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***New Equations for
Calculating Child Support and Spousal Maintenance
With Discussion on Child Support Guidelines***

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Abstract

Child support formulae used in all states provide a rigid mathematical approach for calculating awards. But, do these formulae provide a hidden margin of spousal maintenance? A new equation for distinguishing between child support and spousal maintenance is presented in this paper. Analysis shows that there are natural limits to the effectiveness of child support transfer payments for improving the economic well-being of children. This is an important breakthrough for those who design and evaluate child support guidelines, for attorneys engaged in family law, and in discussion of child support as part of welfare reform. Adjustment to the theoretical upper limit to account for individual circumstances and a theoretical lower limit are also discussed. Application of the equal duty principle leads to the conclusion that the adjusted upper limit is the award level that is just and appropriate. Higher or lower awards result in disproportionate sharing of the financial cost of raising children. Additional equations are given for calculating child support and spousal maintenance to reach a standard of living target for an entire household.

Table of Contents

Introduction	2
“Ability to Pay” verses Income.....	7
Conceptual Approach: Iterative Solution.....	9
Simplifying the Mathematics: The Exact Equation	10
Differentiating Child Support and Spousal Maintenance	12
Adjusting for Changes in “ <i>ChildsPart</i> ”	13
Poverty and Welfare	14
Adjusted Limits	15
Minimum Child Support.....	17
Accounting for Fixed Expenses.....	18
Updating Child Support Awards	19
Awards that are “Just and Appropriate”	19
Evaluating Child Support Guidelines	21
Simplifying Child Support Guidelines.....	22
Promoting Investment in Children	23
Gender-related Inequality	25
Spousal Maintenance Awards.....	25
Discussion.....	27
Conclusion	29

Acknowledgments30

Introduction

Although the prohibition against spousal maintenance in a child support award is well established, methods for distinguishing between the two are not. Prior to the Family Support Act of 1988, all states awarded child support in order to assist a custodial parent in providing for the cost of raising children while in her or his care. Case law emerged developing explicit prohibition against spousal maintenance as part of a child support award. In Oregon, for example, the Supreme Court wrote that “the money is for the support and welfare of the children, not for the enrichment of the custodial parent.”¹ Child support guideline advisory committees have also recognized the prohibition against the inclusion of spousal maintenance on other grounds. In its 1986 report to the legislature, the Washington State Child Support Guideline committee acknowledged that using child support to equalize income between households was illegal, because spousal maintenance could be awarded separately when appropriate.

Child support guideline developers have had no objective technique for placing upper limits on award standards. It has recently become fashionable to assume that higher child support awards would result in more spending on children, and therefore any amount would qualify. According to initial estimates, using new child support award formula would increase child support awards nation-wide by 250-350 percent.² Legal commentators have criticized the “more is better” philosophy,³ and it has caused much frustration among payers. But, neither proponents nor opponents have had a scientific method of showing how much of a calculated award is legally definable as child support.⁴

Another rule of traditional child support law is that to a practical extent, children should be shielded from the reduction in standard of living that usually accompanies divorce.⁵ The theory presented in this paper is based on the fact that payment of child support adds income to the custodial parent household.

¹ In re Marriage of Hering, 84 Or App 360, 733 P2d 956 (1987).

² 250%: Robert G. Williams, *Development of Guidelines for Child Support Orders: Final Report*, U.S. Department of Health and Human Services, Office of Child Support Enforcement, March 1987. The Amendments required the Department of Health and Human Services to provide technical assistance to states. (page II-32). 350%: Ronald Haskins, Andrew W. Dobelstein, John S. Akin, and J. Brad Schwartz, *Estimates of National Child Support Collections Potential and the Income Security of Female-Headed Families*, Final Report, Office of Child Support Enforcement, April 1, 1985.

³ Ronald K. Henry, 1990, "Litigating the Validity of Support Guidelines," *The Matrimonial Strategist*, Volume VII, No. 12, January, 1990.

⁴ In *Fitzgerald v. Fitzgerald*, 566 A 2d 719 (D.C. App. 1989), judges noted that litigants who questioned the results of formula had to do so without having and definition for “just” and “appropriate”. Robert W. Braid, *The Making of a Deadbeat Dad*, Trial Lawyer, March 1993. Mr. Braid noted that there was no legal definition for “child support” in New Jersey. Conversations with attorneys in several states and with the Office of Child Support Enforcement have not revealed a single state with a definition for “child support” that does not depend directly on guideline formulae for its interpretation.

⁵ In the Marriage of Smith, Or 626 P2d 342 (1981).

Therefore, custodial parents receiving child support will potentially spend a significantly higher amount on children than the marginal rate they would spend on their own. There is a natural limit to this effect, which is found by calculating the maximum standard of living increase that can be obtained from child support payments alone. Therefore, the theory presented in this paper will sometimes be referred to as the *limit theory* of child support. In the section entitled; “Adjusted Limits,” variations based on the resulting model are discussed. The calculation for the amount of spousal maintenance contained in a child support award that is above the limit is explained in the section entitled; “Differentiating Child Support and Spousal Maintenance.”

The initial question that led to the model presented in this paper was; How much spousal maintenance is contained in child support awards determined by current child support models. To answer that question required the development of a mathematical definition for child support and alimony based on traditional doctrine. It is necessary to use traditional doctrine for basic definitions because state legislatures have not provided new definitions for “child support” and “spousal maintenance” to correspond with application of the current generation of child support guidelines. Rigid application of guidelines has replaced fundamental definitions, leaving judges and litigants without guiding principles to determine whether calculated amounts are just and appropriate.

An analytic preoccupation in the guideline debate has been whether to use single-parent or intact family data as a basis for determining the “cost” of children. The issue is of serious concern. Estimates of both range widely and there is no real scientific or political consensus. The author of the first major report on development of child support guidelines to be published in compliance with the Child Support Enforcement Amendments of 1984 chose the highest estimates of intact family spending available at the time.⁶ That choice had an enormous impact on the current generation of child support guidelines.

The great majority of guidelines currently in use have applied the Income-Shares or Percentage-of-Income formulae. Both approaches rely heavily on economic “cost of raising children” studies as the fundamental basis and justification for their design. Yet it is the weakest point in our collective knowledge of the child support issue. A report on an early 1980s proposal for the Washington State child support guidelines, written for the Washington State Judges Association said the following.⁷

⁶ Robert G. Williams, *Development of Guidelines for Child Support Orders: Final Report*, U.S. Department of Health and Human Services, Office of Child Support Enforcement, March 1987. The Amendments required the Department of Health and Human Services to provide technical assistance to states. (page II-32).

⁷ William Hewitt, 1982, Report on the Washington State Association of Superior Court Judges, *Uniform Child Support Guidelines*, Institute for Court Management, Court Executive Development Program.

. . . a simple methodology which explicitly relies on "user opinion" will be more effective in moving practices more uniformly toward a fair standard than does reliance on opaque and highly derivative expert interpretations of existing but fundamentally off-target primary economic data.

The techniques used to derive the "cost of raising children" underlying most child support guidelines today are not new. Complaints have appeared regularly. University of Chicago economists, Edward Lazear and Robert Michael have argued that the task of predicting consumption by individual members of households is extremely difficult due to wide variation in spending behavior. They also had this to say about the underlying methodology of many "cost of raising children" studies and their application in public policy.⁸

. . . the presumption that underlies the focus of much of the empirical research and policy debate on income distribution seems born of ignorance and is supported by neither theory nor fact. This situation can be improved.

The fraction of household expenditure that is actually used to support children is a hotly debated topic. Estimates of spending on children in intact families range from under 10 to over 30 percent for one child.⁹ Less work has been done on estimates of spending on children by single parents.¹⁰ Assuming research on spending in single-parent homes improves, future numeric estimates and techniques can be used to refine the numeric tables used in standard child support calculations and in bettering our understanding of what individual parents actually spend on their children.

The distinction between child support and spousal maintenance is one of the important questions of concern in this paper. It is naturally of interest to differentiate between income used to support children and other household income during the time that child support is being paid. Therefore, it is necessary to consider custodial parents' post-divorce spending on children. Only minor attention will be paid to intact family spending in this paper, when the economics of remarriage is considered.

⁸ Edward P. Lazear and Robert T. Michael, *Allocation of Income Within the Household*, University of Chicago Press, 1988, page 25

⁹ David M. Betson, *Alternative Estimates of the Cost of Raising Children from the 1980-86 Consumer Expenditure Survey*, U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, September 1990; or Lewin/ICF, *Estimates of Expenditures on Children and Child Support Guidelines*, U.S. Department of Health and Human Services, Office of Child Support Enforcement, October 1990; For a summary of his results, see Lewin/ICF, *Estimates of Expenditures on Children and Child Support Guidelines*, U.S. Department of Health and Human Services, Office of Child Support Enforcement, October 1990, table 4.5, page 4-19.

¹⁰ here has been some. See Lino, Mark, *Expenditures on a Child by Families*, 1993 Technical Report, Family Economics Research Group, Family Economics Review.

Some commentators have thought it important to distinguish between the “cost” of raising children and what is “spent” on children. Economists and others might find this an interesting starting point for defining child support since there is a basic distinction between the meaning of the two terms. It should be clear however, that the common distinction is not applicable in child support decisions. Parents are both the producers and consumers. What they spend on their children is equal to their cost. To apply the academic definitions of “cost” and “spending” would require that one parent be designated for each role and adding a profit margin. This would violate the equal duty principle.

What legal experts have meant, can be easily explained by example. If a custodial parent spends \$80 for tennis shoes, the non-custodial parent may complain that tennis shoes can be purchased for \$25. The lowest price is what has been referred to as the “cost” of tennis shoes. If we consider the total cost of raising children instead of just tennis shoes, we can say that part of the judges job was to answer the questions whether the cost is too low or what is actually spent is too high. While the non-custodial parent might be quoting prices of goods that are cheaper than those the family would normally purchase, the custodial parent might make temporary adjustments to her spending habits in an effort to obtain a higher award. The problem of discovering what is “reasonable” gave rise to the use of standard tables to avoid the complexity of working this question out, item by item, case by case. Judges wanted to know what “normal” is.

But the question of cost does not encompass the entire question of child support. Although it may seem reasonable to divide the cost between the two parents, new questions arise from the existence of two households supporting the children of separated parents. How much of the second parent’s income is used directly in the support of their children? And there is the tricky question of providing a standard of living commensurate with the parents’ income. There are special circumstances in which expenses such as medical bills or transportation involved in visitation are much higher than normal. Some parents are remarried, some are not. In other words, whenever “normal” is defined, the first consequent is to discover that many families do not fit the definition. It is probably true that most cases require application of fundamental principles and deviations from “normal” child support models to determine an award that is just and appropriate.

Robert W. Braid, an accounting, finance and economics professor, performed a detailed cost analysis in his own case in New Jersey.¹¹ Based on a comprehensive cost and cash flow analysis, he calculated that he should pay approximately \$180 per month to the mother in addition to sharing the direct costs of education for one child in college. Based on the established New Jersey formula, he was ordered to pay \$903 per month, plus half his daughter’s college expenses. Mr. Braid found that the judges decision implied that it “must cost

¹¹ Robert W. Braid, *The Making of a Deadbeat Dad*, Trial Lawyer, March 1993.

\$21,672 a year in after tax money to support one child at home full-time (excluding any medical expense and any money the father spends on vacations, entertainment and hobbies with the boy), and one child spending about 25% of her time at home and the rest in college.”

States have displaced their traditional child support definitions with references to the application of child support formulae. Mr. Braid found no legal definition for child support, and therefore had to rely on his own educated view. His definition had no legal standing. Therefore, he was unable to advance any argument that would impact the judges decision to use the established formula without deviation. In Washington, the legal purpose of making a child support award is to increase the amount awarded.¹² No state has been able to show correspondence between a clear and detailed basic definition of “child support” and the formula they use to make an award.¹³

In this paper, two mathematical approaches are used to derive an equation for the limit between child support and spousal maintenance. To promote understanding among the widest possible audience, examples are often used either instead of or along with abstract mathematics. Adjustments for individual circumstances are also discussed. Once the equations for the upper limit have been derived, they can be used to investigate the effect of awards that are below this limit. In the section entitled “Awards that are ‘Just and Appropriate” it is shown that awards that are higher or lower than the adjusted upper limit violate the equal duty principle.¹⁴ Therefore, the “adjusted upper limit” is seen as the award level that is just and appropriate.¹⁵

The first is an iterative approach in which each iteration results in a higher standard of living in the custodial parent household. Each time the standard of living is increased, the resulting increase in the custodial parent’s spending on children must again be compensated by a higher child support award. The iterative solution is mathematically cumbersome, but is developed in a way that is easy to understand. The exact equation is much less cumbersome to apply. The term “exact equation” is typically used in mathematics only when there is an alternative iterative approach. The “exact equation” is based on the same theory as its iterative equivalent and provides the same answer. Performing the

¹² P.O.P.S. v. Gardner, Ninth Circuit U.S. Court of Appeals No. 91-36118, D.C. No. CV-90-5344-RJB, P.O.P.S. (Parents Opposed to Punitive Support)

¹³ States often provide a definition that is weaker than traditional statutes and rely directly on their support formula for interpretation. In other words, the meaning of their “definition” is that the formula is used to calculate the award. Requests have been made of the U.S. Office of Child Support Enforcement, and as of the date of this submission, they can provide no evidence that any state has an independent definition or has shown correspondence.

¹⁴ See also Doris Freed and Timothy Walker, “Family Law in the Fifty States: An Overview,” for commentary on the constitutional roots of the “equal duty principle.” *Family Law Quarterly*, Vol. XIX, No. 4 (Winter 1986), pp. 331-442, 411

¹⁵ “Adjusted” upper limit is explained in the section; “Adjusted Limits.”

calculation without iterating makes the process of deriving actual limits on child support much simpler.

Considering the quality of “child cost” estimates, those of intact and single-parent spending are essentially on equal footing. The universal problem of having no common solution to the “cost” question should not cause hesitation to apply the limit theory presented in this paper. The detailed questions that lead to numbers should become focused on customizing the design of an estimating technique specifically in the context of the child support question. In fact, a detailed understanding of the ultimate question is necessary in order to determine the most appropriate cost estimating technique. In addition to its other applications, the limit theory offers contextual information useful for defining the “cost” question in detail. Ultimately, the question we are trying to answer is not; What, on average, do children generally “cost?” The ultimate question is; How much should each child support award be?

“Ability to Pay” verses Income

The equations for finding the limit between child and spousal support will be explained by example in the following two sections. First, we must decide how child support (once it is mathematically defined) should be divided between the parents. Although the form of the limit equation will not be effected by this decision, it will effect the numbers that are used in examples. The most popular method is to divide the total obligation in proportion to the parents’ respective incomes. That is the basis of the Income-Shares model. A more complete model of each parent’s relative ability to pay will be explained and comparisons between the two models will be made throughout the paper. Annual income will be used to calculate the annual limit on child support for a simple case.

A never-married couple living apart has one child. The child has lived continuously with the mother, and for the sake of simplicity, no visitation has ever been exercised and no visitation will be awarded. The child is one year old, and the father has paid no child support. The mother’s personal income has been the only source of financial support for one year. The mother’s net (after tax) income is \$18,000 per year and the father’s is \$25,000 per year. The amount the mother spends on the child is derived from information in her support affidavit as \$3,600 per year, which is 20 percent of her income. The figure has been examined and accepted by both parties and the judge. For comparison, the Income-Shares method is first used to calculate each parent’s share.

$$\text{Father's Share} = \frac{25,000}{25,000 + 18,000} = 0.58$$

$$\text{Mother's Share} = \frac{18,000}{25,000 + 18,000} = 0.42$$

Using the Income-Shares method for allocating child support between these parents, the father's share is 0.58 times \$3,600, or \$2,088.00 per year.

It should not be disregarded, that the phrase "ability to pay" appears in traditional statutes concerned with dividing the child support obligation between parents.¹⁶ Those statutes and their accompanying case law have a much richer intellectual and practical history than do the highly efficient statistical techniques that have replaced them. A more complete model of "ability to pay" would be better.

Several analysts have computed relative ability to pay by subtracting a self-support reserve from each parent's income.¹⁷ There has been a traditional prohibition against forcing a parent below the self-sufficiency level. ". . . the burden on the one paying support should not be so heavy as to preclude the ability to support oneself and one's other dependents."¹⁸ As long as the duty of both parents to provide for their children is equal, the same must be true of the recipient.¹⁹

This being only an example, a reasonable approximation of the poverty level for one adult of \$8,000 per year will be used as the self-support reserve.²⁰ Other expenses can effect ability to pay, but they are left out of this example for simplicity.²¹

$$\text{Father's RAP} = \frac{17,000}{17,000 + 10,000} = 0.63$$

$$\text{Mother's RAP} = \frac{10,000}{17,000 + 10,000} = 0.37$$

The father's contribution to the mother should be either 58 percent or 63 percent of the cost of raising their child, depending on whether the self-support rule is applied. Simply enough, choosing the greater number would appear consistent with the quest for an upper limit on child support. The choice has

¹⁶ Oregon, Indiana, are two examples.

¹⁷ Judith Cassetty and Frank Douthitt, *Support and Visitation Schedules, Guidelines and Formulas*, in Williams (*ibid.* 3, page III-77); Judge Melson's guidelines were in effect in Delaware in 1985, see Thompson, R.D., *The Delaware Child Support Formula, Report to the 132nd General Assembly*, April 15, 1984; Roger Gay, *Pilot Study on the Development and Evaluation of State Guidelines for Calculation of Child Support Payments* (1990, available from author) and *An Alternative Child Support Guideline for States to Consider* presented at the 7th Annual Conference of the Children's Rights Council, Holiday Inn, Bethesda, MD, April 28 - May 2, 1993.

¹⁸ See for example *Hockema v. Hockema*, 18 Or. App. 273, 524 P.2d 1238 (1974)

¹⁹ For example; ORS 109.010; 109.030, 1988

²⁰ Alternatively, we could calculate the sum of welfare benefits, including AFDC, food stamps, housing support, and so on, for a single adult with no income living alone. The total is undoubtedly estimable even though AFDC is for families with dependent children.

²¹ See section: "Adjusted Limits"

actually been made based on the common necessity for a self-support reserve.²² Other adjustments to “ability to pay” will be discussed throughout the paper. For the sake of comparison, computations using relative income will also be made.

Conceptual Approach: Iterative Solution

When the self-support rule is applied to both parents equally, the father’s share is 0.63 times \$3,600, which is \$2,268.00 per year. But payment of that amount adds to the mother’s total income. Assuming the fraction of the mother’s income spent on the child does not decrease in this range, the addition of \$2,268.00 to the mother’s income should result in an increase in the amount she spends on the child of 0.20 times her increase in income, or \$453.60. The father’s additional share is 0.63 of the mother’s additional spending, which is \$285.77. The goal is to compute the father’s share of what the mother will spend on the child once the maximum standard of living increase supportable by child support alone is reached. The following table provides the results for seven iterations, the last of which increases the father’s share by less than one cent. The effect of awarding child support above the amount calculated by this method will be discussed in later sections.

0.63 x 0.20 x \$18,000.00	\$2,268.00
0.63 x 0.20 x 2,268.00	285.77
0.63 x 0.20 x 285.77	36.01
0.63 x 0.20 x 36.01	4.54
0.63 x 0.20 x 4.54	0.57
0.63 x 0.20 x 0.57	0.07
0.63 x 0.20 x 0.07	0.0091
Sum Total	\$2,594.97

Using symbolic terms, we can summarize the iterative approach. The ‘*’ symbol represents the multiplication operation (times).

$$Father's = DadsPart * ChildsPart * \sum_n^{i=1} A_{i-1}$$

$$A_0 = Mother$$

$$A_i = DadsPart * ChildsPart * A_{i-1}$$

Mother is mother’s personal net income.

DadsPart is the father’s relative ability to pay.

ChildsPart is the fraction of income spent on the child.

²² Note that the level is adjustable. A young father living with his parents while attending high school may not need as much. A self-employed parent, a parent who provides his own tools, or a parent who acquires the family debt during divorce may need more.

Father's is the child support award.

The new method results from a rational approach to the child support award question. The standard of living increase in the custodial parent household that is solely obtainable from child support has been calculated based on what is known of the custodial parent's spending behavior. Therefore, a child support award equal to the amount calculated will be based on a reasonably accurate estimate of what the custodial parent will actually spend on children when child support is received.

The question will later arise whether basing child support on the custodial parent's ability to pay will increase dependency on public funds. In fact, the new formula is very direct in dealing with that.²³ In the new formula, potential welfare benefits can be included in the custodial parent's income when estimating spending. In that case, the calculation yields as much offset to government payments as the payer can afford. A custodial parent's inability to provide basic support on her own does not have the effect of limiting the offset to public assistance entitlements.

It is apparent why early versions of the Income-Shares method may have failed to produce adequate child support awards for low income mothers. The limit on child support in this example, using a more complete definition for "ability to pay" and including the standard of living increase resulting from child support payments, results in an award limit that is significantly higher than an award calculated by the traditional approach.

A mother with a lower income would benefit by a larger amount from application of the self-support reserve. If the mother's income in this example was at or below the adult poverty level, her share would be 0 percent. Using the Income-Shares method, a mother with an income at the poverty level for one adult (using \$8,000) would be assigned a share of 24 percent. (The father's net income in this example is \$25,000.) The money she would provide for child support would either force her below the poverty level or would be made up from public funds.

Simplifying the Mathematics: The Exact Equation

The total net income of the non-custodial parent (before the child support transfer payment) will be represented by the symbol *Father*. The total net income of the custodial parent (before the child support transfer payment) will be represented by the symbol *Mother*. The parents are expected to spend a fraction of their available income on their children.

²³ See section: "Poverty and Welfare"

Relative ability to pay is calculated by subtracting a self-support reserve (*Re serve*) from income. Note however, that other items of expenditure can be included in this definition.²⁴ The fraction of child support that should be contributed by the non-custodial parent (*DadsPart*) is calculated by the following equation.

$$DadsPart = \frac{Father - Re\ serve}{(Father - Re\ serve) + (Mother - Re\ serve)}$$

The symbol *Father' s* will be used to represent the amount the non-custodial parent should contribute to child support. In this simple example, that amount is equal to the child support payment. The question to be answered is; How much should *Father' s* be?

After *Father' s* is paid, the mother will have (*Mother + Father' s*) in income. Of this, she will spend a fraction of this income (*ChildsPart*) on their children.

$$Mother' s = ChildsPart * (Mother + Father' s)$$

The child support payment should be *DadsPart* of what is actually spent on their children.

$$Father' s = DadsPart * ChildsPart * (Mother + Father' s)$$

In order to make the equation useful, *Father' s* must be removed from the right-hand-side. This can be accomplished easily by the following two algebraic steps.

$$Father' s * (1 - (DadsPart * ChildsPart)) = DadsPart * ChildsPart * Mother$$

THE EXACT EQUATION
$Father' s = \frac{DadsPart * ChildsPart * Mother}{1 - (DadsPart * ChildsPart)}$

Putting numbers from the first example into the exact equation yields the same answer as the iterative method.

$$Father' s = \frac{0.63 * 0.20 * \$18,000}{1 - (0.63 * 0.20)} = \$2,594.97$$

It is interesting to note what happens if we use the Income-Shares definition for *DadsPart*.

²⁴ See section: "Adjusted Limits."

$$Father's = \frac{0.58 * 0.20 * \$18,000}{1 - (0.58 * 0.20)} = \$2,361.99$$

As discussed above, a lower income mother would benefit even more from use of a more complete model of “ability to pay.” What may seem contradictory is that current Income-Shares guidelines often produce results that are above the limit. The upper limit between child support and spousal maintenance has been defined by the total amount actually spent on children. Current guidelines use “economic estimates” indicating what developers would like to see spent. Arbitrarily high estimates of spending are not required to produce guidelines that “improve the adequacy” of child support awards. Inappropriate awards result from increasing the “cost” factor arbitrarily. A much better approach is to improve the relationship between the calculation and the real-life circumstances of the family.²⁵

Differentiating Child Support and Spousal Maintenance

In order to identify the spousal maintenance component in a child support award calculation, it is necessary to calculate the limit and compare it to the result of the award calculation. Anything higher than the limit contains an *a priori* hidden spousal maintenance award. In the example above, the mother spends 20 percent of her income on one child. The purely adult component of the over-payment would be 80 percent of any amount that exceeds the limit. The mother should be contributing 37 percent of the cost of raising their child. Therefore, the amount of spousal maintenance contained in any over-payment is the adult component plus 37 percent of the child’s portion of the over-payment.

$$(Adult_Percent + (MomsPart * ChildsPart)) * (Award - Father's)$$

In order to present an example calculation, a modern Income-Shares approach developed by Robert Williams will be used to calculate an award.²⁶ The Williams’ model was used to develop guidelines in most states that now use the Income-Shares method.²⁷ When the parent’s combined income is \$43,000 as in our example above, the standard (non-age adjusted) Williams’ calculation assigns approximately 21 percent of the parent’s combined net income as child support. Of this, the father’s share would be 58 percent.

²⁵ Additional factors that effect the limit, that are often neglected in current guidelines, are discussed below in the section entitled “Adjusted Limits.”

²⁶ Williams, (*ibid.* 3) table 16, page II-78.

²⁷ The distinction between age categories used by Williams is not used here because the validity of that aspect of his design has been previously questioned in economics literature. See Mark Lino, (*ibid.* 9); and Roger F. Gay, *An Alternative Child Support Guideline for States to Consider* presented at the 7th Annual Conference of the Children’s Rights Council, Holiday Inn, Bethesda, MD, April 28 - May 2, 1993.

$$\text{Father's } s = 0.58 \times 0.21 \times \$43,000 = \$5,237.40 \text{ per year.}$$

The limit for a child support award in the example is \$2,594.97 per year. Assuming the mother continues to spend 20 percent of her income on the child, the spousal maintenance portion included in this standard Income-Shares result is 80 percent of the difference, plus the mother's portion of any increase in spending on their child. The spousal maintenance portion calculated as follows.

$$(0.80 + (0.37 * 0.20)) * (\$5,237.40 - \$2,594.97) = \$2,309.48$$

In order for the mother to reach the Income-Shares derived amounts, she would have to spend a total of 21 percent of their combined income on one child, which is \$9,030 per year. After receiving child support payments, this would amount to 39 percent of her total income of \$23,237.40. At the limit, both parents together contribute \$4,119.00 to the support of the child. She should be contributing 37 percent of the total, which is \$1,524.03 per year. In this example, the adult support component in Williams' Income-Shares award would be greater than the mother's share of financial support for the child.

The spousal maintenance portion of the award would be higher if the father had been awarded regular visitation or joint physical custody. Williams' Income-Shares method restricts credit for visitation periods and joint physical custodial arrangements in such a way that no credit is given in many cases even when time with the non-custodial parent is significant. Other circumstances can also effect the amount of spousal maintenance in an award.²⁸

Adjusting for Changes in “*ChildsPart*”

It has so far been assumed that the fraction of a custodial parent's income spent on children (*ChildsPart*) is not effected by the increase in standard of living that results from the receipt of child support payments. This contradicts the observations of a century of economics.²⁹ When only small changes in income are anticipated, the difference may not be significant. When the child support award is high, the error may be unacceptable.

The proper limit can be obtained by replacing *ChildsPart* with a new value that corresponds to the higher standard of living. But this creates a mathematical problem. The correct value of the award must be known in order to find the corresponding *ChildsPart* needed for its calculation. One method of obtaining the result is by use of successive approximation with the help of standard tables. Another is finding an exact equation using a formula for predicting changes in the recipient's spending. An equation for *ChildsPart* (in addition to the exact

²⁸ See section: “Adjusted Limits”

²⁹ Ernst Engel, *Die Lebenskosten belgischer Arbeiter -- Familien Früher und jetzt*, International Statistical Institute Bulletin, no. 9: 1-74, 1895.

equation for the child support award) would be quite helpful in any case. Either of the following two equations can be helpful in testing whether a child support award corresponds to the proper target value for *ChildsPart*. Note however, that when a custodial parent has a history of receiving child support, current spending should more accurately reflect anticipated spending.³⁰

$$ChildsPart = \frac{Mother's + Father's}{Mother + Father's}$$

$$ChildsPart = \frac{Father's}{DadsPart * (Mother + Father's)}$$

Poverty and Welfare

According to the U.S. poverty guidelines, the poverty level for one adult in March 1993 was \$7,471. For one adult and one child living together it was \$9,897. The difference of \$2,426 to include a child is just over 24.5 percent of poverty-level income. Take the example of a custodial mother with income equal to the poverty level for one adult, and a father whose income is at least poverty level for one adult and one child living together. Applying the poverty level self-support reserve to both incomes means that the mother's relative ability to pay is zero and the father's is equal to 100 percent of the total child support amount. If we apply the formula, the upper limit is the same as the amount needed to bring the mother's household to the poverty level.³¹

$$Father's = \frac{1.0 * 0.245 * \$7,471}{1 - (1.0 * 0.245)} = \$2,426$$

What effect would the application of this formula have on public assistance programs such as AFDC? Let us assume that a child support assurance program is in effect that guarantees families with children, including single-parent households, a level of income equal to the poverty level. The child portion is expected to be spent on children. When the mother's income is below that needed to support one adult, the formula can still be applied without taking into consideration supplemental adult income. We can assume in this case that total contributions from our imaginary system would result in \$2,426 spending on one child in a single-parent household.

Consider a mother with \$3,639 in income plus a potential child support assurance payment to guarantee that \$2,426 is available for their child. Her personal income should still be used in the calculation because we want to know how much the parents can pay on their own and what her share of expenses should be. But we expect her total spending on the child to be at the guaranteed

³⁰ See section: "Updating Child Support Awards."

³¹ Note that 0.245 is rounded off. The precise number is used in the calculation.

level. Therefore, the money to be spent on the child should equal 40 percent of her personal income. (\$2,426 divided by the sum of \$3,639 and the \$2,426 in guaranteed income)

$$Father's = \frac{1.0 * 0.40 * \$3,639}{1 - (1.0 * 0.40)} = \$2,426$$

The father's share is based on what will be spent on their child, not just what the mother can afford on her own. From a public policy perspective, a perfectly rational target is reached. The parents pay as much as possible to offset the assured benefit. When parents can afford to support their children, the public doesn't. But that is not always the end of the story. Defining the upper limit on child support does not deter the award of spousal maintenance, when appropriate, in order to further increase the standard of living in the custodial parent home.³²

One additional point on dealing with low custodial parent income is in order. When the mother's personal income is zero, the denominator in the limit equation is also zero. All the income given to the mother in child support assistance is expected to be spent on children. (*ChildsPart* is 1.0.) The numerator in the equation would also be zero, simply because the mother's income is. Using mathematical terminology, we need to find the limit for the calculation as the mother's income approaches zero. It should be obvious however, that the exact solution will be equal to 100 percent of expected spending. The answer in this example is still \$2,426.

Adjusted Limits

It is obvious that the highest possible financial transfer for child support should occur when the entire cost of children is borne directly by a custodial parent. Visitation, joint physical custody arrangements, and other factors such as tax advantages reduce the natural child support award by effecting the distribution of direct payments and ability to pay. Non-standard expenses such as extra-ordinary medical bills and professional day-care that are not included in standard tables and formulae borne by the custodial parent can increase the natural limit on child support.

However, increasing expenditure on some things can have the effect of decreasing expenditure on others, because usually the parent's resources do not adjust themselves to compensate for need.³³ Therefore, it is not necessarily true that increases and reductions should equal 100 percent of the amount of all non-standard expenses. The natural limit can be adjusted by accounting for non-standard expenses paid directly by each parent and then adjusting the ability of

³² See section: "Spousal Maintenance Awards".

³³ Collection of insurance benefits is an exception.

each to pay for standard expenses. A question arises as to whether non-standard expenses should be subtracted from income before the standard calculation. The calculations should be made so that all significant expenses are accounted for when making the final order. Each type of expense ultimately comes out of the same “sugar bowl.”

Using limit theory as background, three somewhat complicated situations are discussed below. They have been chosen because they have often been raised in discussions, and reportedly have been treated in a great variety of ways by different judges.³⁴

A mother might remarry and chose to remain at home if supported financially by her new spouse. The mother’s income would be zero. The new situation may disqualify her from public assistance, even though she is unable to provide any child support. This would preclude using the government assured benefit approach taken in the section, “Poverty and Welfare.” The practical effect is that the new family has appointed the new spouse as the guarantor of child support. If we simply consider the wife’s income to have become zero, then the payer’s share becomes 100 percent (assuming the payer has sufficient income). Generally speaking, this is not an equitable result.

Two technical solutions are possible. Either the new spouse (perhaps in combination with potential government entitlements) is treated as the guarantor of basic support or the calculation is based on the actual expenditure on children by the custodial parent household. In either case, it is logically consistent to also count the new spouse’s income when computing relative ability to pay, either at the basic support level or the level of actual spending on children. Failure to do so can create impossible situations. For example, the level of spending in the new custodial home could be much more than the payer can afford. Any award that is disproportionate to the payer’s relative ability to pay is inequitable.³⁵

A complicated situation exists when a custodial parent houses children from more than one other parent. The upper limit on child support should be calculated in the same way that it is with only one other parent. When computing the custodial parent’s relative ability to pay, the average income of the paying parents should be used. Payments by individual payers should be based on their relative ability to pay (compared to each other and the custodial parent) and number of children they support. This does not mean that each payer should pay in proportion to the number of children. When making this calculation, the diminishing cost of multiple children should be applied using a standard table. For example, if the standard for the cost of two children is 1.5 times the cost of

³⁴ For a more detailed and comprehensive discussion, see Roger F. Gay, *An Alternative Child Support Guideline for States to Consider, preliminary report*, presented at the 7th Annual Conference of the Children’s Rights Council, approx. 30 pages

³⁵ Note that this is a rephrasing of the equal duty principle. It merely presents a rather obvious logical proposition. Unfortunately, it is not yet part of in post Family Support Act case law.

one, then the payment by the payer who has two children in the custodial parent's home should be weighted by just 1.5 instead of 2.

A payer's ability to pay is also effected by establishing a new family. Accounting for a reduction in ability to pay is a simple matter. A reduction in the payer's ability to pay reduces the fraction of child support that should be paid to the custodial parent. Equations can be developed which find the corresponding balance for dividing assets between households. The first step toward completing this task is to define an unambiguous policy that analysts can use to derive the equations. How equal are children in different families? If they are not equal, in what way are they not equal? Child support is a quantitative question. How unequal are they?

This has been a difficult political question. The man who has married a mother receiving child support might say that the first family is more important. The man who is paying support might believe that all his children are equal. There is an important difference in comparing the limit theory to current guideline calculations. The current methods operate by taking a portion of the payer's buying power, without regard to the actual needs of the children of the recipient household. The underlying reality of the political question is much different if child support calculations are made according to children's needs, and basing each parent's share on their relative ability to pay.

Minimum Child Support

The emphasis in this paper has been to define a scientific method for establishing maximum levels of child support. This is a timely contribution, since recent political reforms have led to dramatic increases. A scientific method for testing the reforms has been needed. But this is not to say that the highest numbers obtainable, illustrated by the simple example in this paper, are appropriate in every case.

Spending is sometimes inelastic. In many cases, the receipt of child support payments will not result in a change in day-care arrangements for example. In situations where it does, there will still often be a fixed cost for the new arrangement. Additional income resulting from a higher standard of living will not effect its cost.³⁶ The theoretical lower limit is reached whenever all costs are fixed. The corresponding minimum limit is obtained by ignoring the standard of living increase in the calculations. Subject to adjustments discussed above, the lower limit is still *DadsPart* of what is actually spent on children. An illustration is given in the following section.

³⁶ Although it might effect a custodial parent's ability to pay for it.

Accounting for Fixed Expenses

There has been debate on the subject of fixed costs. What portion of any additional money will be spent on children? One view is that whenever one cost is fixed, additional money will be used to increase spending on something else.³⁷ This view has been prevailing in the design of child support guidelines. The practical result is that the payer's share of non-standard expenses have simply been added to standard awards. This is not an equitable procedure. When money is spent on a fixed cost such as day-care for example, the parent's ability to pay for other things is reduced. An example of inelasticity of spending can be given without complicated mathematical analysis.

Take the example of a single mother whose net personal income is just sufficient to provide for herself and two children at the poverty level without sending either to a licensed day-care center. In her request for child support from the father, she proposes to send their two children to a center costing \$300 apiece. In this example, the father's "ability to pay" is equal to \$600 per month, exactly the cost of the proposed day-care arrangement. If the proposal is accepted, 100 percent of the \$600 in child support will be absorbed by the cost of day-care. Nonetheless, it should be recognized that the standard of living in the mother's household increases by the \$600 in revenue contributed by the father.

Of course, the calculations in every situation are not so convenient. Let us increase the incomes of the parents in this example, so that the mother is able to provide day-care and other necessities. The father's income is also higher, so that he is able to provide an additional standard of living increase. What is the balance between the additional cost of raising children for day-care and the reduction in ability to pay experienced by parents who pay for it?

We can find a solution by deducting the proper share of the day-care expense from each parents' ability to pay.³⁸ What is spent on the children will be based on the remainder of their income. The adjustment to ability to pay is found by subtracting $DadsPart * DayCare$ from the father's ability to pay and $MomsPart * DayCare$ from the mother's ability to pay. This might appear to effect the parent's relative ability to pay. Relative ability to pay is not effected. It is easily confirmed that the new equations for $DadsPart$ and $MomsPart$ are algebraically equivalent to the originals. Of course, care should always be exercised to assure that proposed expenses do not exceed the parents ability (including government entitlements) to pay for them.

³⁷ *ibid.* 3

³⁸ This approach was previously taken by Judge Melson, the architect of the Delaware-Melson formula.

Updating Child Support Awards

In the first example, the father had paid no child support for the first year of his child's life. A limit on child support was calculated that included a standard of living increase for the mother's household. When child support awards are updated, spending by the custodial parent may already reflect a standard of living increase due to payment of child support in the past. The majority of single-mothers in government surveys are receiving private child support payments, public assistance, or both. So, the same is true when using average data on single-parent spending.

The correct value for *ChildsPart* can be easily obtained by adding the old child support award to the recipient's income. That is easily confirmed by replacing the mother's original spending with $ChildsPart * (Mother + Father's)$ and her income with $(Mother + Father's)$. Dividing spending by income obviously reduces to *ChildsPart*. Using this direct technique, it is easier to find an accurate value for *ChildsPart*, because otherwise we would have to speculate more than necessary on the effect of child support payments on the custodial parent's spending patterns.

The final calculation is made in the same way as before, except with the new value of *ChildsPart*. No change should be made in the definition of either parent's income. The value of *Mother* is included in the calculation without adding child support received. Relative ability to pay is still calculated using the parent's income without adjusting for the old child support award. It should be obvious that if there is no change in the circumstances of either parent or the children, the final answer should remain the same as well.

Awards that are "Just and Appropriate"

The amount of child support that is just and appropriate depends on children's needs, family circumstances, and choices made by parents. The character of individual circumstances, those of each independent family, are not the same as the average or aggregate character of the general demographic groups they are associated with. This is the point often missed by those who favor simple statistical solutions. There is much diversity of needs and much discretion is normally exercised among intact and divided families. Therefore, the ability to ascertain fairness in individual cases is essential to fair treatment in general. It is also a legal requirement of the Family Support Act.³⁹

³⁹ See section on evaluation of guidelines. Deviation is also required in individual cases when the presumptive result would be unjust or inappropriate. In order to deviate, judges must be able to identify specific reasons for deviation. Therefore, the Family Support Act cannot be implemented without the ability to ascertain fairness in individual cases.

Purely economic arguments favoring current high award levels depend on two basic assumptions. One is that the economic effects of split households demand a standard of living transfer to the primary residence of the children.⁴⁰ The other is the expectation that increasing the income of a primary care parent will increase spending on children.⁴¹ These economic assumptions will not be discussed at length in this paper, since that would demand a much lengthier analysis that would distract from the main point. There are several important points that can be made in the context of this presentation.

Beyond subsistence level, much of spending is discretionary.⁴² When national data on family spending in particular consumption categories⁴³ is plotted, it looks like a shot-gun scatter plot. Economic analysis comparing pre- and post-divorce standard of living is highly speculative, is based on unsubstantiated assumptions about family spending patterns, and leaves out many important considerations that would tend to show that post-divorce standard of living is more nearly equal among the households of split parents.⁴⁴

Rebuttal to the increased investment theory is given in the section entitled; "Promoting Investment in Children." What is shown in this paper is that there is a natural limit to the effectiveness of child support transfers in increasing spending on children. In combination with an understanding of the extent to which spending by adults is discretionary, the logical conclusion is that actual spending by the adult recipient of child support is the most important indicator of whether a particular child support award is fair or reasonable.

A problem arises in the use of evidence on spending by single parents. Some parents have been receiving child support, others have not, and others receive only part of what is due.⁴⁵ If circumstances in the family have changed, the appropriate update may require only a partial adjustment to the existing

⁴⁰ Lenore J. Weitzman, *The Divorce Revolution, Unexpected Consequences for Women and Children in America*, The Free Press, New York, 1985; and David Betson, Erik Evenhouse, and Siobhan Reilly, *Trade-offs implicit in child-support guidelines*, Journal of Policy Analysis and Management, volume II, Winter 1992, p 1-20.

⁴¹ This is the assumption applied by Williams (*ibid.* 3) relying on estimates found in the following: Espenshade, Thomas J., *Investing in Children, New Estimates of Parental Expenditures*, The Urban Institute Press, Washington, D.C., 1984.

⁴² This is apparent from direct analysis of data in the Consumer Expenditure Survey, Bureau of Labor Statistics (any survey for any year), and is pointed out in discussion by Lazear and Michael (citation 7).

⁴³ ... such as food, clothing, shelter, transportation, entertainment, and medical expenses,

⁴⁴ *ibid.* 34, Weitzman and Betson use the same approach to estimating pre- and post-divorce standard of living differences. Betson's paper provides a short list, including items such as visitation and tax consequences that are not included in his standard of living analysis. For a critical review of Weitzman's analysis, see the following. Abraham, Jed H., 1989, *The Divorce Revolution Revisited: A Counter-Revolutionary Critique*, Northern Illinois University Law Review, Vol. 9, No. 2, p. 47.

⁴⁵ 3. U.S. Bureau of the Census, *Child Support and Alimony: 19xx*, Current Population Reports, Special Studies, Series P-23. Found in any year.

award. The limit equation presented in this paper, is appropriate in all circumstances. The equation uses the parents' current income, reasonable projections of spending during the period when child support should be received, and accounts for an appropriate standard of living increase regardless of income history.

An obvious question is; What happens when a child support award is less than the adjusted upper limit? The equation developed for finding the upper limit can also be used to answer this question. There is a definite answer as long as we remain consistent in the way the equal duty principle is expressed. An example was presented in which the father's net available income is \$25,000 and the mother's is \$18,000. The mother is spending 20 percent of her income on one child. The total combined child support is \$4,119. The father's share is 63 percent of that amount and the mother's share is 37 percent. Take these two percentages, representing the parents relative ability to pay, as the test criteria for adherence to the equal duty principle.

What happens when the father's contribution is reduced from \$2,594.97 to \$2,000 per year? The mother's total income, including child support payments, would be \$18,000 plus \$2,000, which is \$20,000. Of this, she spends 20 percent on one child. Therefore, we expect the mother to spend \$4,000 per year in child support. In that case, the parents would be paying a 50-50 share. By comparison with the established values for relative ability to pay, the lower award also violates the equal duty principle. The adjusted upper limit is also the adjusted lower limit. Therefore, the just and appropriate amount of child support can be derived using the adjusted limit equation.

Evaluating Child Support Guidelines

The Family Support Act of 1988 established a requirement for periodic review and evaluation of all state child support guidelines.⁴⁶

. . . , and shall be reviewed at least once every 4 years to ensure that their application results in the determination of appropriate child support award amounts

There has been no objective, detailed criteria for determining whether guidelines meet the requirements of federal law. The Family Support Act provided general criteria for the application of child support guidelines.⁴⁷

There shall be a rebuttable presumption, in any judicial or administrative proceeding for the award of child support, that the amount of the award which would result from the application of such guidelines is the correct

⁴⁶ P.L. 100-485, Oct. 13, 1988, Sec. 103,b

⁴⁷ *ibid.*, Sec. 103,a

amount of child support to be awarded. A written finding or specific finding on the record that the application of the guidelines would be unjust or inappropriate in a particular case, as determined under criteria established by the State, shall be sufficient to rebut the presumption in that case.

In order to meet the requirements for application of child support guidelines, states must assure that calculated awards are just and appropriate. When an award is calculated for a particular case, there should be objective criteria for determining whether the award is just and appropriate. What is “just?” What is “appropriate?” Federal law is silent on the essential details.

Litigants trying to prove that the application of a child support guideline is “unjust” or “inappropriate” in their case have been asked to do so without knowing what just and appropriate means.⁴⁸ The same technical problem is faced by child support guideline committees who must attempt to review their guidelines to determine whether “their application results in the determination of appropriate child support award amounts.”

Clearly, objective criteria for determining whether guidelines are designed properly are needed. Definitive statements and mathematical tools are necessary to achieve a proper balance between the strength of presumptive guidelines in determining awards and litigation to determine whether a particular award is appropriate. The development of definitive mathematics for differentiating between child support and spousal support is an essential step in fulfilling the requirements of The Family Support Act.⁴⁹

Simplifying Child Support Guidelines

One of the desires expressed by child support committee members and judges is that guidelines should be simple. Simplifying child support guidelines is not the same as simplifying their application. This author has previously argued that the best approach to building guidelines that are easy to use comes from maintaining a relationship between child support calculations and the real-life factors that effect the award decision.⁵⁰ This is also an essential part of assuring that awards determined by guidelines are just and appropriate.

⁴⁸ *ibid.* 5, *Fitzgerald v. Fitzgerald*

⁴⁹ Additional commentary on design requirements for child support guidelines is given by the author of this paper in the Proceedings of the Seventh Annual Conference of the Children's Rights Council (Washington, DC, 1993) and in several reports available from the author.

⁵⁰ Roger F. Gay, *Rational Basis is the Key Focus in Emerging 'Third Generation' Child Support Technology*, Seventh Annual Conference of the Children's Rights Council, Holiday Inn Bethesda, 1993 and *Child Support Guidelines: Resolving the Dilemma, A Summary Report on Design of Federally Mandated Child Support Schedules*, Intelligent Systems Research Corporation, 1990

Consider the alternative. Begin the process of calculating an award by applying numbers that at best have an obscure, fundamentally off-target relationship to the circumstances presented in court. How do you decide whether the standard award is appropriate in a particular case? If a deviation is needed, how should it be calculated, and on what information should the calculation be based?

When no deviation is appropriate, the standard calculation should be as simple as possible, just as it is in current guidelines. But it should also be easy to understand why it is appropriate in that case.

Promoting Investment in Children

It has been implied in policy debate that increasing child support awards will dramatically improve the economic well-being of children.⁵¹ But does it perform well in that role? University of Chicago Economists Yoram Weiss and Robert Willis studied transfers among divorced couples.⁵² The amount that effectively transfers from non-custodial parents to the care of children depends on children's needs, family circumstances, and custodial parent choices. Weiss and Willis estimated that in some cases as little as one additional dollar is spent on children for each sixteen dollars in payment.

In the examples below, comparisons are made between spending on children and custodial parent income with and without receipt of child support payments. The limit theory will be applied to the specific question; How much impact should we expect child support payments to have on a custodial parent's spending behavior?

In the rather extreme example in which the mother could not afford day-care and the father was just able to pay for it, total spending after payment of child support would be about 97 percent of the mother's net income. But this result is only reached by adding the fixed expense of day-care that the mother could not provide on her own. The mother herself was expected to continue to contribute 24.5 percent (at poverty rate) of her income to child support. Nonetheless, in this low income example the mother's situation has improved dramatically. When needed services are not otherwise affordable, it is reasonable to expect that income for those services can have a significant impact on the recipient's life.

⁵¹ Irwin Garfinkel, 1979, *Welfare Reform: A New and Old View*, The Journal of The Institute for Socioeconomic Studies, Volume IV, Number 4, Winter, 1979; and Ronald Haskins, Andrew W. Dobelstein, John S. Akin, and J. Brad Schwartz, *Estimates of National Child Support Collections Potential and the Income Security of Female-Headed Families*, Final Report, Office of Child Support Enforcement, April 1, 1985.

⁵² Yoram Weiss and Robert Willis, *Transfers among divorced couples: evidence and interpretation*, Journal of Labor Economics, volume II, October 1993, p 629-79.

When the mother's income exceeds the poverty level by a comfortable margin, the comparison is not so dramatic. In the first example above, the mother's net income is \$18,000 and the father's is \$25,000. Including child support payments, her income is comfortably in the middle class. At the limit, the combined contribution of both parents to the support of one child is \$4,119. This is 22.9 percent of the mother's net personal income, only 2.9 percent higher than her contribution alone. In this situation, the payment of child support has increased the mother's income by 14.4 percent, but has resulted in a much smaller increase in spending on the child. Spending on the child is increased only by *ChildsPart* of the award.

This last example illustrates the reason a private child support award is not generally the proper mechanism to promote increased investment in children. There are natural limits to the effectiveness of child support transfers for improving the economic well-being of children because spending behavior by the recipient of the transfer is controlled by the recipient's choices. The most effective and appropriate role of child support is what it has traditionally been, a non-custodial parent's share of the actual and necessary expenses of raising children.

The focus of discussion on political reforms is a practical one. Many people believed that increases in private child support awards would have a dramatic effect in lowering dependence on public assistance. This has turned out not to be true.⁵³ Oddly enough, the belief seemed to be scientifically supported. Testimony before Congress had often relied on average values for parental income, combining the purchasing power of all income groups into one.⁵⁴ The critical flaw in that analysis is obvious. The income combinations of individual parents must be considered. Single mothers with low income do not benefit when higher awards are paid by fathers with higher income to mothers with higher income. Fathers with low income cannot afford to pay high amounts of child support to mothers with low income.

⁵³ Data and analysis is published in *Written statement of Roger F. Gay on the subject of the Changes in the Poverty Rate and Distribution of Income*, submitted for the record to the Subcommittee on Human Resources, Committee on Ways and Means, U.S. House of Representatives, September 10, 1992.

⁵⁴ This approach is still very popular among advocates for across the board increases in awards. For examples, see *Child Support Enforcement*, Hearing before the Subcommittee on Human Resources of the Committee on Ways and Means, One Hundred Third Congress, June 10, 1993; testimony from Center for Law and Social Policy, U.S. Commission on Interstate Child Support, Children's Defense Fund, National Women's Law Center, United States Catholic Conference, Women's Legal Defense Fund, Association for Children for Enforcement of Support, Inc. (ACES), U.S. Department of Health and Human Services Office of Planning and Evaluation.

Gender-related Inequality

Another consideration given in the debate on child support is that on average, women earn less than men.⁵⁵ This has raised the question whether child support awards should be higher, since it is most often that men pay child support and women receive it. This would tend, statistically, to offset some of the gender-related inequality of earnings. The method presented in this paper accounts for income differences in a more precise way. In any case in which the payer's income is significantly higher, the difference is expressed in the parents' relative ability to pay. This is of course, a traditional approach.

Although not a new idea, it is still worthy of discussion. Guidelines that focus on ability to pay, in contrast with the average or assumed effects of income, deal more directly and appropriately with income inequalities. It is important to recognize that this is a positive effect of comprehensive and appropriate design. Using general statistical measures, the answers may be coincidentally appropriate for some, but will be wildly inappropriate for many others. Our current case in point is the Income-Shares model. When the standard number table represents what parents actually spend on children, low income mothers receive less than the support they need from higher income fathers. When the numbers are adjusted upwards to compensate for this effect, a disproportionate amount is ordered in cases where ability to pay is more nearly equal and when income disparity is reversed.

Application of the formulae presented in this paper leads to a clear conclusion that a spousal maintenance award is a much more appropriate mechanism for dealing further with income inequality. There is a definitive difference between child support and spousal maintenance. A spousal maintenance award should only be made in cases where it is appropriate. The effects of including a margin of spousal support in standard child support formulae are as random as the variety of situations faced by separated parents. The following section explains how the award of spousal support can be balanced with a child support award to provide an additional standard of living adjustment for the entire custodial parent household.

Spousal Maintenance Awards

Spousal maintenance can be awarded separately when appropriate in order to raise the standard of living in a custodial parent household. Following the mathematical reasoning to this point, it should be obvious that any increase

⁵⁵ Lenore J. Weitzman, *The Divorce Revolution, Unexpected Consequences for Women and Children in America*, The Free Press, New York, 1985; and David Betson, Erik Evenhouse, and Siobhan Reilly, *Trade-offs implicit in child-support guidelines*, *Journal of Policy Analysis and Management*, volume II, Winter 1992, p 1-20.

in income in the custodial parent household can potentially increase the amount spent on children, and therefore increase the natural limit of child support.

For the sake of discussion, assume again that government welfare programs guarantee every single-parent household a poverty level income for all family members. At the same time, imagine a government policy intended to move all single-parent households off welfare whenever the non-custodial parent is able to pay the required support. What should the amount of spousal maintenance be in order to justify a target child support award that would reduce public assistance to the minimum amount necessary? The solution is obvious. The non-custodial parent would be ordered to pay as much as he or she can until the government assured support level is reached. But this pat answer is only good in the limited case of welfare recipients. When the amount of child support ordered is restricted by application of the equal duty principle, the division between child and spousal support is not arbitrary.

For general use, a formula for calculating the amount of spousal and child support needed to bring the custodial parent's income to any target level would be convenient. A small amount of algebra yields the equations for spousal and child support to obtain a target standard of living for the entire household. The target standard of living is equal to the amount of total income that the custodial parent will have, including personal net income, child support, and spousal maintenance, adjusted to the number of people supported by that income. The amount spent on children will be used to specify the target. The spousal maintenance component can then be calculated using the formula given below.

Let us say that an attorney for a custodial parent wishes to justify an increase in the standard of living in the custodial parent household such that child support is equal to \$3,000 per year. For the sake of simplicity, there is one child, the case involves a father who will not spend time with the child and there are no adjustments to be made for any other reason. The father's income is \$25,000 per year. The calculations are quite simple as long as we know the percent spending on the child by the mother. In this example, she spends 23 percent of her income on the child. The total income needed by the mother, including her income, spousal and child support, is \$3,000 divided by 0.23, which is \$13,043.48. Since we know in advance what the child cost is, it is easy to find the adult component of the target amount of spousal maintenance.

$$Adult_Component = \frac{Child_Support(Target)}{ChildsPart} - Child_Support(Target) - Mother$$

Let us say that the mother's income is \$9,000 per year. To spend \$3,000 on a child, the mother needs \$3,000 plus an additional \$1,043.48.

$$Adult_Component = \frac{\$3,000}{0.23} - \$3,000 - \$9,000 = \$1,043.48$$

All that needs to be done to find the target spousal maintenance award is to compute the mother's share of child support (*Mother's*) and add that to the adult component.

$$Mother's = \frac{Child_Support(Target) * (Mother + Adult_Component - Reserve)}{Father + Mother - (2 * Reserve) - Child_Support(Target)}$$

$$Spousal_Maintenance(Target) = Adult_Component + Mother's$$

When performing the computation, it is advisable to check to see that the answers are correct. To check the spousal maintenance award, add *Spousal_Maintenance(Target)* to the custodial parent's income and subtract it from the non-custodial parent's income. Then compute the child support award, beginning with relative ability to pay. The new *Mother's + Father's* should be equal to *Child_Support(Target)*. The following computations are based on our example, with a child support target of \$3,000.

$$Mother's = \frac{\$3,000 * (\$9,000 + \$1,043.48 - \$8,000)}{\$25,000 + \$9,000 - \$16,000 - \$3000} = \$408.69$$

$$Spousal_Maintenance(Target) = \$1043.48 + 408.70 = \$1,452.18$$

$$DadsPart = \frac{(\$25,000 - \$1,452.18) - \$8,000}{\$25,000 + \$9,000 - \$16,000} = 0.86377$$

$$Father's = \frac{0.86377 * 0.23 * (\$9,000 + \$1,452.18)}{1 - (0.86377 * 0.23)} = \$2,591.31$$

$$Child_Support(Target) = \$2,591.31 + \$408.69 = \$3,000.00$$

Together with the father's share of child support (*Father's*), he would pay the entire cost of raising their child and additional money to the mother so that she can afford to support their child at the target standard of living. In the section entitled, "Differentiating Child Support and Spousal Maintenance," an example was given in which application of a modern Income-Shares formula gave a similar result (numerically) without differentiating between child support and spousal maintenance.

Discussion

According to traditional legal doctrine, the child support obligation is based on the actual and necessary needs of children and divided between parents in proportion to their relative ability to meet those needs. The presumptive use of modern child support calculations has increased child

support awards from levels that had been awarded by judges who had been independently applying these principles.

One of the important questions for guideline developers is why the use of guidelines has increased child support awards. There are at least three commonly understood answers to this question. Numeric tables in guidelines use estimates of intact family spending instead of actual expenses incurred by the custodial parent. The estimates used include a higher than marginal percentage of expenditures on joint needs such as housing and transportation. And consideration for factors that would naturally reduce the child support award, such as visitation, joint physical custody arrangements, and tax credits have been greatly reduced or eliminated for most families.

Traditional child support was paid by the person not given primary care of children, in an amount that “constitutes just and proper contribution toward the support and welfare of such children.”⁵⁶ Guidelines should be developed with concern for both the justice in the decisions made and the perception of justice among those whose lives it effects.⁵⁷ Basic calculations should correspond to a reasonable child support doctrine and it should be clear that facts in individual cases impact on the decision in a rational way. Several key features should be incorporated into the next generation of guidelines.

It has been shown in this paper that there is a natural limit to the effect of child support transfers on spending on children. In order to adhere to the equal duty principle, it is necessary to base child support awards on what will actually be spent on children during the time period that the payments are being made. Single-parent spending patterns and a marginal rate for allocating expenditure on joint needs should be used for the creation of numeric tables.

Supplemental income for maintenance of a household should increase as the custodial parent’s ability to maintain a household decreases. In other words, assuming a comparison between payers with equal and sufficient ability to pay, a custodial parent with a low income should receive a higher fraction of housing, transportation, entertainment, and possibly health care and insurance costs than would a custodial parent with a middle or higher income.

Housing and transportation expenses offer the easiest explanations. The correlation between these expenditures and income is strongly positive. In other words, the more people make, the more they spend. This general rule is independent of whether they have children. People with more children actually tend to spend less on housing and transportation than those without. The child support payment offsets expenditure on children, thereby freeing some of the custodial parent’s income for personal investment in houses and other things. It

⁵⁶ Oregon statute, 1989 ORS 107.105

⁵⁷ *ibid.* 3

has the effect of raising the standard of living of the entire household. Care should be taken that expenditures counted as child costs are actually child costs, rather than adult investment.

There should be a resurgence of interest in circumstances that reduce the natural limit of an award, such as visitation costs and tax advantages. It is generally understood that visitation often reduces the financial burden on custodial parents at the expense of non-custodial parents. In lower income homes this can cause a conflict. Part of the child support payment may be necessary to maintain the primary home and to pay other necessary expenses. This can be handled easily by applying a partial exemption in such cases.⁵⁸

Negative stereotypes should not be presumed in standard calculations. Examples include the following. Fathers often take lower paying jobs in order to obtain a smaller child support order. Fathers jump from job to job in order to pretend they are unemployed or to avoid child support collections. Fathers become unemployed voluntarily to avoid child support. Self-employed people usually under-report income. Many of these popular stereotypes represent irrational economic choices and there is no valid evidence that they represent the common behavior of parents. Parents are left with a bizarre choice whenever these and other negative stereotypes are built into guideline calculations. Either accept awards that are inappropriate or adopt a lifestyle that fits the stereotype.

Conclusion

Under the pressure of the Child Support Enforcement Amendments and The Family Support Act, the scientific / political work on child support guidelines in the 1980s produced results that are often better described as a bizarre collage of ideas than coherent technology for the courts. The primary flaw in the process has been a lack of meaningful analysis and definition for key goals such as “improving the adequacy of child support awards.” No fundamental research indicated that child support technology was ready for use as a presumptive calculator. The political will raced far ahead of technical developments. As a direct consequence, many of today’s child support laws are lacking in such essentials as a basic legal definition of “child support.”

As the science and engineering of child support decision making tools improves, it appears more likely that current guideline calculations will be found to be constitutionally flawed. The Income-Shares method, currently used in more states than any other formula, provides erratic results compared to more complete models of post divorce family circumstances. As the models improve, the arbitrary nature of current guidelines will become more apparent. But those

⁵⁸ Formula for accounting for visitation effects can be found in an article by Maurice R. Franks, *How to Calculate Child Support*, Case & Comment, January-February, 1981. The partial exemption can be handled in the way Franks handles non-time-divisible expenses. See the section in his paper entitled; “How to Handle the Extraordinary expense.”

same advancements could also lead to better guidelines, compensating for many of the same flaws they expose.

It is difficult to predict how new knowledge will impact the political and judicial system. One application of limit theory is in litigation. A technique for defining the difference between child support and spousal maintenance is an important tool for those wishing to show guideline results are too high. The fact that the equal duty principle is also violated whenever awards are too low offers other litigants an opportunity to apply the theory. The evaluation of existing state guidelines can also be improved. The quality of any evaluation of child support guidelines depends on having tools available that can be used for making objective, comparative judgments.

During the 1980s, reformers tied a sense that the equal duty principle is constitutionally mandated with the belief that some child support orders were too low. The reaction has been major change in the way child support is calculated. The good news is that child support awards have increased in many of those cases in which inequity previously existed. The bad news is that the equal duty principle has not been a central feature in the design of new guidelines. The inequity has merely been shifted to different income groups.⁵⁹

There are fundamental limits to the effectiveness of financial child support as a mechanism for improving the lives of children. More careful consideration of the effects of financial transfers are needed to produce equitable results for separated parents and policies that are beneficial to children. Contrary to the currently popular view, maximizing income to custodial parents does not always maximize the standard of living of children. Careful application of the equal duty principle can go a long way toward improving the effects of child support award decisions.

Acknowledgments

... to be completed

⁵⁹ *ibid.*, *Pilot Study on the Development and Evaluation of State Guidelines for Calculation of Child Support Payments*