,950	2,363	3,623	4,419	4,852	5,269	5,672
14,000	2,370	3,635	4,433	4,868	5,286	5,691
14,050	2,377	3,646	4,447	4,883	5,303	5,709
14,100	2,384	3,658	4,462	4,899	5,320	5,727
14,150	2,391	3,669	4,476	4,915	5,338	5,746

Computing Total Saving for Families in Florida

Net Income	Children					
	One	*Two*	*Three*	*Four*	*Five*	*Six*
14,200	2,399	3,681	4,491	4,931	5,355	5,764
14,250	2,406	3,693	4,505	4,947	5,372	5,783
14,300	2,413	3,704	4,520	4,963	5,389	5,802
14,350	2,421	3,716	4,534	4,979	5,407	5,821
14,400	2,428	3,728	4,549	4,995	5,424	5,839
14,450	2,436	3,740	4,564	5,011	5,442	5,858
14,500	2,443	3,752	4,579	5,027	5,460	5,877
14,550	2,450	3,763	4,593	5,044	5,477	5,896
14,600	2,458	3,775	4,608	5,060	5,495	5,916
14,650	2,465	3,787	4,623	5,076	5,513	5,935
14,700	2,473	3,800	4,638	5,093	5,531	5,954
14,750	2,481	3,812	4,653	5,109	5,549	5,973
14,800	2,488	3,824	4,669	5,126	5,567	5,993
14,850	2,496	3,836	4,684	5,143	5,585	6,012
14,900	2,504	3,848	4,699	5,159	5,603	6,032
14,950	2,511	3,861	4,714	5,176	5,621	6,052
15,000	2,519	3,873	4,730	5,193	5,640	6,071

Chapter 5

Treatment of Low-Income Parents in the Child Support Guidelines

To ensure that low-income obligors retain sufficient income after payment of child support to maintain a minimum standard of living, Florida's guidelines incorporate a self-support reserve. The reserve was designed to prevent the payment of child support from pushing a non-poor parent into poverty. The self-support reserve was originally $650, based on the 1992 federal single-person poverty guideline.[63] If the combined income of the parents is less than $650, the schedule of child support obligations does not apply. Instead, "the [obligor] parent should be ordered to pay a child support amount, determined on a case-by-case basis, to establish the principle of payment and lay the basis for increased orders should the parent's income increase in the future."[64]

By the time of our first review of Florida's child support guidelines in 2004, the federal poverty guideline had increased by more than $200, but Florida's schedule of obligations had not been updated. In 2010 the self-support reserve in Florida's schedule was updated to $800, but by then the poverty guideline had increased to over $900 per month. The schedule has not been updated since 2010.

For low-income parents above the poverty line, the child support obligation calculated using the income shares methodology is phased in. Over the phase-in range, the basic child support obligation for one child equals 90 percent of the difference between the parents' combined monthly net income and the 1992 federal single-person poverty guideline.[65] The percentage increases with the number of children, reaching 95 percent for six children. The upper limit of the phase-in range is $800 for one child, $950 for two children, and extends to $1500 for six children.

To illustrate, suppose the parents' combined income is within the phase-in range, and the income increases by $100. Instead of the parent's child support obligation increasing by 100 percent (the full $100), the obligation for one child increases by 90 percent, or $90. Use of 90 percent instead of 100 percent is intended to encourage low-income parents to earn additional income, although a 90 percent "tax rate" seems almost as much of a disincentive as 100 percent.

In our previous reviews, we have consistently noted that the low-income provisions in Florida's guidelines are ineffective. They do not prevent the child support obligation from pushing a non-poor parent into poverty, as intended, and they actually increase the poverty of an already-poor parent. With the exception of the increase in the self-support reserve in 2010, none

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[63] The monthly equivalent of the 1992 federal single-person poverty guideline was $567.50.

[64] Many income shares states specify a $50 minimum order. In Florida, no minimum amount is specified. However, the model schedule designed by Robert Williams that became the basis for Florida's current schedule was constructed in a manner that is consistent with a $50 minimum. Adding $50 to the 1992 poverty guideline yields $617.50. The nearest $50 multiple above that is $650 and hence this is where Florida's original schedule of basic child support obligations began.

[65] When the self-support reserve was updated in 2010, the phase-in range was not. Instead, it continues to be based on the 1992 poverty guideline. As a result, the phase-in range for one child has been eliminated, but it remains in effect at the old income levels for two or more children.

of the problems with the low-income provisions that we cited have been addressed. The low-income provisions are even less effective today, applying to very few low-income parents.

In our 2004 review, we relied on a sample of child support cases that had been compiled in 2001 by Florida's Office of Program Policy Analysis and Government Accountability (OPPAGA). In 9.77 percent of the Title IV-D child support cases, the obligor parent's income was below the poverty guideline *before child support*. After the basic obligation but before any added expenses for childcare and medical expenses, 53.72 percent were in poverty. The percentage in poverty rose to 55.84 percent after childcare and medical expenses were added. This means that child support payments were responsible for creating poverty among about 45 percent of Title IV-D non-poor obligor parents.

For the private cases, 5.92 percent were in poverty before child support, 25.80 percent were in poverty after the basic obligation but before any added expenses, and 27.56 percent were in poverty after the added expenses were included. So child support payments were responsible for creating poverty where it did not previously exist in over 20 percent of the private cases.

Income Imputation

One reason for the ineffectiveness of the low-income provisions is imputation of income. Most states impute income whenever a parent's income is unknown, the parent is unemployed, or the parent is deemed to be underemployed. The reasons for imputation are to reduce or eliminate incentives for parents to (1) hide income, (2) seek employment in the underground economy, (3) avoid employment or seek part-time employment instead of full-time employment, and (4) fail to provide relevant information or appear in court.[66]

The child support guidelines in many states stipulate that income is to be imputed in an amount equal to the earnings of a full-time, year-round minimum wage worker. Florida's guidelines do not include such a stipulation. Prior to 2011 the relevant provision in Florida's guidelines stated:

> Income on a monthly basis shall be imputed to an unemployed or underemployed parent when such employment or underemployment is found to be voluntary on that parent's part, absent physical or mental incapacity or other circumstances over which the parent has no control. In the event of such voluntary unemployment or underemployment, the employment potential and probable earnings level of the parent shall be determined based upon his or her recent work history, occupational qualifications, and prevailing earnings level in the community; however, the court may refuse to impute income to a primary residential parent if the court finds it necessary for the parent to stay home with the child.[67]

However, in the 2001 sample of child support cases in Florida, thirty-four percent of the Title IV-D cases and five percent of the private cases had incomes approximately equal to full-time, year-round minimum wage earnings. Because nationally only one percent of U.S. workers earn the

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[66] Paul Legler, "Low-Income Fathers and Child Support: Starting Off on the Right Track", Denver: Policy Studies, Inc., (2003), p. 23.
[67] Florida Child Support Guidelines, 2004, Statute 61.30

minimum wage,[68] this suggests that full-time, year-round minimum wage earnings have frequently been used to impute incomes in Florida even in the absence of such a stipulation in the Florida guidelines.

When Florida's current schedule was first adopted in 1992, the federal minimum wage was $4.25 per hour. Table 5-1 shows the effect of imputing income equal to full-time, year-round minimum wage earnings in 1992 to both parents.

Table 5-1 Example of Imputing Income to Both Parents at 1992 Full-Time, Year-Round Minimum Wage Earnings with One Child	
Obligor's Monthly Net Income Imputed at Minimum Wage for Full-Time Work	$657
Obligee's Monthly Net Income Imputed at Minimum Wage for Full-Time Work	$680
Combined Monthly Net Income	$1,337
Self-Support Reserve	$650
Maximum Phase-in Income for One Child	$800
Maximum Phase-in Income for Three Children	$1,100
1992 Federal Single-Person Poverty Guideline[69]	$568

The combined imputed income of the parents is above both the self-support reserve and the phase-in range. Thus, even when the scheduled was first adopted, neither the self-support reserve nor the phase-in range would have applied when income was imputed at full-time, year-round minimum wage earnings.

However, if income had been imputed only to the obligor parent, the low-income provisions would have applied as Table 5-2 shows.

Table 5-2 Example of Imputing Income to Obligor Parent Only at 1992 Full-Time, Year-Round Minimum Wage Earnings with One Child	
Obligor's Monthly Net Income Imputed at Minimum Wage for Full-Time Work	$657
Obligee's Monthly Net Income Imputed at Minimum Wage for Full-Time Work	$0
Combined Monthly Net Income	$657
Self-Support Reserve	$650
Maximum Phase-in Income for One Child	$800
Maximum Phase-in Income for Three Children	$1,100
1992 Federal Single-Person Poverty Guideline	$568

The obligor's income in this example is within the phase-in range. The child support obligation for one child is $74, leaving the parent with $583, $15 above the poverty guideline. The phase-in

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[68] U.S. Census Bureau *Statistical Abstract of the United States*, (2002), Table 617 from: http://www.census.gov/prod/2003pubs/02statab/labor.pdf
[69] Although the Florida schedule of child support obligations uses the monthly *net* income of the parents, the self-support reserve is based on the *gross* poverty guideline, so the appropriate comparison here is between net income remaining after payment of child support and the gross poverty guideline income.

range would have prevented the obligor parent from being pushed into poverty by the payment of child support.

By the time of our first review in 2004, not only was the combined imputed income of the parents above both the self-support reserve and the phase-in range, but so too was the obligor's imputed income alone as Table 5-3 shows.

Table 5-3 Example of Imputing Income to Obligor Parent Only at 2004 Full-Time, Year-Round Minimum Wage Earnings with One Child	
Obligor's Monthly Net Income Imputed at Minimum Wage for Full-Time Work	$801
Obligee's Monthly Net Income Imputed at Minimum Wage for Full-Time Work	$0
Combined Monthly Net Income	$801
Self-Support Reserve	$650
Maximum Phase-in Income for One Child	$800
Maximum Phase-in Income for Three Children	$1,100
2004 Federal Single-Person Poverty Guideline	$776

As a result, by 2004 no matter how low the actual incomes of the parents, they did not benefit from the low-income provisions in the guidelines whenever income was imputed.

In 2005 Florida enacted its own minimum wage, which is higher than the federal minimum wage. In addition, the minimum wage has increased more than the poverty guideline in the intervening years. As Figure 5-1 shows, the poverty guideline has increased by about 33 percent since 2000 while the minimum wage has increased by about 44 percent.

Figure 5-1
Minimum Wage Compared to the Poverty Guideline
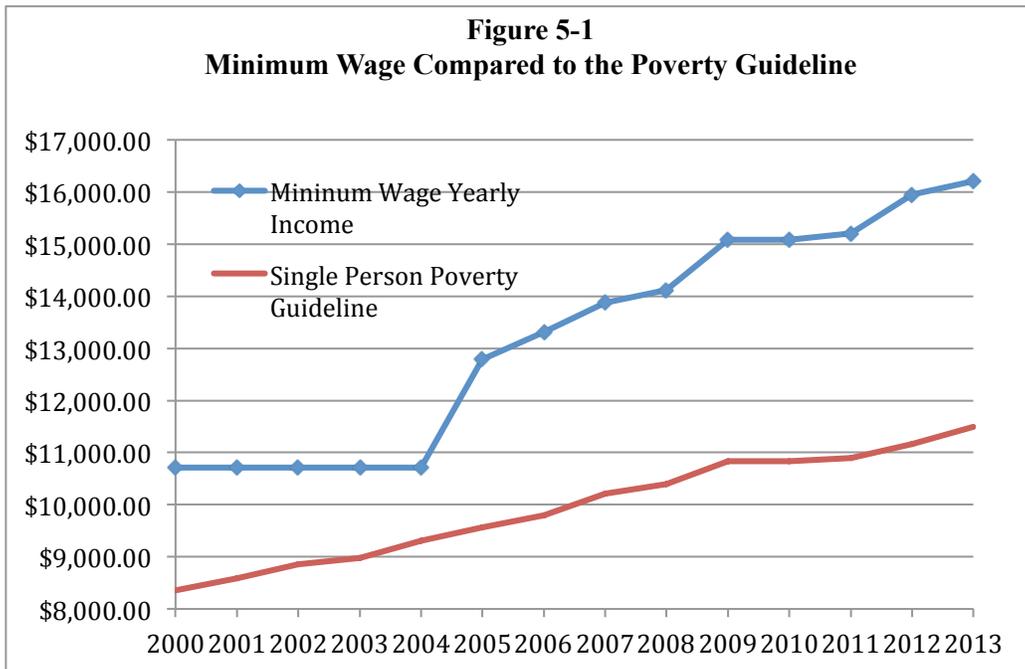
Source: U.S. Department of Health and Human Services and Florida Department of Economic Opportunity

If imputing income at minimum wage for full-time, year-round work to either or both parents in 2004 meant that the self-support reserve and phase-in range were simply not applicable to more than one-third of low-income parents, that is even more true in 2013.

Moreover, between 2010 and 2013, the provision for imputing incomes in the Florida child support guidelines was amended. The current provision states:

Monthly income shall be imputed to an unemployed or underemployed parent if such unemployment or underemployment is found by the court to be voluntary on that parent's part, absent a finding of fact by the court of physical or mental incapacity or other circumstances over which the parent has no control. In the event of such voluntary unemployment or underemployment, the employment potential and probable earnings level of the parent shall be determined based upon his or her recent work history, occupational qualifications, and prevailing earnings level in the community if such information is available. If the information concerning a parent's income is unavailable, a parent fails to participate in a child support proceeding, or a parent fails to supply adequate financial information in a child support proceeding, income shall be automatically imputed to the parent and ***there is a rebuttable presumption that the parent has income equivalent to the median income of year-round full-time workers*** as derived from current population reports or replacement reports published by the United States Bureau of the Census. However, the court may refuse to impute income to a parent if the court finds it necessary for that parent to stay home with the child who is the subject of a child support calculation or as set forth below:
1. In order for the court to impute income at an amount other than the median income of year-round full-time workers as derived from current population reports or replacement reports published by the United States Bureau of the Census, the court must make specific findings of fact consistent with the requirements of this paragraph. …[70] [Emphasis added]

Unlike the previous provision, this provision stipulates the basis for imputing income. But rather than basing imputation on minimum wage earnings, as in most other states, it requires imputation based on median earnings. Median earnings of full-time, year round workers in 2012 was $42,799.[71] This compares with full-time, year-round minimum wage earnings of $16,143.

We do not know the reasons for or the objective of this change in the provision for imputing income. In 2001 median earnings for full-time, year-round work was $33,636, or $2,803 monthly. In only twelve out of 475 (2.5 percent) Title IV-D cases in our 2001 sample did either parent have income equal to or greater than this amount. In 42 of the 250 private cases (16.8 percent), one or the other parent had income exceeding this amount. If income had been imputed at median earnings to both parents, the combined income would have been $5,606 monthly. Only four of the 475 Title IV-D cases and 14 of the private cases showed combined income equal to or greater than this amount.

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[70] Florida Child Support Guidelines, 2013, Statute 61.30
[71] U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements, Table P-43. Accessed at http://www.census.gov/hhes/www/income/data/historical/people/.

Imputing income at median earnings rather than minimum wage earnings is likely to significantly overstate the true income of the parents to whom the income is imputed. Perhaps the provision was adopted for its deterrent effect, to provide a disincentive for parents to avoid providing income information or to hide income or not to seek full-time employment. For low-income parents for whom it might be difficult to obtain accurate income information from other sources, it is unlikely that imputing income at median earnings is any greater deterrent than imputing income at minimum wage, which is still likely greater than their actual income. For most parents with actual incomes above minimum wage earnings but below median earnings, reasonably accurate income information should be available from other sources even if the parent fails to appear or to cooperate.

Although we have no evidence on the effect of the revised imputation provision, we believe it unlikely to have had a significant positive effect, either on the incentives of parents to work or to provide accurate income information. Whereas imputing income at full-time, year-round minimum wage earnings in the absence of alternative accurate information was viewed as a means of determining a reasonable child support payment, imputing at median earnings seems to us to be mostly punitive.

As we have noted in previous reviews, compliance with child support orders is systematically lower in cases where income is imputed.[72] If income is imputed in an amount equal to full-time, year-round median earnings, the gap between actual income and the imputed income on which the child support obligation is based is dramatically larger than if the imputed income were based on minimum wage earnings. Even if the child support obligation in 2004 did not impoverish parents when taking their actual incomes into account, the child support obligation in 2013 might easily do so and is likely to exacerbate the compliance problem.

Ineffectiveness of the Low-Income Provisions When Income Is Not Imputed

In the 2001 sample of child support cases, fewer than seven percent of both Title IV-D and private cases had reported combined monthly net incomes less than full-time, year-round minimum wage earnings. More than 93 percent of both Title IV-D and private cases had actual or imputed incomes equal to or greater than this amount. Therefore, in 2004 the self-support reserve applied to fewer than seven percent of child support cases even if the parents' actual income was below the poverty line. But in fact few of even these parents then or now are likely to benefit from the low-income provisions for the three reasons that we cited in 2004:

- *combined* income is compared to the federal *single-person* poverty guideline
- the self-support reserve is not indexed to the poverty guideline
- the self-support reserve and phase-in apply only to the basic child support obligation.

Combined Income Is Compared to the Single-Person Poverty Guideline: The use of the parents' *combined income* to determine the basic child support obligation is inconsistent with a self-support reserve and phase-in based on the *single-person* poverty guideline. The self-support reserve and phase-in are often rendered inoperable when combined income is used even though in

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[72] Office of the Inspector General, *The Establishment of Child Support Orders for Low-Income Noncustodial Parents*. #OEI-05-99-00390. Washington, D.C.: U.S. Department of Health and Human Services (2000).

fact the obligor parent's income is near, at, or below the poverty guideline. Use of combined income with the single-person poverty guideline creates two problems.

The first problem is that the combined income will, in the vast majority of cases, be above the single-person poverty guideline even when one or both parent's individual income is below the guideline. Second, even in the phase-in range, if the obligee parent's income increases, so too does the combined income. When the combined income increases, the obligor parent's child support payment increases, pushing the obligor parent closer to or into poverty. This occurs even if the obligor parent's income is unchanged and the increase in combined income is entirely attributable to the obligee parent.[73]

As we noted in our 2011 review, most other states using the income shares model have recognized this problem and made an adjustment for it. Some states (North Carolina, for example) designate a range of incomes in the schedule where only the obligor's income is used to determine the child support obligation. Other states (Colorado, for example) continue to use combined incomes throughout the schedule, but add a self-support reserve calculation in the worksheet at the end of the computation of the child support obligation.

Schedule of Obligations Has Not Been Updated: As noted above, the single-person poverty guideline in 1992, when Florida's current child support schedule was adopted, was $567.50 per month. When the schedule was updated in 2010, the lowest three income categories ($650, $700, and $750) were deleted, but the obligations for incomes greater than or equal to $800 were not changed even though the poverty guideline had risen to $931 by 2012.[74,] Thus, because of the failure to update, Florida's self-support reserve and most of the phase-in range are now *below* the current poverty guideline. Instead of preventing child support from impoverishing non-poor parents, the self-support reserve and the phase-in apply only to parents who are already in poverty.

The effect of failing to update can be seen in Table 5-4. Suppose an obligor parent has a net income of $1189 and the obligee parent has no income[75]. Before child support, the obligor parent has a monthly income in excess of the poverty guideline by $258. The basic child support obligation for one child is $269. The obligor parent's remaining net income after payment of child support is $920, which is $11 per month below the poverty guideline.

Table 5-4 **Child Support Obligation for an Obligor Parent with Full-time, Year-round Minimum Wage Income with Current Schedule**	
Obligor's Monthly Net Income Imputed at Minimum Wage for Full-Time Work	$1,189
Obligee's Monthly Net Income Imputed at Minimum Wage for Full-Time Work	$0
Combined Monthly Net Income	$1,189
Self-Support Reserve	$650

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[73] This is a unique feature of the phase-in range. Above the phase-in range, an increase in combined income attributable entirely to the obligee parent would reduce, not increase, the obligor parent's share of the total obligation.

[74] The federal single-person poverty guideline is $11,170 annually, which converts to $931 monthly. *"Prior HHS Poverty Guidelines and Federal Register References"*, as available at http://aspe.hhs.gov/poverty/figures-fed-reg.cfm.

[75] This is in fact the net monthly income corresponding to full-time, year-round minimum wage earnings.

Maximum Phase-in Income for One Child	$800
Support Obligation for One Child	$269
Monthly Net Income After Payment of Child Support	$920
2012 Federal Single-Person Poverty Guideline	$931

Adding expenditures for childcare and health insurance only exacerbates the problem. Thus, Florida's current self-support reserve and phase-in do not prevent even obligor parents who are well above the poverty guideline prior to payment of child support from being impoverished, even if only the obligor parent has income.

If the self-support reserve and phase-in range were updated to match the increased poverty guideline, however, they would still apply to very few cases as long as the comparison is between the combined income of the parents and the single-person poverty guideline. In the example above, if the combined income were $1189, divided evenly between the two parents, both parents would be in poverty before payment of the child support obligation. The obligor parent's share of the support obligation is $135, leaving the parent with an income of $460. The parent's income before payment of child support is not quite two-thirds of the poverty guideline, but after payment, the remaining income is just under half the poverty guideline.

Updating the self-support reserve and phase-in and applying both to the obligor's income only rather than the parents' combined income would at least partially restore the effectiveness of the low income provisions in Florida's child support guidelines, even for those parents to whom full-time, year-round minimum wages earnings were imputed. If the self-support reserve were updated to reflect the 2012 single-person poverty guideline, the reserve would be $1,000 monthly net income. The phase-in range for one child would extend to $1,200. The result is shown in Table 5-5.

Table 5-5 Child Support Obligation for an Obligor Parent with Full-time, Year-round Minimum Wage Income with Updated Schedule	
Obligor's Monthly Net Income Imputed at Minimum Wage for Full-Time Work	$1,189
Obligee's Monthly Net Income Imputed at Minimum Wage for Full-Time Work	$0
Combined Monthly Net Income	$1,189
Self-Support Reserve	$1,000
Maximum Phase-in Income for One Child	$1,200
Support Obligation for One Child	$170
Monthly Net Income After Payment of Child Support	$1,019
2012 Federal Single-Person Poverty Guideline	$931

Table 5-5 also shows the effect of updating and applying the provisions to the obligor parent only even when the obligee parent has positive income. Updating the self-support reserve and the phase-in and applying them to obligor income only means that these provisions also apply to parents to whom income is imputed at full-time, year-round minimum wage earnings. Unlike the example in Table 5-4, the obligor parent in Table 5-5 retains a monthly net income that is $88 above the poverty guideline as a result of the updated reserve and phase-in.

Low-Income Provisions Apply to the Basic Obligation Only: The self-support reserve and phase-in range apply only to the basic support obligation, not the total obligation. Even if the self-support reserve and the phase-in were effective in preventing the basic obligation from impoverishing parents, they would not prevent the total obligation from doing so. In the 2001 sample of child support cases, the average additional payments over and above the basic obligation were $88 for childcare and $129 for medical expenses.

Suppose the obligor parent has monthly net income of $1,450 and the obligee parent has no income. The basic obligation is $330, leaving the obligor parent with net income of $1,120, well above the poverty guideline. But if the obligor parent must also pay childcare and medical expenses equal to the average of our 2001 sample, net income remaining after payment of the total obligation is only $903, $28 below the poverty guideline.

Recommendations

In each of our previous reviews of Florida's child support guidelines, we have made the same recommendations with regard to the treatment of low-income parents. We continue to make these same recommendations.

Move the Low-Income Provisions from the Schedule of Obligations to the Worksheet

First and foremost, we recommend eliminating the self-support reserve and the phase-in from the schedule of child support obligations. As we have shown, these provisions are ineffective, apply to very few families, complicate the schedule, and create anomalies that would seem inequitable.[76] Instead, the schedule of obligations would show calculated child support obligations for all monthly net income levels.

In place of the self-support reserve, we recommend including in the child support worksheet an adjustment to the calculated child support obligation for low-income parents. The worksheet adjustment that we propose is simple and does not complicate the worksheet unduly, only adding a three-line calculation at the end of the worksheet. We have prepared an example of the worksheet calculation in the appendix to this chapter.

In our proposed updated schedule of obligations in Appendix 4-1, we have omitted a self-support reserve and a phase-in range of incomes. Thus, our proposed schedule, if adopted, should be coupled with the worksheet shown in Appendix 5-1.

Update the Guidelines to Reflect the Current Poverty Guideline

Our worksheet example uses the 2013 federal single-person poverty guideline. However, even if the self-support reserve and phase-in are retained either in the current schedule of obligations or in a revised schedule of obligations, it is essential that these features of the schedule be updated to reflect the current poverty guideline. Simply eliminating the self-support

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[76] For example, within the phase-in range, if the obligee parent's income increases while the obligor's income remains unchanged, the obligor's share of the child support obligation *increases*. Moreover, within the phase-in range, the obligor's share of the support obligation increases by 90 percent of any additional net income. This is in effect a marginal tax rate and compares with the highest marginal tax rate in the U.S. Individual Income Tax of only 39 percent.

reserve without also adjusting the phase-in, as was done in 2010, is not sufficient. Otherwise, they will remain totally ineffective.

We have also previously recommended that the low-income provisions either be updated on a regular basis or indexed to the federal poverty guideline. We continue with this recommendation. Adjusting the existing schedule on a biannual or even annual basis is a relatively easy task. If there is concern over such adjustments in the schedule giving rise to excessive litigation as parents with existing orders seek modifications to conform to the updated schedule, it would be a simple matter to include in the statutory provision for updating that it alone cannot form the basis for such a modification.

Apply the Low-Income Provisions to the Obligor Parent's Income Alone

Consistent with our recommendations in previous reviews and with our analysis above, we recommend amending the guidelines to compare the federal single-person poverty guideline only to the obligor parent's income, not to the combined income of both parents. To do otherwise, is inconsistent and irrational if the objective is to prevent the child support payment from impoverishing the obligor parent.

No adjustment in the existing schedule of obligations is necessary to implement this recommendation. Only a change in statutory language is required. Better still, however, is to adopt our previous recommendation and move the low-income provisions from the schedule of obligations to the worksheet. Our worksheet example in the appendix uses only the obligor parent's income to determine whether a low-income adjustment in the child support obligation is necessary.

Apply the Low-Income Provisions to the Total Obligation, Not the Basic Obligation

Whether the child support payment impoverishes a parent depends on the total child support obligation for which the parent is liable, not on the basic obligation alone. Applying the low-income provisions to the basic obligation alone, then, simply makes no sense. By virtue of including the low-income provisions in the schedule of obligations, however, it is impossible to apply them to the total obligation.

This makes it even more important to move any adjustment in the obligation of low-income parents from the schedule to the worksheet. Once the low-income adjustment is incorporated into the worksheet, it is a simple matter to apply it after the total obligation has been determined. Again, our worksheet example shows how this is accomplished.

Reduce the Disincentive for Low-Income Parents to Pay Child Support

Within the phase-in range, child support obligations are increased whenever income increases. The rate of increase for one child is 90 percent of the income increase.[77] As noted above, this is equivalent to a marginal tax rate on additional income of 90 percent, which is 57 percent higher than the highest marginal income tax rate imposed on the highest income taxpayers.

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[77] The rate rises to 95 percent for six children.

Shared Parenting in the Child Support Guidelines

The justification claimed in the original model guidelines was to provide an incentive for parents to earn additional income. Clearly, if the obligation increased by 100 percent of the amount of any additional income, leaving the obligor parent with no increase in net income, there would be no economic incentive to earn additional income. But intuitively, there seems to be only a very marginal difference in incentives between 90 percent and 100 percent.

If providing incentives for obligor parents to earn additional income is an objective, we recommend consideration of a lower rate than 90 percent. As we have pointed out in our earlier reviews, at least one state has adopted a lower rate of 50 percent. Even this is higher than the highest marginal income tax rate, but the incentive effects favoring the earning of additional income by the obligor parent are likely to be substantially greater than with 90 percent. While our worksheet example continues to use 90 percent, it is an easy matter to adjust the percentage to 50 percent or indeed any other desired percentage.

In conclusion, our preferred solution to all the problems with the low-income provisions of Florida's child support guidelines is to eliminate the self-support reserve and the phase-in range from the schedule of obligations and to include an adjustment to the child support obligation for low-income parents in the child support worksheet, as shown in the appendix.

Appendix 5-1

CHILD SUPPORT GUIDELINES WORKSHEET	A. FATHER	B. MOTHER	C. TOTAL
1. Present Net Monthly Income Enter the amount from line number 27, Section 1 of Florida Family Law Rules of Procedure Form 12.902(b) or (c), Financial Affidavit.	1192.42	1192.42	2384.84
2. Basic Monthly Obligation There is (are) {number} __1__ minor child(ren) common to the parties. Using the total amount from line 1, enter the appropriate amount from the child support guidelines chart			515
3. Percent of Financial Responsibility Divide the amount on line 1A by the total amount on line 1 to get Father's percentage of financial responsibility. Enter answer on line 3A. Divide the number on line 1B by the total amount on line 1 to get Mother's percentage of financial responsibility. Enter answer on line 3B.	0.5	0.5	
4. Share of Basic Monthly Obligation Multiply the number on line 2 by the percentage on line 3A to get Father's share of basic obligation. Enter answer on line 4A. Multiply the number on line 2 by the percentage on line 3B to get Mother's share of basic obligation. Enter the answer on line 4B.	257.50	257.5	
Additional Support - Health Insurance, Child Care & Other			
5. a. Total Monthly Child Care Costs [Child care costs should not exceed the level required to provide quality care from a licensed source. See section 61.30(7), Florida Statutes, for more information.]			
b. Total Monthly Child(ren)'s Health Insurance Cost [This is only amounts actually paid for health insurance on the children.]			
c. Total Monthly Child(ren)'s Noncovered Medical, Dental, and Perscription Medication Costs.			
d. Total Monthly Child Care & Health Costs [Add lines 5a + 5b + 5c.]			0

6.	Additional Support Payments Multiply the number on line 5d by the percentage on line 3A to determine the Father's share. Enter answer on line 6A. Multiply the number on line 5d by the percentage on line 3B to determine the mother's share. Enter answer on line 6B.	0	0

Statutory Adjustments/Credits

7. a.	Monthly child care payments actually made		
b.	Monthly health insurance payments actually made		
c.	Other payments/credits actually made for any noncovered medical, dental, and perscription medication expenses of the child(ren) not ordered to be separately paid on a percentage basis. [See section 61.30(8), Florida Statutes.]		
8.	Total Support Payments actually made [Add 7a through 7c]	0	0
9.	**BASIC CHILD SUPPORT OBLIGATION FOR EACH PARENT** [Line 4 + line 6 - line 8]	257.5	257.5

LOW INCOME NON-CUSTODIAL PARENT ADJUSTMENT

22.	**Current Year's Single Person Poverty Guideline**	**957.50**
23.	Compare Parental Income to Poverty Line Subtract line 22 from line 1A or 1B. The parent owing support will be subject to the income comparison.	234.92
24.	Adjusted Excess Income [Multiply line 23 by 0.9][78]	211.43
25.	Adjusted Net Obligation: Enter the smaller of line 9 or line 24, but not less than zero*	211.43

*If line 25 is zero, the child support payment is to be determined at the discretion of the court.

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[78] We have chosen to keep the worksheet simple by applying a 90 percent adjustment regardless of the number of children. This contrast with the phase-in range in the current schedule where the rate increases from 90 percent for one child up to 95 percent for six children. The additional dollar amounts for higher numbers of children is very small and would complicate the worksheet for no substantial gain.

Chapter 6

Shared Parenting in the Child Support Guidelines

Child support guidelines should:

- encourage or at least not discourage visitation and shared parenting (we use the terms interchangeably although some states distinguish between them);
- reflect the duplicated expenses that visitation and shared parenting entail; and
- minimize disputes and litigation over custody arrangements, including ensuring that the guidelines are not themselves a source of disputes and litigation.

In our previous reviews of Florida's child support guidelines, we compared Florida's current approach to shared parenting with the approaches used in other states that have also adopted the income shares model. In this review we focus on one particular alternative that provides a smoother adjustment factor, namely the cubic formula used in Michigan's child support guidelines.

Current Treatment of Shared Parenting in Florida

The basic premise of the income shares model of child support used in Florida is that the child of divorced or never-married parents is entitled to the same level of expenditures as would have been provided, on average, if the parents had lived together. In other words, in the income shares model, child support is intended to ensure that the obligee parent has sufficient resources to provide the child with the same amount of spending as would be available for a child in an otherwise similar intact family. The claim is sometimes made that the income shares methodology anticipates "normal" visitation rights for the obligor parent,[79] but this claim is invalid. Because the underlying expenditure data are derived from two-parent, intact families, it must be true that no visitation is contemplated by the guideline amounts.

An obligor parent who engages in visitation with the child incurs expenses on behalf of the child during the period of visitation. Some of these expenses (housing, for example) duplicate expenses incurred by the obligee parent. Failure to recognize these duplicate expenses and adjust the support payment accordingly understates both the total cost of the child and the cost to the obligor parent.

Other expenses are unduplicated but follow the child. When the child is resident with the obligee parent, the obligee parent incurs these expenses, but when the child is resident with the obligor parent, the obligor parent incurs the expenses. Failure to recognize this shifting of costs between the parents and to adjust the support payment accordingly understates the costs of the child to the obligor parent and overstates the costs to the obligee parent.

The result is that, when there is visitation or shared parenting, the child support obligation determined using the income shares methodology does not accurately reflect the true costs incurred by the two parents. For this reason, child support guidelines based on the income shares

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[79] For example, Pennsylvania's child support guidelines state, "The support schedule contemplates that the obligor has regular contact, including vacation time with his or her children…"

model may actively discourage obligor parents from exercising visitation rights and may be a deterrent to shared parenting, in violation of the guidelines principles enunciated above.

The Florida guidelines provide a formula for adjusting the child support award when visitation or shared parenting equals or exceeds 20 percent of the overnights during the year. A child support obligation is calculated for each parent as if that parent is the obligor parent and the other is the obligee parent. The respective obligations are multiplied by 1.5 to account for the additional, duplicated expenses of maintaining two homes for the child.[80] Each parent's obligation is then weighted by the amount of time spent with the other parent. The difference between the resulting obligations, adjusted for each parent's share of childcare and children's medical expenses, is the amount paid by the parent with the higher obligation to the parent with the lower obligation.

This method is referred to as the *cross-credit* approach, and is illustrated in Table 6-1.[81] The example assumes the parents have a combined net monthly income of $5,000. The obligee parent's income is $2,000 (40 percent of the combined income) and the obligor parent's is $3,000 (60 percent of the combined income). The total child support obligation for two children is $1,552. The example assumes that the obligor parent has the child for 30 percent of the total time and the obligee parent has the child for 70 percent of the time. As Table 6-1 shows, the obligor parent's child support payment in this example is $717. Without an adjustment for shared parenting, the child support payment would be $931.

Table 6-1 Using the Cross-Credit Approach to Calculate a Shared Parenting Basic Support Obligation		
Obligee Parent		**Obligor Parent**
$2,000	Income	$3,000
40%	Percent of Total	60%
$621	Share of Obligation	$931
$932	Expense-Adjusted Share of Obligation (Multiplier=1.5)	$1,396
70%	Parenting Time	30%
$280	Net Obligation	$997
	Child Support Payment	$717

If shared parenting time is less than 20 percent, there is no adjustment to the child support payment. Even a 20 percent threshold can be a disincentive to shared parenting, however, if obligor parents incur additional costs at visitation levels less than 20 percent without any adjustment to the support payment. In other words, if they are unable or unwilling to exercise visitation of at least 20 percent so that they qualify for a shared parenting adjustment, they may choose to exercise no visitation at all and incur no additional cost. This violates the principle above that child support guidelines should at least not discourage visitation and shared parenting.

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[80] The factor is essentially arbitrary and is not derived from any underlying economic data on the amount of such expenses, but it is a common multiplier in those states using approaches similar to Florida's.
[81] The Florida child support worksheet from which these examples are derived is in Appendix 6-2.

Thus, the present system has two potential flaws, namely a threshold below which no adjustment in the child support payment is allowed and a relatively steep constant reduction in the child support payments beyond the threshold. Florida's current cross-credit approach does, however, have the advantage that the adjustment is easy to calculate so that the child support worksheet is simple to complete.

An Alternative Approach, Michigan's Cubic Formula

Michigan uses a cubic formula without a threshold to determine a shared parenting adjustment at all levels of shared parenting or visitation. The formula is defined in the Michigan child support manual as follows:[82]

$$[(O_A^3 * S_B) - (O_B^3 * S_A)]/(O_A^3 + O_B^3)$$

where:

O_A = Approximate annual number of overnights children will likely spend with parent A
O_B = Approximate annual number of overnights children will likely spend with parent B
S_A = Parent A's base support obligation
S_B = Parent B's base support obligation

A negative result, in the above formula, means that parent A pays, and a positive result means parent B pays. This approach provides a smooth, continuous adjustment that is quite small at low levels of shared parenting but increases rapidly as the level of shared parenting increases. This is intuitively appealing as logic suggests that the duplicated expenses become significant only as the level of shared parenting rises into the 30-50 percent range.

Comparing Florida's Current Adjustment with Michigan's Cubic Formula

In this section we compare the payments of five different families with incomes based on the quintiles we used in Chapters 2 and 3. It is assumed that the obligor parent earns 60 percent of the income and the obligee 40 percent of the income. We investigate the case of one child to see what the adjustments would be for each of the two different approaches. [83]

Table 6-2 shows the mid-point of each income quintile and the monthly support obligation using the current child support guidelines. The obligor parent's share of the cost is shown in the last column.

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[82]http://courts.mi.gov/Administration/SCAO/Resources/Documents/Publications/Manuals/focb/2013MCSF.pdf. Note that we have altered the notation slightly from the original.
[83] We also investigated the case of two children with very similar effects.

	Table 6-2 Sample Family with One Child		
Quintile	Family Net Income	Basic Obligation	Obligor's Share of Basic Obligation
1	$2,593	$565	$339
2	$4,507	$917	$550
3	$6,427	$1,162	$698
4	$8,588	$1,336	$802
5	$12,695	$1,571	$943

Figure 6-1 illustrates how the adjustment for visitation or shared parenting varies with the share of time spent with the obligor parent. The figure is based on the data for the third income quintile. Only the height of the curves differs for each of the other quintiles; the shape of each curve is the same across all five quintiles.

Figure 6-1
Child Support Payments for the Third Income Quintile
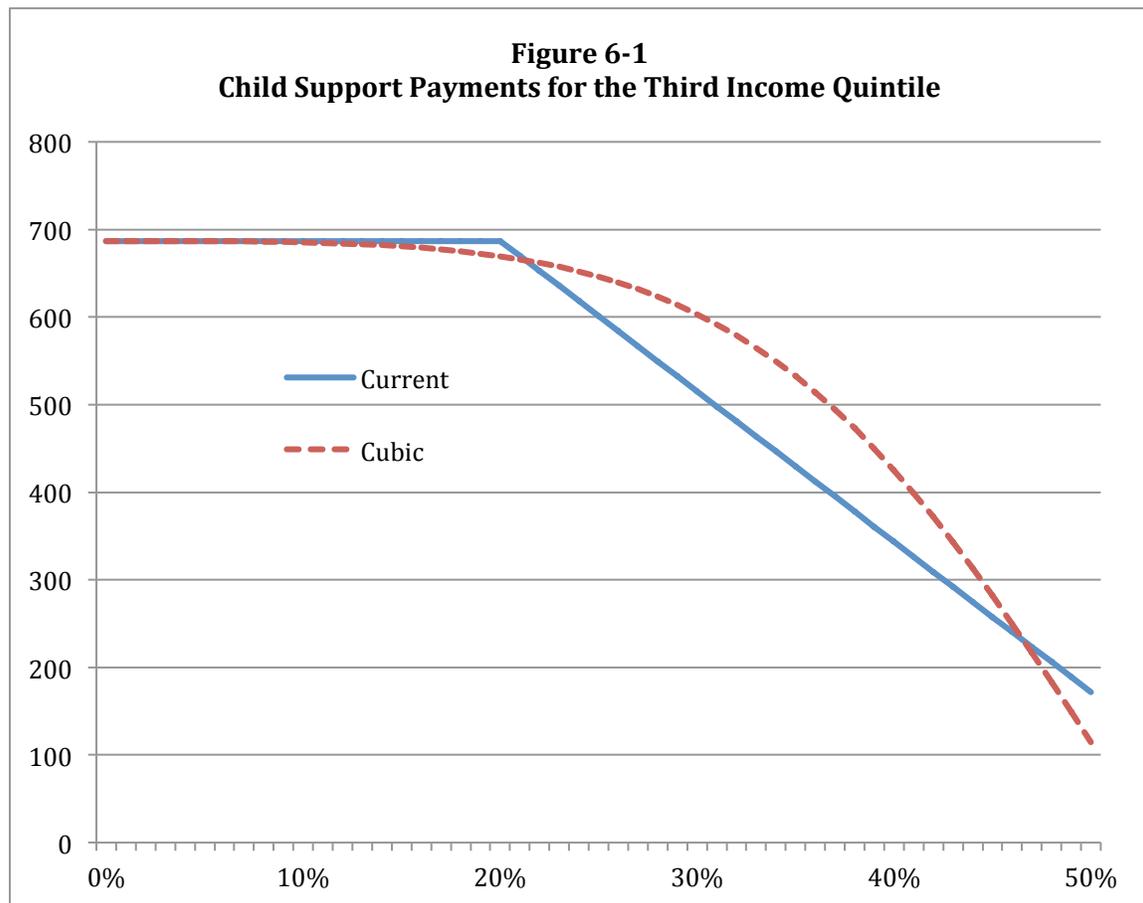
With the cubic formula, the shared parenting adjustment increases and the obligor parent's support payment decreases smoothly and continuously as the share of time spent with that parent increases. The decrease in the support payment is very gradual at low levels of shared

parenting, but increases rapidly at higher levels as duplicated costs are likely to become significant.

As we have noted above, the adjustment in the current Florida guidelines differs from the Michigan formula because with Florida's guidelines there is a 20 percent threshold below which no adjustment is made but then a steep reduction after the threshold is reached. The cubic adjustment avoids the discontinuity or "cliff effect" that occurs at Florida's 20 percent threshold.[84] Beyond the 20 percent threshold, the shared parenting adjustment increases more rapidly with the current Florida guidelines up to about 35 percent but more rapidly with the Michigan cubic formula beyond 35 percent. Thus, the Michigan cubic formula better reflects our conjecture that duplicated expenses become more significant as the shared parenting rises into the 30-50 percent range.

Actual visitation arrangements are not as smooth and continuous as Figure 6-1 might suggest, so we examine some actual visitation arrangements based on the timesharing guidelines of the Seventh Judicial Court of Florida[85]. The Seventh Circuit's guidelines provide minimum visitation rights for an obligor parent, which we take as a "baseline schedule" for the analysis that follows.

The baseline allows the obligor parent to have the child every other weekend plus one evening (but not overnight) per week, half of the Christmas school break, and six weeks of summer vacation time. In odd-numbered years, it also includes Easter weekend, Spring Break, and Thanksgiving. The result is 52 vacation days and 52 weekend days in odd-numbered years and 36 vacation days and 47 weekend days in even-numbered years. Converting to percentages and averaging, the baseline is equivalent to about 26 percent shared parenting time.

Figures 6-2 through 6-6 compare the current Florida guidelines adjustment for shared parenting with the Michigan cubic formula for a representative family in each income quintile for four different shared parenting arrangements. Only the one child case is considered here, but the results are similar for higher numbers of children.

We consider the following four shared parenting arrangements:

Case 1: Baseline with Only One Week of Summer Vacation

This case illustrates shared parenting less than the Seventh Circuit's baseline by reducing the summer vacation allowance from six weeks to one week. This is equivalent to a reduction in shared parenting from 26 percent to 19 percent. Because this is below the 20 percent threshold in Florida's current guidelines, there is no shared parenting adjustment. For example, in the case of a family at the mid-point of the quintile, the obligor parent would pay $698.

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[84] The cliff effect is not unique to the twenty percent threshold but arises wherever there is a threshold. As we have shown in previous reviews, an important disadvantage of the cliff effect is that it is a potential source of conflict between custodial and non-custodial parents. Because there is a significant reduction in the support payment as soon as the threshold is reached, the non-custodial parent has an incentive to argue for a shared parenting percentage above the threshold and the custodial parent for a percentage below the threshold. In the last few years, the threshold in the Florida guidelines has been reduced from 40 percent to 20 percent. While this reduces the adverse effects of the threshold, it does not eliminate them.
[85] Seventh Judicial Circuit Court of Florida, *Timesharing Schedules/Guidelines,*
http://www.circuit7.org/Administrative%20Orders/family/FM-2010-041-SC-attach.pdf

Case 2: Baseline

The baseline schedule with shared parenting equal to approximately 26 percent reduces the monthly payment for the obligor. Comparing the first three cases shows that one week of summer vacation leaves the shared parenting below the 20 percent threshold, resulting in no adjustment to the child support payment under current Florida guidelines, but two or three weeks raises the percentage above the threshold and reduces the child support payment. In the case of the third quintile family from Table 6-2, the payment would shrink to $593, a reduction of $105 a month.

Case 3: Baseline Plus One Extra Day A Week

Adding one day per non-holiday week to the time the child spends with the obligor parent raises shared parenting to 38 percent and further reduces the child support payment of the third quintile obligor to $384.

Case 4: Shared Custody

The final case assumes that each parent cares for the child exactly 50 percent of the time. Because the non-custodial parent's income is greater than 50 percent of the combined income, this case still results in the obligor parent paying child support to the other parent in the amount of $174.

The pattern in each income quintile is the same as shown in Figure 6-1. For the lowest level of shared parenting, 19 percent, the current Florida guidelines provide no shared parenting adjustment while the Michigan cubic formula would provide a very modest adjustment. Once the threshold is exceeded, the current Florida guidelines provide an adjustment that increases relatively more rapidly than the adjustment under the Michigan cubic formula. For the baseline schedule, the difference in the adjustment is $27.37 monthly for the lowest income quintile and rises to $76.12 monthly for the highest income quintile. However, as shared parenting approaches 50 percent, the adjustment under the Michigan cubic formula once again becomes larger than the adjustment under the current Florida guidelines, so that the child support payment at exactly 50 percent is lower with the cubic formula than with the current Florida guidelines.
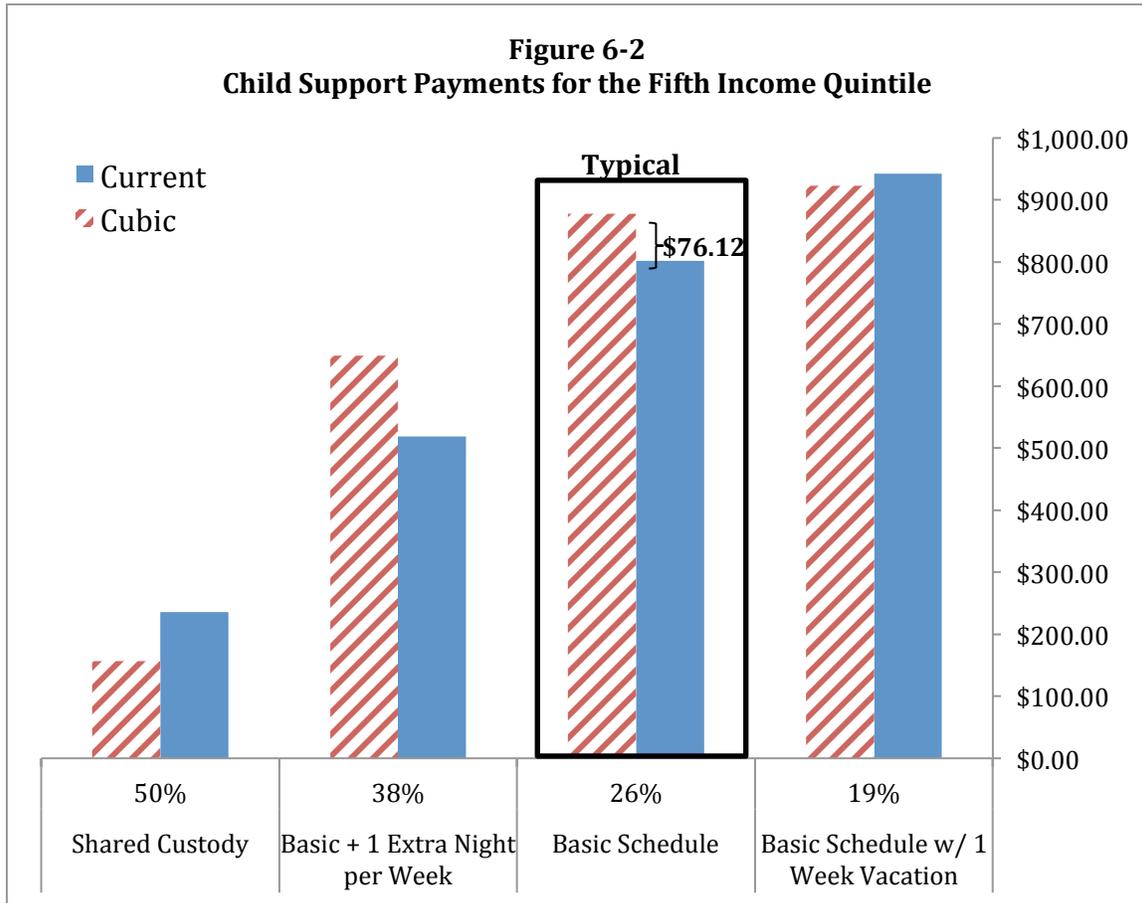
**Figure 6-2
Child Support Payments for the Fifth Income Quintile**

Figure 6-3
Child Support Payments for the Fourth Income Quintile

Figure 6-4
Child Support Payments for the Third Income Quintile

Figure 6-5
Child Support Payments for the Second Income Quintile

Figure 6-6
Child Support Payments for the First Income Quintile
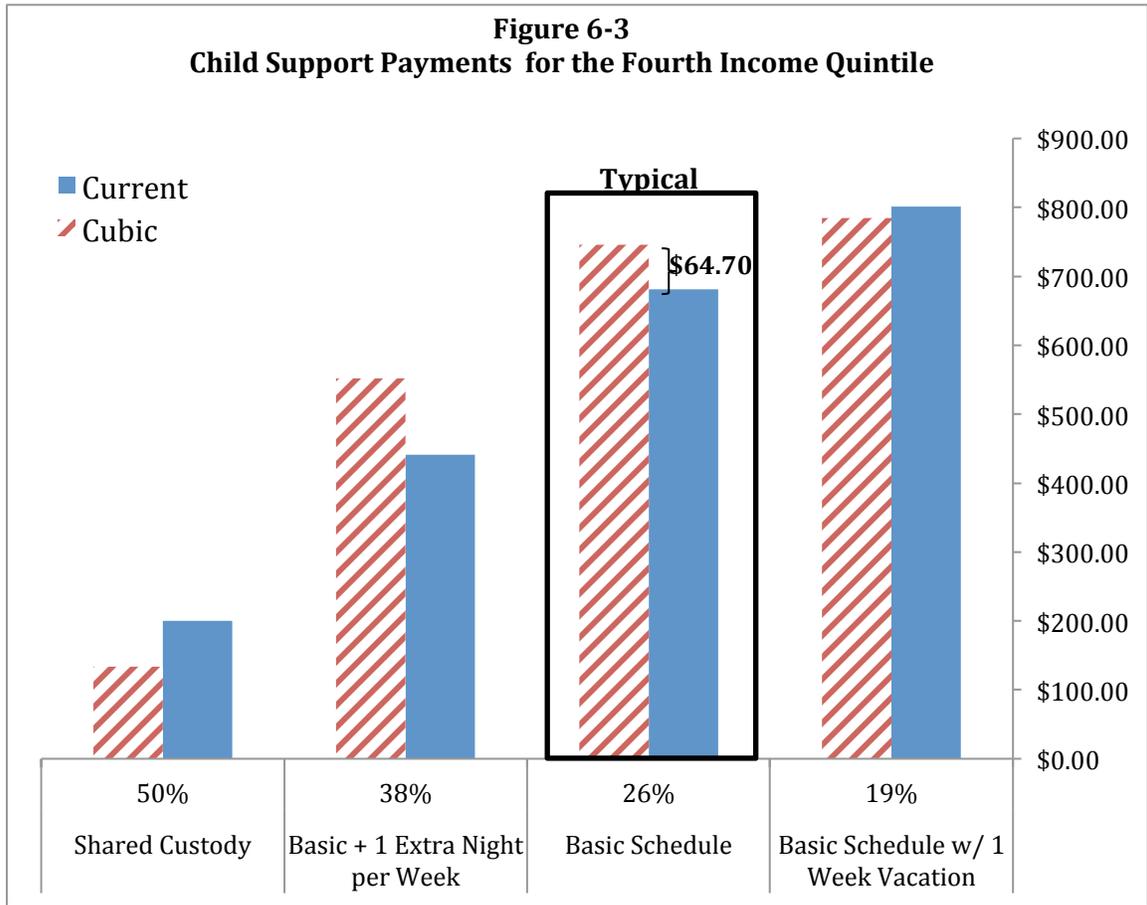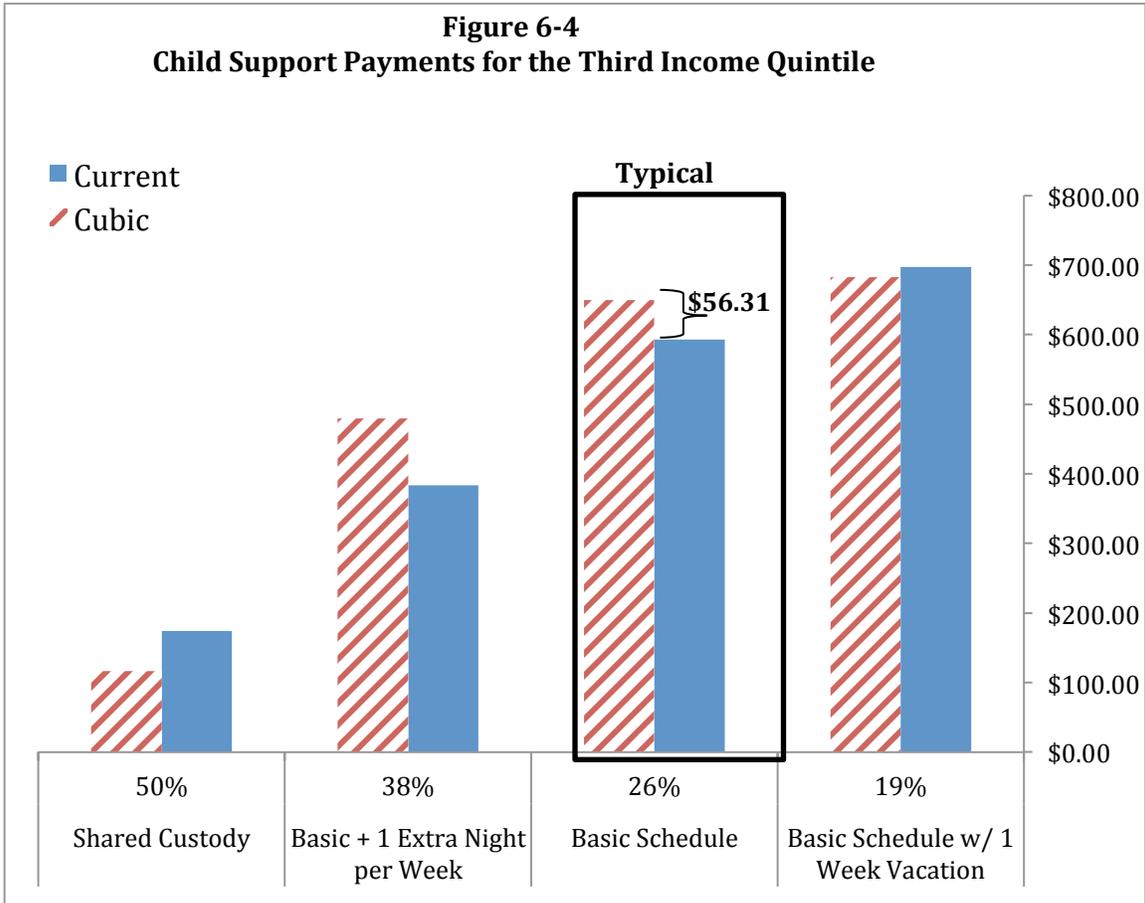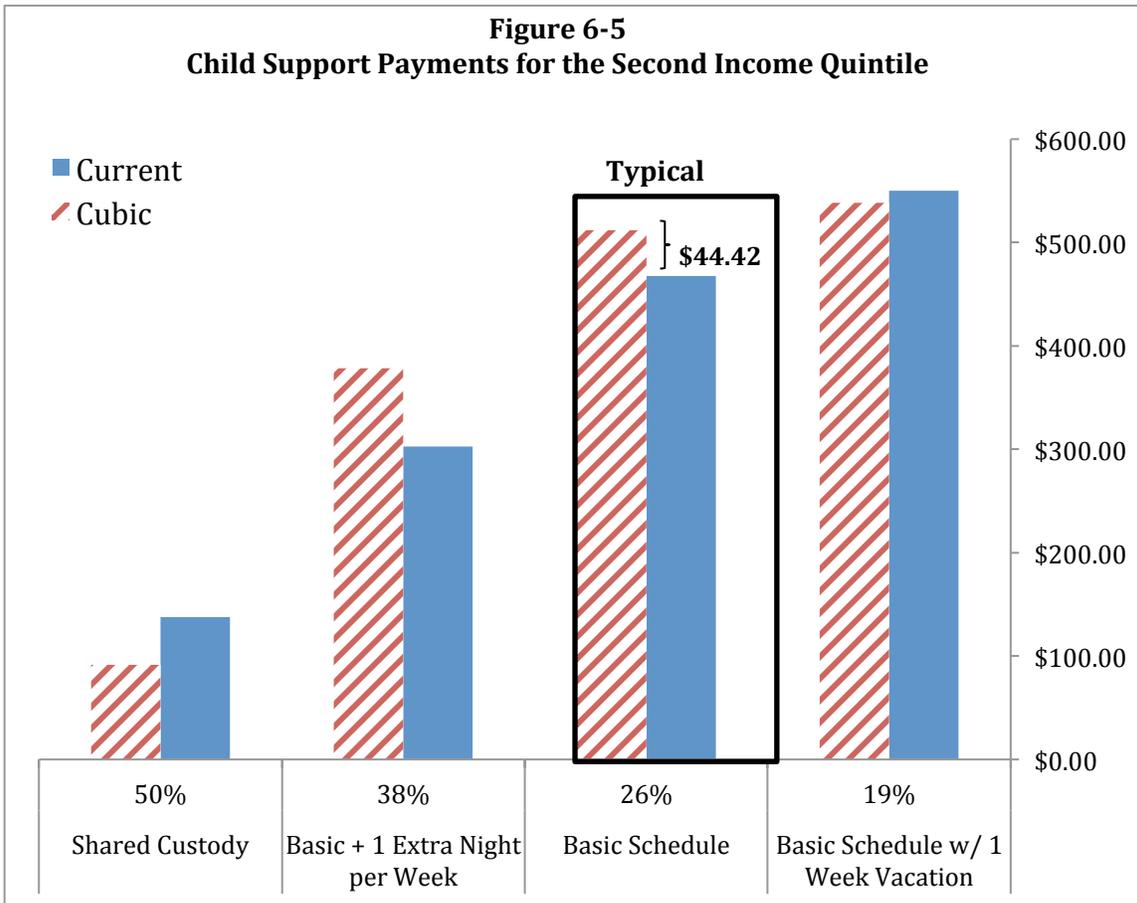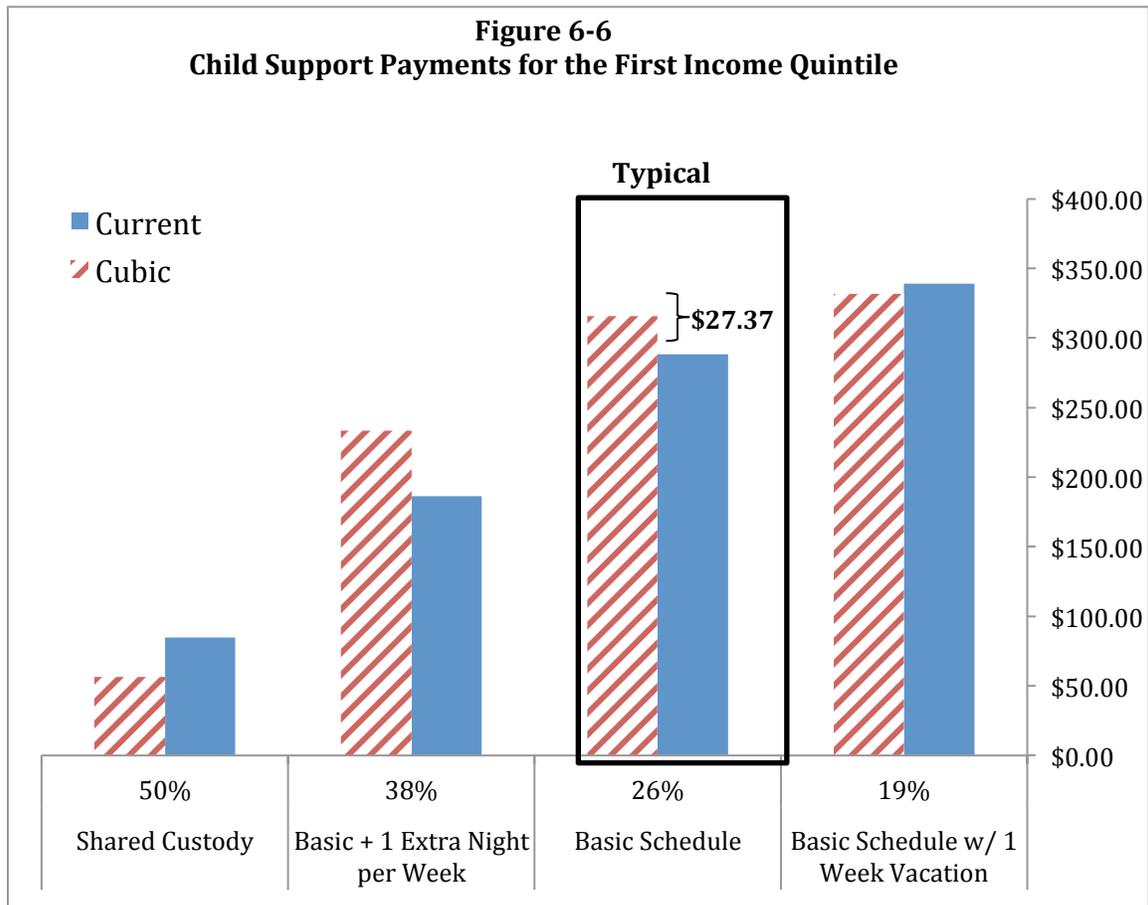
Including the Michigan Cubic Formula in the Florida Guidelines Worksheets

The current Florida guidelines reflect the conjecture that the costs of shared parenting increase as the amount of time spent with each parent becomes more equal, that is, as the shared parenting percentage increases. But the Florida guidelines imply that there are no significant costs to the obligor parent unless the child spends at least 20 percent of time with that parent. The guidelines also imply that above 20 percent the costs to the obligor parent increase linearly. The Michigan cubic formula implies that there are additional costs at all levels of shared parenting. Those costs increase only slightly at lower levels of shared parenting, but they increase much more rapidly as shared parenting reaches or exceeds about 35 percent, presumably reflecting the growing importance of duplicated costs.

Should Florida choose to follow Michigan's lead and adopt a cubic formula similar to that in Michigan, Appendix 6-3 presents a modified worksheet that includes the cubic formula.. For comparison, Appendix 6-2 shows the current worksheet.[86] In Appendix 6-3, we have used the first quintile to show how the modified schedule works. Incorporating a cubic formula makes the worksheet more complex. But if the schedule were computerized, then with only a few entries,

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[86] Florida Family Law Rules of Procedure Form 12.902(e), Child Support Guidelines Worksheet (09/12)

the computer routine would compute the adjustment automatically. However, completing the worksheet by hand is more difficult as the formula is not nearly as transparent as the current one.

Recommendations

An appropriate adjustment of the child support payment for shared parenting recognizes the duplicate expenses of maintaining two separate living accommodations and the cost shifting that occurs when the child spends time with the obligor parent. At the very least, an appropriate adjustment reduces the likelihood that the additional financial burden of shared parenting will deter parents from adopting such arrangements. Ideally, an appropriate adjustment should encourage greater use of shared parenting.

The fixed multiplier of 1.5 in the current Florida guidelines is tantamount to assuming that duplicated expenses are lumpy and are independent of the amount of parenting time, at least above the threshold. In fact, the 1.5 multiplier is not based on any established economic research. A more reasonable assumption is that the amount of duplicated expenses depends on the extent of shared parenting. Duplicated expenses are likely to reach a maximum when both parents have the child for the same percentage of time. Duplicated expenses are more likely to decrease as the amount of shared parenting time becomes less equal, and we conjecture that the Michigan cubic formula better reflects the actual pattern of duplicated expenses than any fixed multiplier.

In our previous reviews, we have consistently recommended that the child support payment be adjusted for all levels of shared parenting; that is, we have recommended a smooth and continuous adjustment beginning at minimal levels of shared parenting rather than the current threshold approach. We have also recommended the adoption of a variable multiplier in place of the current fixed multiplier. A variable multiplier would be approximately equivalent to the Michigan cubic formula. These continue to be our recommendations with respect to the treatment of shared parenting.

Appendix 6-1

Seventh Judicial Circuit of Florida
Timesharing Schedules/Guidelines

INTRODUCTION

The attached schedules/guidelines are not mandatory. It is not intended that they be applied universally without considering such practical issues as parents' work schedules. Parents are encouraged to develop timesharing schedules that best meet the needs of their children and themselves. Individually fashioned timesharing schedules are preferred.

CONSIDERATIONS FOR DEVELOPING
YOUR TIMESHARING SCHEDULE

Carefully consider the following factors when making decisions about timesharing:

MINIMIZE LOSS - Children experience divorce as a series of significant losses. What adults view as changes, children perceive as sad, frightening events. To children, divorce means losing home, family life, loving parents who care about each other, pets, financial security, relationships with extended family, familiar schools, sports activities, and the daily schedule. Children often feel abandoned and uprooted. The disruptive effect of divorce on their lives can have profound consequences for children as they reach adulthood. Help lessen your children's pain by eliminating as many changes and losses as possible.

MAXIMIZE RELATIONSHIPS - Encourage the continuation of all healthy relationships that existed between your children and others before the divorce. Children are most likely to keep their feeling of family when they continue to have pleasant, free access to both parents and extended family. Your children's identities depend on their feeling that they belong to both families. This requires that they spend time with both sides of the family. If your children lose part of their family, their sense of identity can be distorted. Appreciate the involvement of extended family in your children's lives. Encourage and support the other parent in accepting an active role in your children's lives. Share responsibilities (laundry, transportation, doctor visits, teacher conferences, etc.) and joyous occasions (holidays, birthday parties, movies, sports outings, trips, etc.). Respect the basic nature or temperament of your children as well as the temperamental match or fit between them and each parent. Consider the match of each parent's interests and your children's activities. Provide as much direct contact and positive involvement as possible between your children and each parent. When parents remain in the same geographical location, relationships are more likely to be maximized.

SECURITY - Children are likely to feel protected from losses when allowed to remain in the safety, consistency and support of familiar environments. They feel secure when they have positive time with both parents, the familiarity of established family rules, as well as the continuity of previously established religious, school and related activities. Your children will do best if both parents live in close proximity, especially if you share the same school district. Your children can then have the reassurance of familiar after school friends at both parents' homes. Your children will feel safest if each parent can be responsible for part of their after school care. Talk with the other parent about ways to build certainty, structure and stability in your children's lives.

LEVEL OF CONFLICT - Scientific research indicates that children who see their parents in conflict suffer both short and long-term effects. Raised voices, arguing, hateful remarks, and physical altercations are not suitable for children's viewing. Children are also harmed when they hear one parent say bad things about the other parent. If one parent directly or indirectly creates a negative image of the other parent, the children's own self-images may be damaged. Your children will feel as good about themselves as they do about each parent. Think before you speak. Ask yourself: "Is this the kind of conduct I want my children to mimic in their relationships later in life? Is this the kind of example I want to set for my children?"

RECOGNIZE CHANGES IN CIRCUMSTANCES – Changes in children's developmental stages will likely require changes in parenting arrangements. Keep in mind that timesharing schedules are experimental. It will take time, as well as non-defensive discussion between parents, to decide what is best for your family. When you think you have devised the best plan for your family, expect to renegotiate and alter the plan based on developmental changes in your children. The "best plan" will depend on a number of factors, such as the number of children in your family, and their ages and genders. Tailor your plans to reflect your children's developmental needs and individual requirements. Expect that as your children get older, you will need to be more flexible.

SCHEDULES

Remember that the following schedules/guidelines (noted as "Local", "Long Distance" and "Rotating - Timesharing") should be tailored to your family's particular needs. Please review all of them before developing your own plan.

TIMESHARING SCHEDULES/GUIDELINES

(LOCAL)

Children have the right to spend substantial time with both parents. Each parent will exercise good faith and consent to all reasonable requests by the other parent. The residential parent is expected to provide access to the children at unscheduled times, if requested, and if by doing so does not unreasonably disrupt prior planned activities of the children or the residential parent. Therefore, not as a limitation, but as an extension of the foregoing, the **non-residential** parent is entitled to the following minimum timesharing rights with the children.

       (1)   One evening per week from immediately after school/work through 8:30 p.m. If the parents cannot agree upon the day, then it will be Wednesday.

       (2)   Every other weekend, commencing on Friday, after school/work through Sunday at 6:00 p.m. If the non-residential parent's regular weekend fall on a three-day weekend that is observed by both the non-residential parent and the children's schools, and the weekend is a holiday or special occasion not otherwise expressly provided for below, the non-residential parent will be entitled to the three day weekend.

       (3)   Easter weekend, Independence Day (from 9:00 a.m. July 4th through 9:00 a.m. July 5th, unless July 4th falls on a Friday or Monday, in which case it will be considered a 3-day weekend), and Thanksgiving weekend (from immediately after school/work Wednesday through 6:00 p.m. Sunday), in odd numbered years.

       (4)   School spring break from immediately after school/work the day school lets out through 6:00 p.m. the day before school resumes, in odd numbered years.

       (5)   The children will spend Father's Day weekend and the father's birthday with the father and Mother's Day weekend and the mother's birthday with the mother.

       (6)   Birthdays of the children, in even numbered years.

       (7)   Christmas season, from immediately after school/work the day school lets out through December 25th at 1:00 p.m., in even numbered years. In odd numbered years, from December 25th at 1:00 p.m. through 6:00 p.m. the day before school resumes.

       (8)   Two-day weekends provided for above are defined as after school/work on Friday through 6:00 p.m. on Sunday. Three-day weekends are defined as after school/work the day before the weekend (Thursday or Friday) through 6:00 p.m. the last day of the weekend (Sunday or Monday). Although several of the above timesharing provisions are related to "school", the non-residential parent shall have comparable timesharing with pre-school children.

(9)   Holidays and special occasions delineated in sections (3) through (7) above have priority over regular weekday and weekend timesharing.

(10)   One-half of summer vacation. If the parents cannot agree upon the dates for such, then the timesharing will commence at 9:00 a.m. on the second Saturday in June and continue for a period of six weeks, however the provisions regarding Father's Day, the children's birthdays, and Independence Day (July 4th) have priority. During such time, the residential parent is entitled to the same weekday and weekend timesharing otherwise provided to the non-residential parent. Notwithstanding, during the summer, each parent is entitled to reasonable, extended, <u>uninterrupted</u>, out-of-town vacation time with the children.

(11)   Both parents should strive to be punctual when transferring the children for timesharing. If circumstances occasionally prevent punctuality, the parents will communicate and cooperate appropriately.

(12)   Parents must give each other at least 24 hours advance notice (or if an emergency occurs, as quickly as possible), if they will be unable to exercise weeknight, weekend, Father's Day, Mother's Day or birthday timesharing. One-week advance cancellation notice is required for Christmas, and one-month advance cancellation notice is required for summer. Cancellation notices as to Christmas and summer timesharing must be in writing.

NOTE: Some of the foregoing provisions may need to be modified if children are enrolled in modified calendar/multi-track school programs. In such instances, timesharing may need to be "tailored" by the parties to be consistent with the intent of these schedules/guidelines.

** Any relocation with children must be in compliance with § 61.13001, Florida Statutes.

Appendix 6-2

Current Florida Shared Parenting Worksheet

CHILD SUPPORT GUIDELINES WORKSHEET			
	A. FATHER	**B**. MOTHER	TOTAL
1. Present Net Monthly Income Enter the amount from line 27, Section I of Florida Family Law Rules of Procedure Form 12.902(b) or (c), Financial Affidavit.			
2. Basic Monthly Obligation There is (are) *{number}*_____ minor child(ren) common to the parties. Using the total amount from line 1, enter the appropriate amount from the child support guidelines chart.	▨	▨	
3. Percent of Financial Responsibility Divide the amount on line 1A by the total amount on line 1 to get Father's percentage of financial responsibility. Enter answer on line 3A. Divide the amount on line 1B by the total amount on line 1 to get Mother's percentage of financial responsibility. Enter answer on line 3B.	%	%	▨
4. Share of Basic Monthly Obligation Multiply the number on line 2 by the percentage on line 3A to get Father's share of basic obligation. Enter answer on line 4A. Multiply the number on line 2 by the percentage on line 3B to get Mother's share of basic obligation. Enter answer on line 4B.			▨
Additional Support — Health Insurance, Child Care & Other			
5. a. 100% of Monthly Child Care Costs [Child care costs should not exceed the level required to provide quality care from a licensed source. See section 61.30(7), Florida Statutes, for more information.]	▨	▨	
b. Total Monthly Child(ren)'s Health Insurance Cost [This is only amounts actually paid for health insurance on the child(ren).]	▨	▨	

CHILD SUPPORT GUIDELINES WORKSHEET			
	A. FATHER	**B.** MOTHER	TOTAL
c. Total Monthly Child(ren)'s Noncovered Medical, Dental and Prescription Medication Costs			
d. Total Monthly Child Care & Health Costs [Add lines 5a + 5b +5c].			
6. Additional Support Payments Multiply the number on line 5d by the percentage on line 3A to determine the Father's share. Enter answer on line 6A. Multiply the number on line 5d by the percentage on line 3B to determine the Mother's share. Enter answer on line 6B.			
Statutory Adjustments/Credits			
7. **a.** Monthly child care payments actually made			
b. Monthly health insurance payments actually made			
c. Other payments/credits actually made for any noncovered medical, dental and prescription medication expenses of the child(ren) not ordered to be separately paid on a percentage basis. (See section 61.30 (8), Florida Statutes)			
8. Total Support Payments actually made (Add 7a though 7c)			
9. **MINIMUM CHILD SUPPORT OBLIGATION FOR EACH PARENT** [Line 4 plus line 6; minus line 8]			
Substantial Time-Sharing (GROSS UP METHOD) If each parent exercises time-sharing at least 20 percent of the overnights in the year (73 overnights in the year), complete Nos. 10 through 21			
	A. FATHER	**B.** MOTHER	TOTAL
10. Basic Monthly Obligation x 150% [Multiply line 2 by 1.5]			

Shared Parenting in the Child Support Guidelines

CHILD SUPPORT GUIDELINES WORKSHEET			
	A. FATHER	**B**. MOTHER	TOTAL
11. Increased Basic Obligation for each parent. Multiply the number on line 10 by the percentage on line 3A to determine the Father's share. Enter answer on line 11A. Multiply the number on line 10 by the percentage on line 3B to determine the Mother's share. Enter answer on line 11B.			
12. Percentage of overnight stays with each parent. The child(ren) spend(s) _____overnight stays with the Father each year. Using the number on the above line, multiply it by 100 and divide by 365. Enter this number on line 12A. The child(ren) spend(s) _____ overnight stays with the Mother each year. Using the number on the above line, multiply it by 100 and divide by 365. Enter this number on line 12B.	%	%	
13. Parent's support multiplied by other Parent's percentage of overnights. [Multiply line 11A by line 12B. Enter this number in 13A. Multiply line 11B by line 12A. Enter this number in 13B.]			
Additional Support — Health Insurance, Child Care & Other			
14. a. Total Monthly Child Care Costs [Child care costs should not exceed the level required to provide quality care from a licensed source. See section 61.30(7), Florida Statutes, for more information.]			
b. Total Monthly Child(ren)'s Health Insurance Cost [This is only amounts actually paid for health insurance on the child(ren).]			
c. Total Monthly Child(ren)'s Noncovered Medical, Dental and Prescription Medication Costs.			
d. Total Monthly Child Care & Health Costs [Add lines 14a + 14b + 14c.]			

Appendix 6-3
Child Support Guidelines Worksheet with Cubic Formula