Alternative Approaches to Child Support Policy in the Context of Multiple-Partner Fertility

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I. INTRODUCTION

When children do not live with both parents, issues arise regarding the responsibility of noncustodial parents to contribute financial resources toward the care of their children. Child support guidelines specify the amount that the noncustodial parent should contribute, and how this varies with the parent's resources and the number of children. These guidelines have direct implications for the financial status of children and custodial parents. They may also provide important information on the values and principles that underlie our understanding of parents' obligations to their children (Minow, 1998), and how this varies with custodial arrangements, marital status, and economic resources.

Current child support guidelines were primarily designed to determine the amount of support due in a simple case, consisting of a father, a mother, and their children in common. But what should the child support order be in more complicated cases, including those in which a mother has had children with multiple men, or in which a father has had children with multiple women, or in which both parents have had children with multiple partners? The basic guidelines have been adapted to apply to these more complicated cases (e.g., Takas, 1994). However, as we show in this paper, it is not straightforward to make these adjustments, and most of the current approaches to adjustments are revealed to be ad hoc when closely examined.

The extent to which it is problematic to ignore the principles under which child support should operate in the context of complicated families is related to the frequency of multiple-partner fertility. If the large majority of cases are simple, then ad hoc adjustments to the basic guidelines would not be a particular concern. But if many cases are complicated, this raises the importance of developing a more systematic approach to child support for these cases.

In this paper we examine the extent of complications in child support cases in Wisconsin that are caused by multiple-partner fertility. In contrast to previous analysis that considered only families in which the mother had recent experience as a TANF participant (Meyer, Cancian, and Cook, 2005), in this paper

we include all families involved in the formal child support system.[1] Beyond documenting patterns of multiple-partner fertility in the broader population of families served by the child support system, we simulate the results of alternative policy regimes.[2] Building on the work of Brito (2005) and Minow (1998), we discuss the principles that might underlie alternative approaches. We consider implications for child support owed by noncustodial parents and due to custodial parents, and how this differs by family structure. We then use our analysis of the distribution of family structures and incomes in Wisconsin to simulate outcomes for these families under alternative policies.[3]

While our choice of policy approaches reflects our understanding of current policy (Brito, 2005; Caspar, 2006), our simulations rely on prototypical policies, rather than the exact statutes or rules currently in place in a given state. We abstract from actual policies, both to highlight the underlying principles and because each state's approach varies along a number of dimensions that are not central to our concern, and will change the amounts of child support owed for largely unrelated reasons.[4] Thus, we compare alternative approaches to multiple-partner fertility, holding other aspects of the child support order-setting formula constant.

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[1]As detailed below, we include all couples with records in the state IV-D administrative data system, KIDS.

[2]Our focus is on the effect of alternative guidelines on the amounts of child support owed. Obviously, the amount owed is not necessarily the amount paid and received. For research on the relationship between multiple-partner fertility and child support payments, see Manning and Smock (2000); Meyer, Cancian and Cook (2005); and Powers and Beller (2003).

[3]Caspar (2006; Report on Task 4a) reviews the implementation of alternative models based on a review of documents and interviews with child support staff in a number of states. That research documents important differences across states. Most of the key dimensions discussed in that report are considered here. The primary exception relates to adjustments made for fathers' residential children, which we do not consider in this report (except in our simulations, which may include residential children if they have a paternity establishment recorded in administrative data).

[4]For example, some states base orders on posttax (rather than pretax) income, handle child care costs differently, or adjust order amounts for the age of the child(ren). While each of these dimensions is of consequence for the final order, our focus is on how child support order amounts vary with multiple-partner fertility.

II. CONCEPTUAL ISSUES

Historically, in many locations child support orders were set based on the costs of raising a child.[5] Because the nondiscretionary costs of children were thought to be relatively constant, one result of this system was that upper-income noncustodial parents were obligated to pay a substantially lower percentage of their income than lower-income parents, even though upper-income parents had more ability to pay. Another difficulty was that there was little consensus about the costs of children, which led to widely different orders among families in similar circumstances.

The federal policy response in 1984 (strengthened in 1988) was to require each state to formulate a guideline to be used in setting orders. Child support guidelines are designed to designate a presumptive amount of support to be provided by noncustodial parents for the care of their children. Most states selected guidelines based on the "continuity-of-expenditure" principle (Garrison, 1999), with a formula designed to obligate parents to spend on the child(ren) about what they would have spent had they lived together. Based on this principle, the amount of child support due (usually from the father to the mother) generally increases with the father's income. Support also increases with the number of children, but the increment for each additional child declines as the number of children grows (i.e., two children are due less than twice the amount due to one).

In the context of multiple-partner fertility it is not straightforward to apply this basic approach; designing a system in which child support reflects what would have been spent on children had the parents stayed together is quite difficult. It can be difficult even to design a system in which orders will consistently increase with father's income and with the number of children (though the increase for each additional child decreases), since a given case may include many fathers, with potentially very different incomes and different numbers of children for whom they are responsible.

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[5]For overviews of child support guidelines, see, for example, Garfinkel and Melli (1990), Garrison (1999), Haynes (1994), Rothe and Meyer (2000), or Williams (1994).

To analyze the underlying issues, we distinguish alternative prototypical policy regimes by their approach to the family unit, and to birth ordering. We provide examples of each of these in the text box below, but first discuss the basic principles that underlie each policy approach. In particular, we distinguish three approaches to the family unit. **Couple-specific** policies treat each couple (i.e., each mother, father, and their children in common) independently, and adjust orders due to multiple-partner fertility only indirectly (e.g., by adjusting the noncustodial parent's income to account for other child support due). The **collective mother-focused** approach considers the total resources the custodial mother needs to support the children living with her, holding amounts due to the mother invariant to the number of fathers. The **collective father-focused** approach considers the total resources the noncustodial father has available to pay for all the children with whom he does not reside, holding amounts owed by the father invariant to the number of mothers.

Within these three approaches to the family unit, we distinguish two approaches to birth ordering. A **sequential** approach treats each family in chronological order. That is, for each parent child support orders are set in the sequence in which the children of each couple were born. In a couple-specific approach, the amount provided to the first family (i.e., the family with the oldest children) is invariant to any subsequent births.

An alternative approach would **average** across different family units. In the couple-specific averaging approach, hypothetical orders are calculated for each couple following a sequential rule, but the final order amounts come from an average across the hypothetical orders. In a collective mother-focused approach, the amount due to a given mother is based on the total number of children, not the ordering of those children. However, the proportion of the child support amount owed by each father is related to birth order. Given a sequential approach within the collective mother-focused scheme, the amount a father owes to a given mother is not affected by either parent having an additional child, though a father will owe less if the mother had *prior* children with another father. Similarly, given a sequential approach in the collective father-focused scheme, the amount a father owes to his first children is not affected by any

subsequent births with other women. We provide an example of the application of each of these policy prototypes in the text box below.

We focus on the choice of family unit and the treatment of birth ordering because these issues highlight the conflicting principles that underlie the challenge in determining appropriate child support guidelines in the presence of multiple-partner fertility.

At a mechanical level, the challenge arises from the impossibility of measuring the counterfactual of expenditures in an "intact" family. Research based on the observed expenditures of intact families informs current guidelines, including the Wisconsin guidelines used here. However, in cases of multiple-partner fertility, there is no direct empirical evidence on the counterfactual expenditures—since the counterfactual of all the parents (more than two) living together with their children is generally not observed.

Beyond this empirical problem lie at least two sets of conflicting core principles regarding child support. Treatment of birth order is problematic because in the context of multiple-partner fertility it is not generally possible to allow all children equal claim on their parents' resources, and to hold children harmless with regard to subsequent relationships occurring outside the original family. As Brito (2005) discusses, there is little legal support for discriminating on the basis of birth order. And, in contemporary American society there is little support for differential resource allocation to, for example, first-born children. This suggests that child support should be invariant to birth order. On the other hand, invariance with respect to birth order conflicts with the notion that a child (and mother) should be held harmless with respect to subsequent decisions their parent (and former partner) makes after leaving the family—since those decisions are not subject to negotiation with the original mother,[6] nor is the child likely to directly

[6]The same can be said with respect to holding fathers (or noncustodial parents) harmless for subsequent births to the resident parent. However, since given the current prototypes any change to an order due to an additional birth would *reduce* the support owed by the original father, this is not a constraint.

benefit from a half-sibling in another household.[7] It is the conflict between these principles that underlies the contrasting approaches (sequential and averaging) we address here.

When applied within a couple-specific scheme, the sequential approach to child support orders in cases with multiple-partner fertility solves the problem of no observed counterfactual by exploiting the chronology of children's births to break down a complex family structure into a time-ordered set of "simple" couples. These couples are then each treated independently—given a starting point that reflects the father's previous obligations. The orders derived under this strategy reflect the counterfactual of each couple living as an intact family, taking into account the father's previous obligations, ignoring the mother's children from previous relationships, and ignoring either parent's subsequent children. When applied in the context of collective schemes, the sequential approach also holds the amounts associated with a prior relationship invariant, providing mothers (and charging fathers) only for the marginal increment in support associated with any later children. In contrast, the averaging approach provides each child with the same father (and same number of resident full siblings) the same child support. Given this approach previous children are affected by subsequent births.

Underlying the contrasting approach to family units are alternative justifications for the less than proportional increases in orders as family size increases. In intact families a parent's per-child expenditures on children decrease as family size increases. This tendency is reflected in child support guidelines. As we discuss in more detail below, the Wisconsin guidelines, for example, call for orders of 17, 25, and 29 percent for families of one, two, or three children (augmenting an order by 8 percent for the second child and 4 percent for the third). One justification for the less than proportional increases is that the approach reflects **economies of scale,** as for many expenditures it is less costly on a per-capita basis to provide a given quality of home environment for a larger family. On the other hand, the reduced expenditures per child may reflect the parents' limited resources. At a given income level, parents in intact families may make a quality/quantity trade-off, with parents of larger families providing a greater

[7]Though note that additional half-siblings may reduce the responsibly to care for a parent.

number of children with fewer resources per child. In contrast to economies of scale, this logic argues for restraining child expenditures to be **manageable burdens**.

The logic that underlies economies of scale and that which underlies manageable burdens both suggest lower than proportional increases in resources spent per child as the number of children increases. However, they have divergent implications for child support orders in the context of multiple-partner fertility. A key issue confronted in the case of multiple-partner fertility is whether the custodial mother or the noncustodial father should capture the benefits of reduced per-capita child cost as family size increases. The collective approach calculated from the custodial mother's perspective provides for the mother to receive the same support for a given number of children, regardless of the number of fathers.[8] This approach could be justified by the economies of scale logic (if the costs of raising three children are invariant to the number of fathers). In the simple case, where all fathers have the same incomes, a mother will be owed the same child support for a given number of children regardless of the number of fathers. Following that approach, all the benefits of the economies of scale are assigned to the fathers as reductions in the amount of child support owed. Note, however, that fathers of a given number of children will owe different amounts of support depending on the number of mothers, and on the number of children of other fathers who are residing with their children.

Another logic that may justify lower than proportional increases for greater numbers of children is the desire to keep child support burdens manageable for noncustodial fathers.[9] The collective approach calculated from the noncustodial father's perspective recognizes the father's budget constraints, and sets order levels according to the father's expected total contribution for a given number of children. In this case a father's amount owed will be invariant to the number of mothers of his children. However, the support a mother will receive for her children will depend both on the number of fathers and on how many other children that father has had with other mothers. This approach may be particularly appealing

[8]Note that in the averaging case, support amounts will be identical if all fathers have the same incomes.

[9]For discussions of issues related to manageable burdens for noncustodial fathers, see, for example, Cancian and Meyer (2004), Garfinkel et al. (1998), or Mincy and Sorensen (1998).

given the increasing concern with child support arrears and other issues related to fathers' support burdens. However, it is noteworthy that, in contrast to the collective approach calculated from the custodial mother's perspective, the reduced support owed to mothers under this approach has no direct connection to differences in the actual costs of raising children. That is, custodial mothers with three children might be expected to face similar costs of living regardless of the number of fathers. In contrast, costs to the custodial mother(s) of raising a father's three children are likely to be substantially greater if those children live in three separate one-child households than if they all live together.

Finally, there is an additional pragmatic component in considering sequential versus averaging approaches. By definition, sequential approaches require substantially fewer adjustments to current orders. In contrast, averaging approaches can require that all orders associated with a given couple are reviewed whenever there is a new child born to either partner. To the extent that adjusting orders is an expensive process, averaging orders have pragmatic disadvantages.

III. DATA, SAMPLE, AND SIMULATION PARAMETERS

To illustrate the implications of alternative policy regimes we document the frequency of multiple-partner fertility among families served by the formal child support system. We then estimate the amount of support associated with different family structures—both for a limited set of hypothetical families, and for the set of families we observe in Wisconsin. We use administrative data from Wisconsin's child support enforcement system for our estimates of legal family structure. Some of our estimates require information on the noncustodial father's income, for which we use earnings records derived from the state unemployment insurance system. For more information on these data, see Cook and Brown (2001).

In contrast to previous research (Meyer, Cancian and Cook, 2005), in this paper we begin with information on all families in the formal child support enforcement program. We limit our analysis to couples, and children of couples, for which the father of the children has been identified. We exclude children (and couples) in which the father is not identified, for two reasons. First, our primary focus is

how child support policy should account for multiple obligations (for fathers) and multiple sources of child support (for mothers). No formal child support will be paid or received without legal paternity having been established. In addition, while we can sometimes observe the presence of other children whose paternity has not been established in the mother's household, we do not observe custodial children or noncustodial children unless the father is obligated to pay support for them.[10] In addition, for simplicity we restrict our analysis to the most common case: families in which administrative records from 1997 to 2005 show that the mother was always the custodial parent and the father was always the noncustodial parent. This excludes 16.4 percent of our sample of couples (14.4 percent of our sample of mothers and 14.7 percent of our sample of fathers).

We begin with all families in the Wisconsin data that include a custodial mother, a legally recognized noncustodial father, and their children in common, of whom at least one is under 18 on March 1, 2005, totalling 273,136 couples. For some analyses we make use of earnings information, which is available only in cases in which we have the Social Security number of the father in administrative records. This reduces the sample to a total of 261,124 couples. Some mothers and some fathers appear in more than one couple; thus these couples include a total of 225,773 individual fathers and 223,669 individual mothers. Each couple produces one sibship, but some sibships include more than one child. Thus, we have a total of 261,124 sibships (matching the number of couples) and 366,943 children under 18.

In our basic analysis we consider a simple guideline that calls for support as a constant percentage of income. In each case, the percentage varies with the number of children, but does not vary with income level. This type of guideline is used to specify the percentage of the noncustodial father's income due. It also can be used to specify the presumed percentage of income contributed by the custodial mother in an

[10]In ongoing work we are using information from matched survey and administrative data to estimate the proportion of children in the household without paternity established who have the same or additional fathers, and to estimate the income of those fathers. We will use this information to estimate the rates of multiple-partner fertility and child support due were paternity established for all children.

income-shares state.[11] For our simulations we use the Wisconsin rates—17 percent for one child, 25 percent for two, 29 percent for three, 31 percent for four, and 34 percent for five or more children. For simplicity, we ignore the adjustments to the guidelines for low- and high-income parents.

Most of our basic conclusions are not sensitive to the specific percentages used. However, as discussed above, one key aspect of this and most other child support guidelines is that they increase less than proportionally for each additional child. It is also noteworthy that the guideline we use is a constant percentage (a linear function) of income. Some guidelines call for the proportion of income ordered to vary with the level of income—generally for high-income noncustodial parents to pay a lower percentage of income, and for very low-income noncustodial parents to pay either a higher percentage (in order to contribute a minimum absolute amount) or a lower percentage (to conserve resources for self-provision). Guidelines in which the percentage ordered is a function of total family income present additional complications, which we do not address in this paper.[12]

We contrast approaches that do or do not give preference to obligations according to their chronological ordering. In our simulations we assume that couples, and orders, are sequenced in the order of the birth of the oldest child in each sibship (i.e., that orders are set in the time-ordering of the

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[11]Percentage-of-income guidelines specify the percent of the noncustodial parent's income that is owed in child support—that is, support amounts depend only on the noncustodial parent's income, irrespective of the resident parent's income. (The amount of support the custodial parent is expected to contribute is also implicitly a function of only the custodial parent's income, but this does not affect the formal child support order.) Income-shares guidelines specify child support as a percentage of the joint incomes of the two parents, with the amount to be "paid" by each (from the noncustodial parent to the custodial parent, and contributed by the custodial parent towards their children's expenses in their own household) generally divided in proportion to their incomes. When the percent of income (either of just noncustodial, or of both parents) to be contributed does not itself vary with the income level, the support order for the noncustodial parent will be identical under a percent of income or income shares approach (since the income shares approach calls for Order=Guideline%*(C+NC)=Guideline%*C + Guideline%*NC—that is, the percent of noncustodial income due will be invariant to the custodial parent's income).

[12]Income shares guidelines frequently call for the percent of income provided in child support to vary with the parents' total income. Previous research has shown that percentage of income and income shares guidelines generally yield similar results given simple family structures (Rothe, 2001). However, additional issues arise in the context of multiple-partner fertility. In order to fully apply an income shares approach that includes a guideline that varies with the total income of the two parents of the child(ren), the amount of the order would depend not only on the incomes of the mother and father in each couple, but also on the incomes of any mother with whom any father in our original sample had a child (in order to know how much child support he owed those other mothers, and therefore his net income).

relationships, which are dated by the age of the first child born to the couple).[13] Sequencing is relevant in policy contexts in which later children are entitled to child support based on the father's income net of prior obligations. Each of our policy scenarios specify how child support paid by the father should be accounted for—either deducted from income in calculating subsequent orders or implicitly considered in setting the overall order amount.

Our primary simulations assume that all the fathers with whom a given mother has children have the same incomes. This substantially simplifies the analysis, and also allows us to present the results in terms of a particular percentage of noncustodial parents' incomes. We also show results that reflect observed family structure and each father's total earnings as reported in the unemployment insurance system.

IV. ESTIMATES OF THE DISTRIBUTION OF MULTIPLE-PARTNER FERTILITY

We begin by considering the distribution of alternative family structures for the 261,124 couples in our sample—all couples who had a child support order or legal paternity recorded in Wisconsin's child support administrative data system. Table 1 and Figure 1 show the distribution of family structures from the perspective of the 223,669 individual mothers involved in these couples (some mothers are in more than one couple). As can be seen by summing the numbers in the first panel of the table, 85.5 percent of the mothers had had children with only one father. As seen in Table 1 and Figure 1, 69 percent of the mothers are in "simple" couples, in which they are a "single-support" mother connected to a "single-responsibility" father (i.e., they have had children with only one father, and this father has not had paternity established for children of any other mother).

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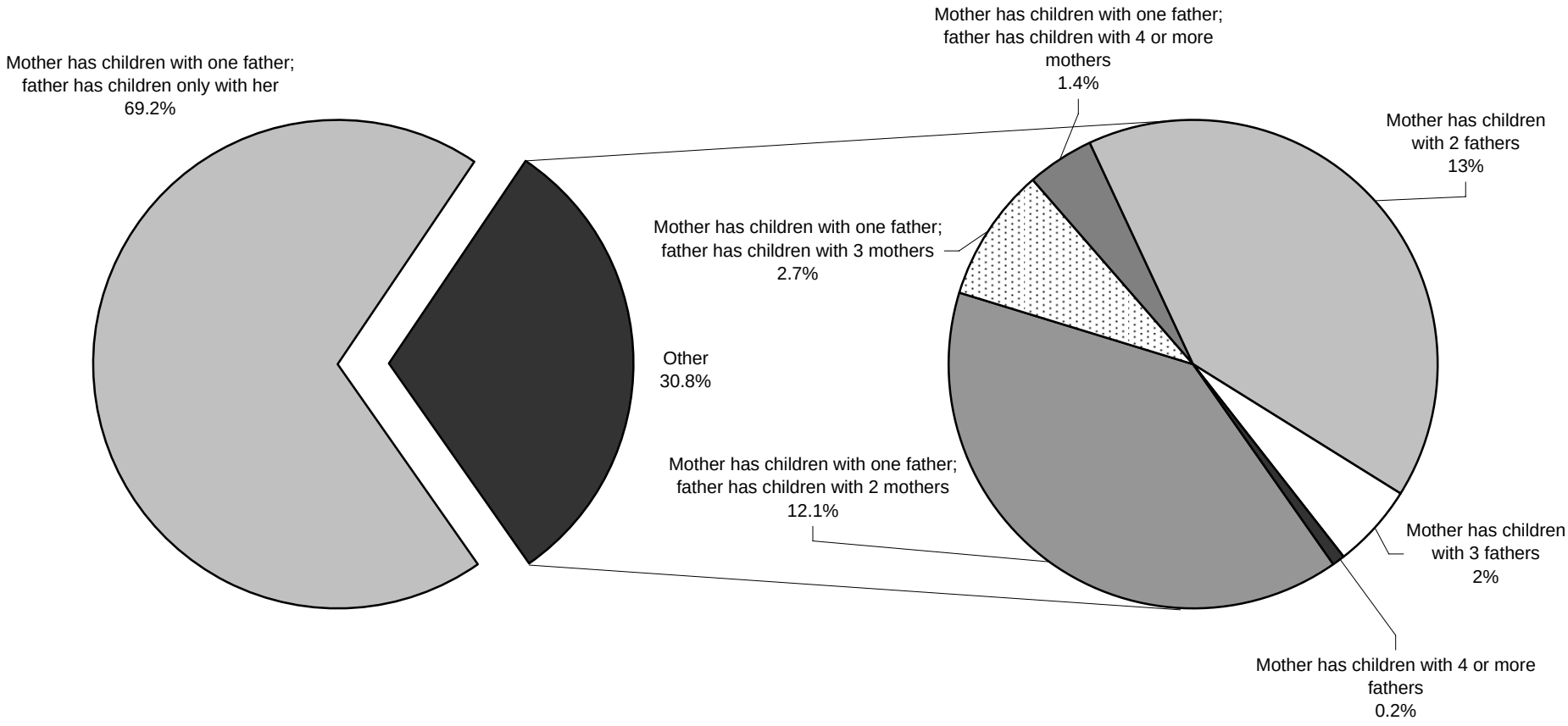
[13]In some cases it would be possible for alternative sequencing to emerge. For example, paternity may be established and child support ordered for a new, nonmarital child of a married father (with older children). If the marriage subsequently ends in divorce, the marital children, while born first, would come to court later. Thus, the sequence of orders would be different from the sequence of births. Notwithstanding the possibility of this type of case, in all cases we use birth ordering in determining the priority of cases when the child support order amount depends on the sequence.

Table 1
Patterns of Multiple-Partner Fertility from the Perspective of Mothers

	All Mothers		Mothers in Couples with MPF	
	Total %	Panel %	Total %	Panel %
Mother has children with one father				
Father has children only with her	69.2%	81.0%	NA	NA
Father has children with 2 mothers	12.1	14.2	39.4%	74.5%
Father has children with 3 mothers	2.7	3.2	8.9	16.8
Father has children with 4 or more mothers	1.4	1.6	4.6	8.7
Mother has children with 2 fathers				
Both fathers have children only with her	5.6%	44.8%	18.3%	44.8%
At least one father has children with 2 mothers	4.2	33.6	13.7	33.6
At least one father has children with 3 mothers	1.6	12.6	5.1	12.6
At least one father has children with 4 or more mothers	1.1	9.0	3.7	9.0
Mother has children with 3 fathers				
All 3 fathers have children only with her	0.4%	20.9%	1.2%	20.9%
At least one father has children with 2 mothers	0.6	35.5	2.0	35.5
At least one father has children with 3 mothers	0.4	21.8	1.2	21.8
At least one father has children with 4 or more mothers	0.4	21.9	1.2	21.9
Mother has children with 4 or more fathers				
All 4 or more fathers have children only with her	0.0%	6.5%	0.1%	6.5%
At least one father has children with 2 mothers	0.1	25.6	0.2	25.6
At least one father has children with 3 mothers	0.1	27.2	0.2	27.2
At least one father has children with 4 or more mothers	0.1	40.7	0.3	40.7
	100.0%	400.0%	100.0%	400.0%

N=223,669 mothers in 261,124 couples; each mother appears once

Figure 1
Multiple-Partner Fertility from Mother's Perspective



Note: N = 223,669 mothers.

The remaining 31 percent of mothers were involved in couples in which at least one partner has a history of multiple-partner fertility. The most common situation involves mothers who have children with a single father, who himself has obligations to two mothers (12.1 percent of the mothers in the full sample, 39.4 percent of all mothers in couples with a history of multiple-partner fertility). There is also a substantial portion of mothers who have had children with two fathers who themselves have had children only with her (5.6 percent of all mothers, 18.3 percent of all mothers in couples with a history of multiple-partner fertility), or at least one of whom has had children with two mothers (4.2 percent of all mothers, and 13.7 percent of mothers in couples with a history of multiple-partner fertility).

Table 2 and Figure 2 shows parallel information for the same couples, but from the perspective of the 225,773 fathers. The vast majority of fathers (87.7 percent) are in the first panel of Table 1 because they are associated with only one mother. Similar to the mothers shown in Table 1, for about 69 percent of the fathers neither partner had a recorded history of multiple-partner fertility. Among the 31 percent that did, the most commonly observed structures involved a father who had children with one mother, who herself had children with two fathers (16 percent of all fathers and 50.9 percent of fathers in couples with a history of multiple-partner fertility). Also substantial were the number of fathers who had children with two mothers who either only had children with him, or one of whom had children with two fathers (each constituting about 4 percent of all fathers and 12 to 14 percent of fathers in couples with a history of multiple-partner fertility).

Tables 1 and 2 document the tendency of a parent with a history of multiple-partner fertility to partner with those who also have multiple family connections. That can be seen by comparing the panels in Table 1. Mothers who have had children with only one father are particularly likely to be partnered with men who have only had children with her. In contrast, when mothers have had children with three fathers, it is less likely that the men will have had children with only one mother. The same pattern can be seen among fathers by comparing the panels on Table 2.

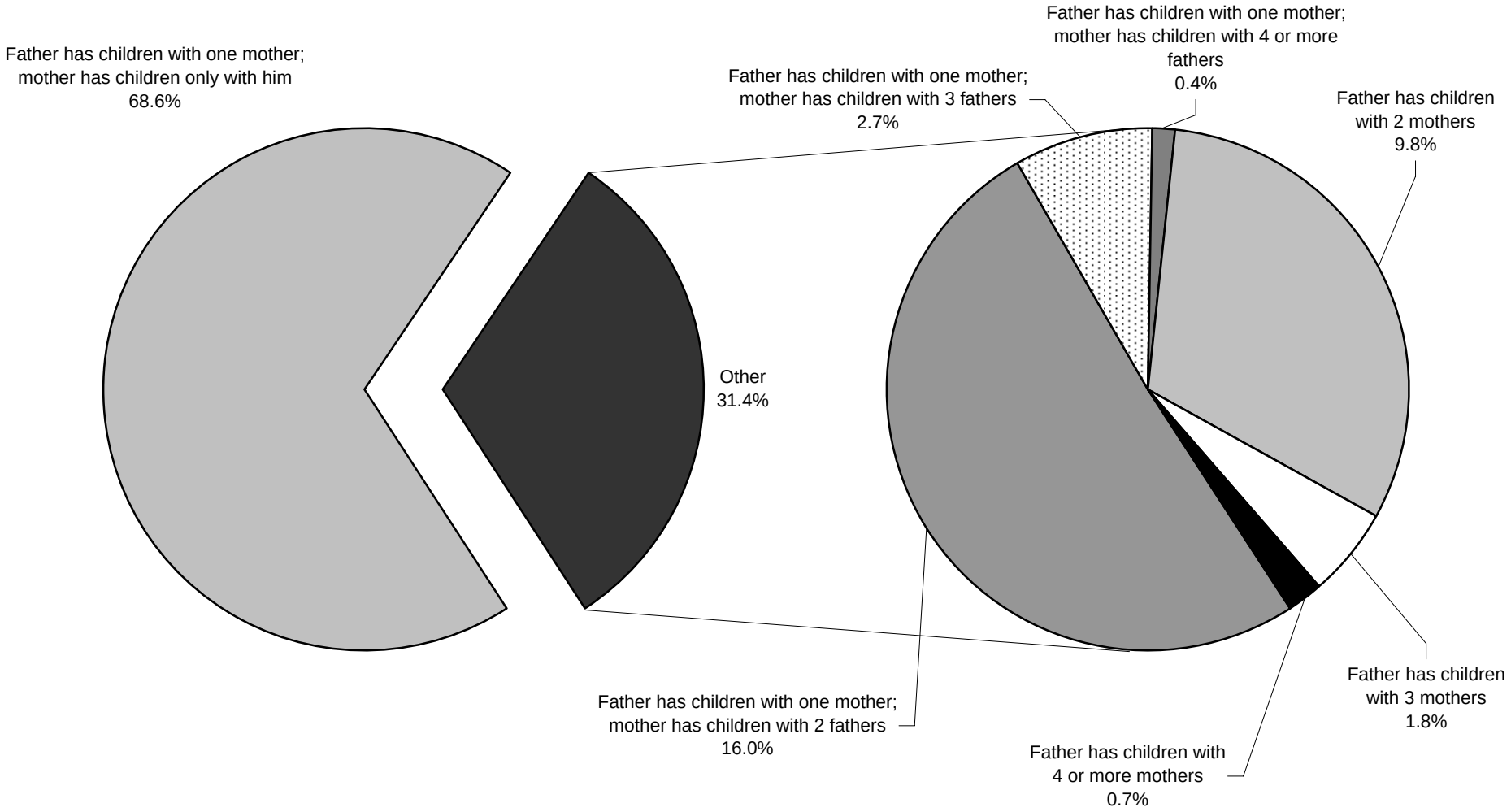
The distributions documented in Tables 1 and 2 also suggest that in more than half of all couples with some history of multiple-partner fertility, only one of the partners has had children with multiple-

Table 2
Patterns of Multiple-Partner Fertility from the Perspective of Fathers

	All Fathers		Fathers in Couples with MPF	
	Total %	Panel %	Total %	Panel %
Father has children with one mother				
Mother has children only with him	68.6%	78.2%	NA	NA
Mother has children with 2 fathers	16.0	18.2	50.9%	83.7%
Mother has children with 3 fathers	2.7	3.1	8.6	14.2
Mother has children with 4 or more fathers	0.4	0.5	1.3	2.1
Father has children with 2 mothers				
Both mothers have children only with him	3.8%	38.5%	12.1%	38.5%
At least one mother has children with 2 fathers	4.4	44.7	14.0	44.7
At least one mother has children with 3 fathers	1.3	13.7	4.3	13.7
At least one mother has children with 4 or more fathers	0.3	3.1	1.0	3.1
Father has children with 3 mothers				
All 3 mothers have children only with him	0.3%	15.5%	0.9%	15.5%
At least one mother has children with 2 fathers	0.9	50.0	2.8	50.0
At least one mother has children with 3 fathers	0.5	26.3	1.5	26.3
At least one mother has children with 4 or more fathers	0.1	8.1	0.5	8.1
Father has children with 4 or more mothers				
All 4 or more mothers have children only with him	0.0%	4.7%	0.1%	4.7%
At least one mother has children with 2 fathers	0.3	39.5	0.9	39.5
At least one mother has children with 3 fathers	0.3	39.0	0.9	39.0
At least one mother has children with 4 or more fathers	0.1	16.8	0.4	16.8
	100.0%	400.0%	100.0%	400.0%

N=225,773 fathers in 261,124 couples; each father appears once

Figure 2
Multiple-Partner Fertility from Father's Perspective



Note: N = 225,773 fathers.

partners. For example, 53 percent of mothers in couples with multiple-partner fertility are themselves single-support mothers (i.e., they have had children with only one father, though that father has potential obligations to other families). Sixty-one percent of fathers in couples with multiple-partner fertility are single-responsibility fathers (i.e., they have legally recorded potential obligations to only one mother, while that mother has had children with multiple fathers who may owe her support).

Tables 1 and 2 include couples who have at least one child with legally established paternity (in the case of nonmarital births) and couples with child support ordered (in the case of marital and nonmarital births). If a nonmarital couple's children do not have paternity established, or if a divorced couple has never had a child support order, that couple will not appear in our sample. In addition, we do not observe the additional children (and partners) of parents who are married and have children with a new partner. Thus, our measures of multiple-partner fertility are likely to substantially understate levels of family complexity.

Notwithstanding this understatement, we have documented multiple-partner fertility for almost a third of all couples in the formal child support system. Within couples with multiple-partner fertility we see substantial diversity in family structure; significant proportions of these couples include single-support mothers or single-responsibility fathers, but in over a third both the mother and the father have a history of multiple-partner fertility. We now turn to a discussion of the consequences of alternative child support systems for these different family configurations.

Exhibit 1
Prototypical Cases

In our policy simulations we consider three approaches to family units (couple-specific, collective mother-focused, and collective father-focused) and two approaches to time ordering (sequential and averaging). Family units and time ordering are different dimensions, so combining them leads to six prototypes. In this section we provide a brief definition of each prototype and an example to illustrate some of the implications for child support owed by noncustodial fathers and to custodial mothers. As in our simulations, we use the Wisconsin guideline amounts, which call for 17 percent of income to be paid for one child, and 25 percent for two.

In our example we consider three interrelated couples. The first mother (M_1) has two children (C_1, C_2), one with the first father (F_1) and one with the second father (F_2). The first father has also had one child (C_3) with another woman (M_2), and the second father has also had one child (C_4) with another woman (M_3). Thus, we have four couples: (M_1, F_1, C_1), (M_1, F_2, C_2), (M_2, F_1, C_3), and (M_3, F_2, C_4). The two fathers have gross incomes Y_{F1} and Y_{F2}. The children's subscripts correspond to their order of birth—that is, C_1 was born before C_2, who was born before C_3 and C_4.

Couple-Specific/Sequential: This approach begins by setting the order for the children of the first couple (the couple with the oldest child), then setting the order for the children of the second couple, leaving the first order unchanged, but accounting for it by adjusting the noncustodial father's income by the amount of child support owed to previous children. The support paid to the first mother will not change due to the father's subsequent children. Given the same number of children, noncustodial (and custodial) parents will owe (be due) more support when multiple partners are involved.

- The order for C_1 is set first, and is .17 Y_{F1}
- Then the order for C_2 is set, and is .17 Y_{F2}
- Then the order for C_3 is set, taking into account that the child's father has a pre-existing obligation to C_1. Thus the order is: .17 * (1-.17) Y_{F1} (i.e., 17 percent of the income that remains after he has paid the support owed to the first child); this totals .14 Y_{F1}.
- Finally, the order for C_4 is set, again taking into account that the child's father has a pre-existing obligation to C_2; this totals .14 Y_{F2}.

Summing across orders:

- M_1 is owed: .17 Y_{F1} + .17 Y_{F2} = .17 (Y_{F1} + Y_{F2})
- May be expressed .34Y_F if the fathers have identical incomes
- M_2 is owed: .17 * (1-.17) $Y_{F1,}$ or .14 Y_{F1}
- M_3 is owed: .17 * (1-.17) Y_{F2} , or .14 Y_{F2}
- F_1 owes: .17 Y_{F1} + .17(1-.17) Y_{F1} = .31 Y_{F1}
- F_2 owes: .17 Y_{F2} + .17(1-.17) Y_{F2} = .31 Y_{F2}

Couple-Specific/Averaged: This approach begins by setting hypothetical orders for each couple as if they were sequential (see above). The obligations are then averaged across the sibships so that the ultimate support amounts, and reductions associated with income adjustments, are both proportional to the original guideline amounts (i.e., .17, .25, and so forth). Unlike the pure sequential case, in this case subsequent children will alter the amounts due to earlier children. And, sibships with the same father will be due the same amount regardless of birth order. Given the same number of children, noncustodial (and custodial) parents will owe (be due) more support when multiple partners are involved.

- The hypothetical order calculations are identical to those in the couple-specific/sequential approach. This provides the total amount each father owes. In this example, the first father owes a total of .31 Y_{F1}.
- If we considered his obligations separately, he would owe each child .17 of his income, so in this approach we take the total he owed, .31 Y_{F1}, and allocate .17/(.17+.17) of the total to C_1. In this case, he owes .155 Y_{F1} to C_1.
- By a similar calculation, he owes .155 Y_{F1} to C_3.
- The second father also owes a total of .31 Y_{F2}. Following similar logic, he owes .155 Y_{F2} to C_2 and .155 Y_{F2} to C_4.

Summing across orders:

- M_1 is owed: .155 Y_{F1} + .155 Y_{F2}
- May be expressed .31Y_F if the fathers have identical incomes
- M_2 is owed: .155 Y_{F1}
- M_3 is owed: .155 Y_{F2}
- F_1 owes: .31 Y_{F1}
- F_2 owes: .31 Y_{F2}

Collective Mother-Focused/Sequential: This approach assigns each child born to a given mother the marginal increase in orders she would receive if they were all from the same father. Subsequent children born to the custodial mother do not alter the percentage each father owes to earlier children. The same total support will be due to the mother when multiple partners are involved (in the simple case where all noncustodial fathers have the same income[14]), but a lower percentage will be owed by each noncustodial father when a prior father was involved.

- The order for the first mother is .25 (for two children). In the sequential approach, for the first child she is owed .17 Y_{F1} and for the second child she is owed .08 of Y_{F2}.
- The order for C_3 is .17 Y_{F1} because he/she is the first child born to the second mother. Similarly, the order for C_4 is .17 Y_{F2}.

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[14]Major income disparities can lead to counterintuitive results. For example, a mother with an older child by a high-earning man could potentially be due less total child support after the birth of a subsequent child to a relatively low-earning man. This will be the case if 17 percent of the first father's income is more than 12.5 percent of the first father's income plus 12.5 percent of the second father's income—i.e., if the first father's income is more than 2.78 times the second father's income.

Summing across orders:

- M_1 is owed: .17 Y_{F1} + .08 Y_{F2}
- May be expressed as .25 Y_F if the fathers have identical incomes
- M_2 is owed: .17 Y_{F1}
- M_3 is owed: .17 Y_{F2}
- F_1 owes: .17 Y_{F1} + .17 Y_{F1} = .34 Y_{F1}
- F_2 owes: .08 Y_{F2} + .17 Y_{F2} = .25 Y_{F2}

Collective Mother-Focused/Average: This approach begins by determining the hypothetical child support due to the mother given the total number of children living with her. We then divide the total support due to her such that the percent of income due from each father is proportionate to the guideline percentage given the number of children in that couple's sibship. Subsequent children born to the custodial mother will alter the percentage each father owes to earlier children. Sibships will be due the same amount of support regardless of birth order. The same total support will be due to the mother when multiple partners are involved (in the simple case where all noncustodial fathers have the same income[15]), but a lower percentage will be owed by each noncustodial father when multiple fathers are involved.

- The hypothetical order for the first mother is .25 (for two children) divided across two fathers. The hypothetical orders for the second and third mothers are .17 (for one child).
- In this example, because each father has only two children, the amount due the first mother, .25, is divided so that each father owes .125 of his income; that is, F_1 owes .125 Y_{F1} to M_1 for C_1 and F_2 owes .125 Y_{F2} to M_1 for C_2.
- F_1 owes .17 Y_{F1} to M_2 for C_3, and F_2 owes .17 Y_{F2} to M_3 for C_4.

Summing across orders:

- M_1 is owed .125 Y_{F1} + .125 Y_{F2}
- May be expressed as .25 Y_F if the fathers have identical incomes
- M_2 is owed .17 Y_{F1}
- M_3 is owed .17 Y_{F2}
- F_1 owes: .125 Y_{F1} + .17 Y_{F1} = .295 Y_{F1}
- F_2 owes: .125 Y_{F2} + .17 Y_{F2} = .295 Y_{F2}

[15]Major income disparities can lead to counterintuitive results. For example, a mother with an older child by a high-earning man could potentially be due less total child support after the birth of a subsequent child to a relatively low-earning man. This will be the case if 17 percent of the first father's income is more than 12.5 percent of the first father's income plus 12.5 percent of the second father's income—i.e., if the first father's income is more than 2.78 times the second father's income.

Collective Father-Focused/Sequential: This approach assigns each child of a given father the marginal increase in orders he would be required to pay if they were all with the same mother. The birth of subsequent children will not alter the amounts due to earlier children. The same support will be owed by the father when multiple partners are involved. Custodial mothers will be due less support for their children when the father has prior children (though support will be invariant to the number of other mothers).

- The first father will owe .25 Y_{F1} since he has two children. He owes .17 Y_{F1} to M_1 for C_1 and then .08 Y_{F1} to M_2 for C_3. Similarly, the second father should owe .25 Y_{F2} in total; .17 Y_{F2} to M_1 for C_2 and then .08 Y_{F2} to M_3 for C_4.

Summing across orders:

- M_1 is owed .17 Y_{F1} + .17 Y_{F2}
- May be expressed as .34 Y_F if the fathers have identical incomes
- M_2 is owed .08 Y_{F1}
- M_3 is owed .08 Y_{F2}
- F_1 owes: .17 Y_{F1} + .08 Y_{F1} = .25 Y_{F1}
- F_2 owes:.17 Y_{F2} + .08 Y_{F2} = .25 Y_{F2}

Collective Father-Focused/Average: This approach begins by determining the hypothetical child support owed by the father given his total number of children, then dividing the total support owed such that the amount due to each mother is proportionate to the number of children in that couple's sibship. The birth of subsequent children will alter the amounts due to earlier children. Sibships will be due the same amount of support regardless of birth order. The same support will be owed by the father when multiple partners are involved. Custodial mothers will be due less support for their children when the father has other children (though support will be invariant to the number of other mothers).

- The first father should owe a total of .25 Y_{F1} since he has two children. Because he has the same number of children with each mother, he owes half of this total for each child. Thus he owes .125 Y_{F1} to M_1 for C_1, and .125 Y_{F1} to M_2 for C_3. Similarly, the second father should owe .25 Y_{F2} in total; .125 Y_{F2} to M_1 for C_2, and then .125 Y_{F2} to M_3 for C_4.

Summing across orders:

- M_1 is owed .125 Y_{F1} + .125 Y_{F2}
- May be expressed as .25 Y_F if the fathers have identical incomes
- M_2 is owed .125 Y_{F1}
- M_3 is owed .125 Y_{F2}
- F_1 owes: .125 Y_{F1} + .125 Y_{F1} = .25 Y_{F1}
- F_2 owes: .125 Y_{F2} + .125 Y_{F2} = .25 Y_{F2}

V. SIMULATION RESULTS

We have argued that in the context of multiple-partner fertility it is not possible to design a child support guideline that is fully consistent with fundamental principles. As shown in Section II, these principles suggest contradictory approaches when applied to complex families. Nonetheless, the high rates of multiple-partner fertility documented in Section IV demonstrate the importance of making informed policy choices, even if there is no perfect option. With this in mind, in this section we evaluate the consequences of alternative policy approaches for a set of hypothetical family structures, and then for the observed family structure among Wisconsin families. By illustrating the consequences of each policy regime for custodial and noncustodial parents, we hope to inform the discussion of which policy, despite failing to be fully consistent with underlying principles, is the best option.

Hypothetical Child Support Orders

Tables 3 and 4 illustrate the implications of each policy prototype (see Exhibit 1) for a range of family structures and alternative birth orders. For these simulations we assume that all fathers associated with a given mother have identical incomes of $10,000.[16] In Table 3 we show child support amounts due (from all fathers) to a mother who has had children with one, two, or three fathers, each of whom has had children with one, two, or three mothers (for simplicity of exposition, we do not include the category of four or more partners shown in Tables 1 and 2). Table 4 is structured similarly to Table 3 except that it shows the support owed by a father (to all mothers).

Each table has two sections. In the first (3a and 4a), we consider the case in which every couple has a single child. Thus, in Table 3a the number of fathers with whom a mother has had children exactly equals the mother's total number of children (i.e., a mother with children with one father has one child,

[16] As we noted above, for simplicity we do not consider the low-income adjustment in the Wisconsin guidelines. If a noncustodial parent had an income of $10,000 and one child, the low-income adjustment would decrease their order from 17 percent of their income to between 15 and 16 percent.

Table 3
Hypothetical Child Support Due to Mother, Mother's Perspective

	Total Children		Couple-Specific			Collective-Mother's Perspective			Collective-Father's Perspective		
			Sequential		Averaged	Sequential		Averaged	Sequential		Averaged
	Mother (1)	Father (2)	First (3)	Last (4)	First/Last (5)	First (6)	Last (7)	First/Last (8)	First (9)	Last (10)	First/Last (11)
3A. Every Father Has $10,000 Income, Every Couple Has One Child											
Mother has children with one father											
Father has children only with her	1	1	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700
Father has children with 2 mothers	1	2	1,700	1,411	1,556	1,700	1,700	1,700	1,700	800	1,250
Father has children with 3 mothers	1	3	1,700	1,171	1,427	1,700	1,700	1,700	1,700	400	967
Mother has children with 2 fathers											
Both fathers have children only with her	2	1	$3,400	$3,400	$3,400	$2,500	$2,500	$2,500	$3,400	$3,400	$3,400
Both fathers have children with 2 mothers	2	2	3,400	2,822	3,111	2,500	2,500	2,500	3,400	1,600	2,500
Both fathers have children with 3 mothers	2	3	3,400	2,342	2,855	2,500	2,500	2,500	3,400	800	1,933
Mother has children with 3 fathers											
All 3 fathers have children only with her	3	1	$5,100	$5,100	$5,100	$2,900	$2,900	$2,900	$5,100	$5,100	$5,100
All 3 fathers have children with 2 mothers	3	2	5,100	4,233	4,667	2,900	2,900	2,900	5,100	2,400	3,750
All 3 fathers have children with 3 mothers	3	3	5,100	3,513	4,282	2,900	2,900	2,900	5,100	1,200	2,900
3B. Every Father Has $10,000 Income, Every Mother Has Three Children, Every Father Has a Single Child with Any Other Parent											
Mother has children with one father											
Father has children only with her	3	3	$2,900	$2,900	$2,900	$2,900	$2,900	$2,900	$2,900	$2,900	$2,900
Father has children with 2 mothers	3	4	2,900	2,407	2,589	2,900	2,900	2,900	2,900	1,400	1,954
Father has children with 3 mothers	3	5	2,900	1,998	2,352	2,900	2,900	2,900	2,900	900	1,826
Mother has children with 2 fathers											
Both fathers have children only with her	3	3	$4,200	$4,200	$4,200	$2,900	$2,900	$2,900	$4,200	$4,200	$4,200
Both fathers have children with 2 mothers	3	5	4,200	3,486	3,803	2,900	2,900	2,900	4,200	2,000	2,976
Both fathers have children with 3 mothers	3	7	4,200	2,893	3,475	2,900	2,900	2,900	4,200	1,000	2,724
Mother has children with 3 fathers											
All 3 fathers have children only with her	3	3	$5,100	$5,100	$5,100	$2,900	$2,900	$2,900	$5,100	$5,100	$5,100
All 3 fathers have children with 2 mothers	3	6	5,100	4,233	4,667	2,900	2,900	2,900	5,100	2,400	3,750
All 3 fathers have children with 3 mothers	3	9	5,100	3,513	4,282	2,900	2,900	2,900	5,100	1,200	2,900

Table 4
Hypothetical Child Support Owed by Father, Father's Perspective

	Total Children		Couple-Specific			Collective-Mother's Perspective			Collective-Father's Perspective		
			Sequential		Averaged	Sequential		Averaged	Sequential		Averaged
	Father (1)	Mother (2)	First (3)	Last (4)	First/Last (5)	First (6)	Last (7)	First/Last (8)	First (9)	Last (10)	First/Last (11)
4a. Every Father Has $10,000 Income, Every Couple Has One Child											
Father has children with one mother											
Mother has a child only with him	1	1	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700
Mother has children with 2 fathers	1	2	1,700	1,700	1,700	1,700	800	1,250	1,700	1,700	1,700
Mother has children with 3 fathers	1	3	1,700	1,700	1,700	1,700	400	967	1,700	1,700	1,700
Father has children with 2 mothers											
Both mothers have a child only with him	2	1	$3,111	$3,111	$3,111	$3,400	$3,400	$3,400	$2,500	$2,500	$2,500
Both mothers have children with 2 fathers	2	2	3,111	3,111	3,111	3,400	1,600	2,500	2,500	2,500	2,500
Both mothers have children with 3 fathers	2	3	3,111	3,111	3,111	3,400	800	1,933	2,500	2,500	2,500
Father has children with 3 mothers											
All 3 mothers have a child only with him	3	1	$4,282	$4,282	$4,282	$5,100	$5,100	$5,100	$2,900	$2,900	$2,900
All 3 mothers have children with 2 fathers	3	2	4,282	4,282	4,282	5,100	2,400	3,750	2,900	2,900	2,900
All 3 mothers have children with 3 fathers	3	3	4,282	4,282	4,282	5,100	1,200	2,900	2,900	2,900	2,900
4b. Every Father Has $10,000 Income, Every Father Has Three Children, Every Mother Has a Single Child with Any Other Parent											
Father has children with one mother											
Mother has children only with him	3	3	$2,900	$2,900	$2,900	$2,900	$2,900	$2,900	$2,900	$2,900	$2,900
Mother has children with 2 fathers	3	4	2,900	2,900	2,900	2,900	1,400	1,954	2,900	2,900	2,900
Mother has children with 3 fathers	3	5	2,900	2,,900	2,900	2,900	900	1,565	2,900	2,900	2,900
Father has children with 2 mothers											
Both mothers have children only with him	3	3	$3,911	$3,911	$3,911	$4,200	$4,200	$4,200	$2,900	$2,900	$2,900
Both mothers have children with 2 fathers	3	5	3,911	3,911	3,911	4,200	2,000	2,976	2,900	2,900	2,900
Both mothers have children with 3 fathers	3	7	3,911	3,911	3,911	4,200	1,000	2,280	2,900	2,900	2,900
Father has children with 3 mothers											
All 3 mothers have a child only with him	3	3	$4,282	$4,282	$4,282	$5,100	$5,100	$5,100	$2,900	$2,900	$2,900
All 3 mothers have children with 2 fathers	3	6	4,282	4,282	4,282	5,100	2,400	3,750	2,900	2,900	2,900
All 3 mothers have children with 3 fathers	3	9	4,282	4,282	4,282	5,100	1,200	2,900	2,900	2,900	2,900

while a mother with children with three fathers has three). In the second section of each table (3b and 4b), we consider the case in which the focal couple has three children, and any other couples have a single child. For example, in Table 3b, as the number of partners increases, the number of children living with the mother remains the same (i.e., a mother with children with one father has three children with him, a mother with children with two fathers had two children with the first and one with the second, and a mother with children with three fathers has one child with each).

Child Support Due to Mothers

Consider the first column of order amounts in Table 3, which shows the amounts due given a couple-specific sequential approach, and the mother having been the first to have children with each father. In this case, a mother who has had one child with each father will be due $1,700 (17 percent of the father's income) for one child with one father; $3,400 ($1,700 or 17 percent for each father) for two children, one with each of two fathers; and 51 percent (again, $1,700 and 17 percent per child) for three children, one with each of three fathers. Given a sequential approach and the assumption that the mother was always the first to have children with each father, the amount due is invariant to the fathers' (subsequent) obligations. Thus, the amounts in each panel in the column are the same. The increase as we move down the three panels (and child support grows from 17 to 51 percent) reflects the greater number of children living with the mother. In contrast, the first column of orders in Table 3b shows the variation in order amounts with number of fathers, holding total number of children constant. A mother with three children will be due $2,900, $4,200 (from $2,500 for two children of the same father plus $1,700 for one child of another father), or $5,100, depending on whether she had the children with one, two, or three fathers.[17]

[17]The result would be significantly more complicated if we allowed for income levels to vary across fathers (as in the microsimulation). In addition, it is worth noting that as the number of fathers increases, the total combined resources also increase. Thus, the $5,100 due to a mother with one child each with three fathers is equivalent to 17 percent of the total income of each of the three fathers. We consider support orders from the father's perspective in Table 4.

The next column (2) of Table 3 again shows the result for a couple-specific sequential approach, but this time assuming that any other children of the same father were born *prior* to this mother's children. In each panel order amounts fall as the number of previous relationships increase. Considering the final panel, a mother with three children, one by each of three fathers, would be due $5,100 if the fathers had no other children, $4,233 if the fathers each had a child with one other mother, and $3,513 if the fathers each had a child with two other mothers. The reductions in cases where the fathers have prior children reflect child support orders computed as a proportion of fathers' income net of the previous child support obligations.

The third column of order amounts shows the amounts due to the mother given a couple-specific averaged approach. This averaged approach calls for a support amount between that shown in the first two columns. This is expected, since all mothers with the same family structure receive the same support—less than the "first" mother, and more than the "last" mother considered in a sequential approach.

Columns 4 to 6 show the support amounts due given a collective mother-focused approach. Because this approach considers only the total number of children living with the mother in determining the order, the amounts due to the mother do not vary with the father's other obligations (whether prior or subsequent).[18] Thus, the first three panels show that mothers will receive $1,700, $2,500 and $2,900 for one, two, or three children, regardless of the number of fathers, fathers' other obligations, or birth order. And, in Table 3b, where all mothers have three children, all are due $2,900.

While a collective mother-focused approach yields consistent amounts of support due to mothers with the same family size, the same is not true for a collective father-focused approach. Columns 7 to 9 of Table 3 show the support due to mothers when orders are set according to the total number of children

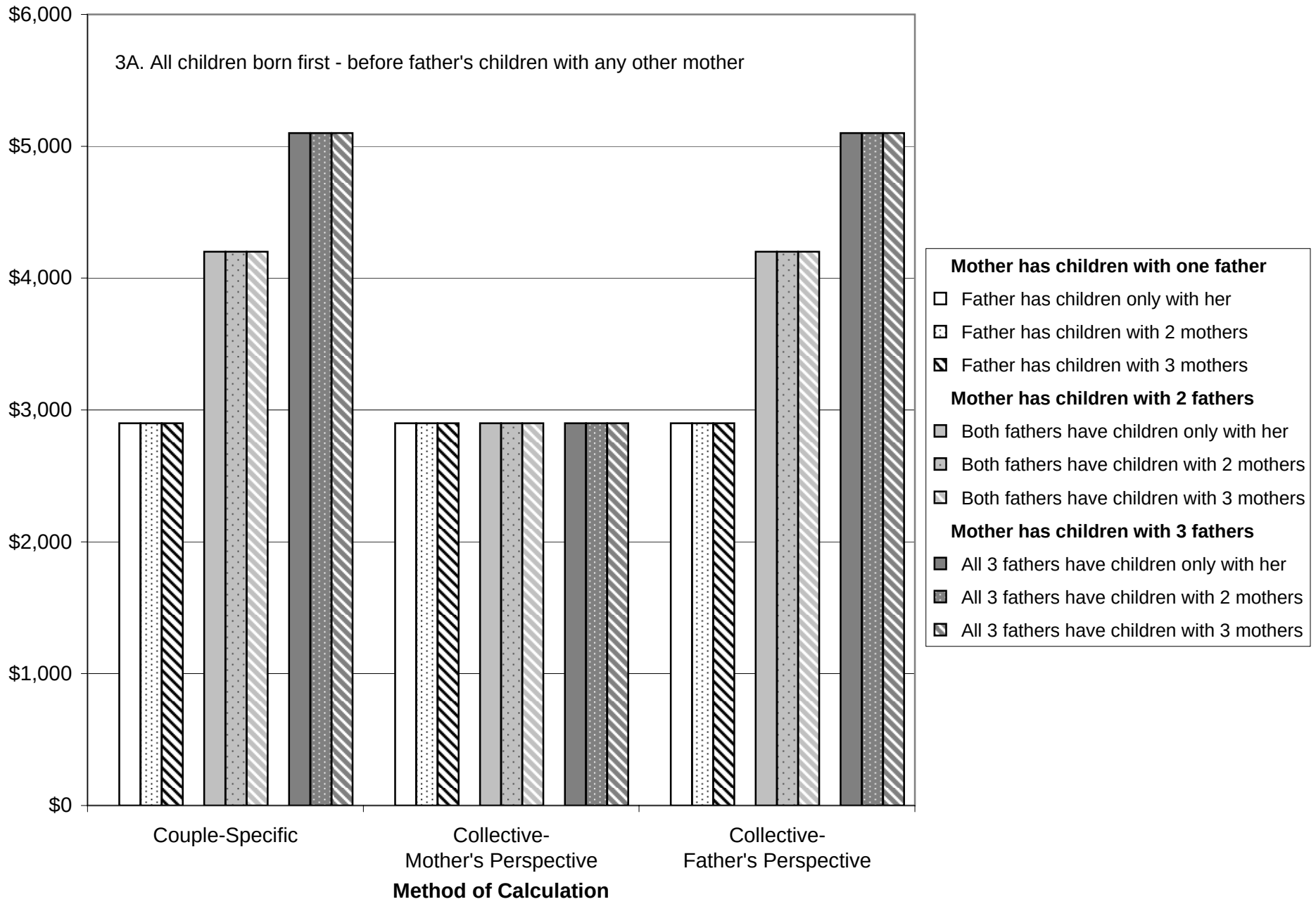
[18]Note that an alternative application of this principle would allow child support amounts to vary with father's other obligations. Orders could be set according to mother's total number of children, and the percent of father's income due calculated accordingly. It is feasible to then take that percentage of income, net of father's prior obligations. This would, however, have the effect of assigning all of the cost savings associated with economies of scale due to the number of residential children of a mother to the fathers, and also reducing father's contributions to account for his other obligations.

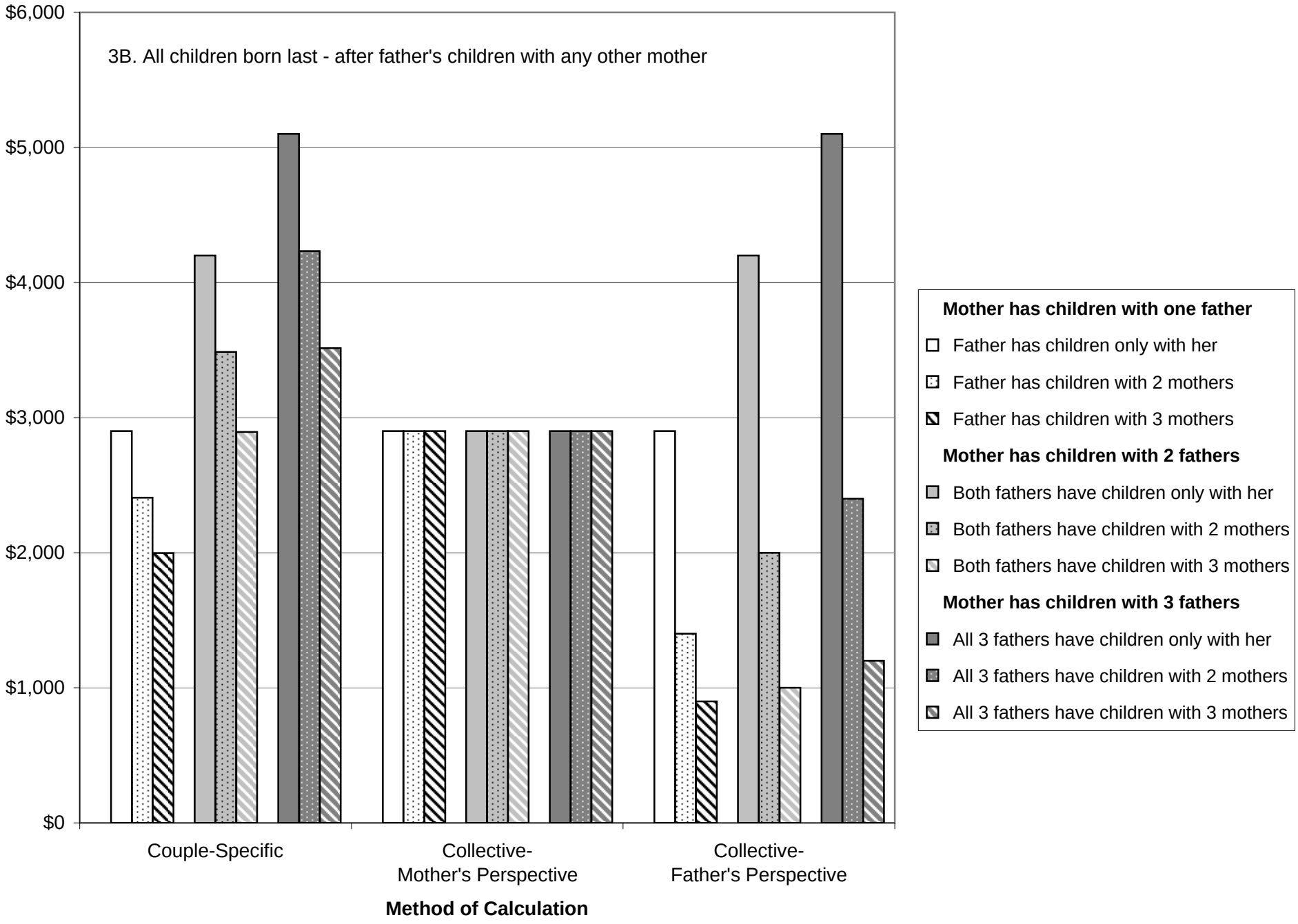
supported by the father—with the allocation of the amount ordered set sequentially or using an averaged approach. A comparison of columns 1 and 7 shows that the couple-specific and collective father-focused approaches yield the same support for first families when orders are set sequentially. However, for last families the outcomes are very different in the couple-specific and collective father-focused cases. For example, consider the second row of Table 3a, which shows the order for a mother who has had a child with only one father, while the father has had a child with two mothers. Under the couple-specific approach she will be due $1,700 if she is the first mother (column 1), and $1,411 if she is the second mother (column 2; $1,411 is equal to 17 percent of income ($8,300) remaining after the father pays a first order of $1,700). The father in this case will pay a total of $3,111 in child support. In contrast, in a collective father-focused approach the father will pay a total of $2,500 (given his two children). In the sequential case, the first mother will again receive $1,700 (column 7), but the second will receive only $800 percent (column 8). A mother whose partner has prior obligations to two other partners (the final row of each panel) will be due very little child support given this approach. The dramatic differences in support amounts by birth order are eliminated in the averaged collective father-focused approach shown in column 9. Here total order amounts due from a given father are set according to his total family size, but first and last children are treated equally.

Selected results from Table 3a are also illustrated in two panels of Figure 3. The first panel (A) shows the total support due to a mother whose three children are always the first born to their father(s), while the second panel (B) shows total support due to a mother whose three children are always the last born to their father(s). The collective mother's perspective leads to the same support being due regardless of the number of fathers or the number of the father's other obligations. The other approaches lead to child support varying with the number of fathers, and (except when all the children are all in first-born sibships) with the father's other obligations.

Overall, the results in Table 3 and Figure 3 illustrate the trade-offs that arise in designing a child support policy for families with a history of multiple-partner fertility. The desire to hold children (and

Figure 3
Child Support Due to Mother with Three Children




3B. All children born last - after father's children with any other mother
$6,000
$5,000
$4,000
$3,000
$2,000
$1,000
$0
Couple-Specific
Collective-
Mother's Perspective
Collective-
Father's Perspective
Method of Calculation
Mother has children with one father
Father has children only with her
Father has children with 2 mothers
Father has children with 3 mothers
Mother has children with 2 fathers
Both fathers have children only with her
Both fathers have children with 2 mothers
Both fathers have children with 3 mothers
Mother has children with 3 fathers
All 3 fathers have children only with her
All 3 fathers have children with 2 mothers
All 3 fathers have children with 3 mothers

mothers) harmless for subsequent births to the father motivates a sequential approach. However, this leads to inequalities by birth order. An averaged approach makes child support invariant to birth order, but leads to progressively lower orders for an earlier family as a father has subsequent children with other mothers. With regards to the family unit used, the couple-specific approach provides a relatively straightforward strategy for applying guidelines designed for simple families to those with multiple-partner fertility. However, it can quickly lead to very high order amounts for parents with high numbers of partners. The collective approaches each handle one side of this problem—keeping orders constant for a given number of resident children in the case of the collective mother-focused approach, and keeping orders constant for a given number of nonresident children in the case of the collective father-focused approach. However, the mother-focused and father-focused collective approaches are mutually exclusive, and neither one alone addresses both aspects of the problem.[19]

Child Support Owed by Fathers

Table 4 shows the total child support owed by a father under each prototypical policy, and how this varies with patterns of multiple-partner fertility. Many of the patterns illustrated in Table 3 are quite similar in Table 4, but there are a number of ways in which the results for child support owed by fathers are a mirror image of those for support due to mothers. For example, the amount of child support a mother is due varies with birth order except in the case of a collective mother-focused approach (Table 3, columns 4 to 6). In contrast, the amount a father owes is invariant to birth order *except* in the case of the collective mother-focused perspective (Table 4, columns 4 to 6). Similarly, the amount of support a mother is due varies with the father's or fathers' other obligations, except in the case of the collective mother-focused approach. In contrast, it is only in the case of the collective mother-focused perspective

[19]It is noteworthy that either collective approach would be sufficient if both partners in a couple always had the same histories of multiple-partner fertility. For example, equivalent histories for both partners would require that if a mother has one child each with three fathers, each of those three fathers each had one child with each of three mothers, who in turn each have children with three fathers, and so forth. In this case, both the collective mother-focused and father-focused approaches would result in order amounts equivalent to those provided if each parent had three children with a single partner (of average income).

that the amount an individual father owes varies with the number of other partners of the mother (i.e., within panels in Table 4). Finally, the dramatic disparities in support due to mothers given a collective father-focused sequential approach (Table 3, columns 7 and 8), are mirrored in the disparities in support owed by fathers given a collective mother-focused sequential approach (Table 4, columns 4 and 5). Selected results from Table 4b, for a father with three children, are summarized in Figure 4.

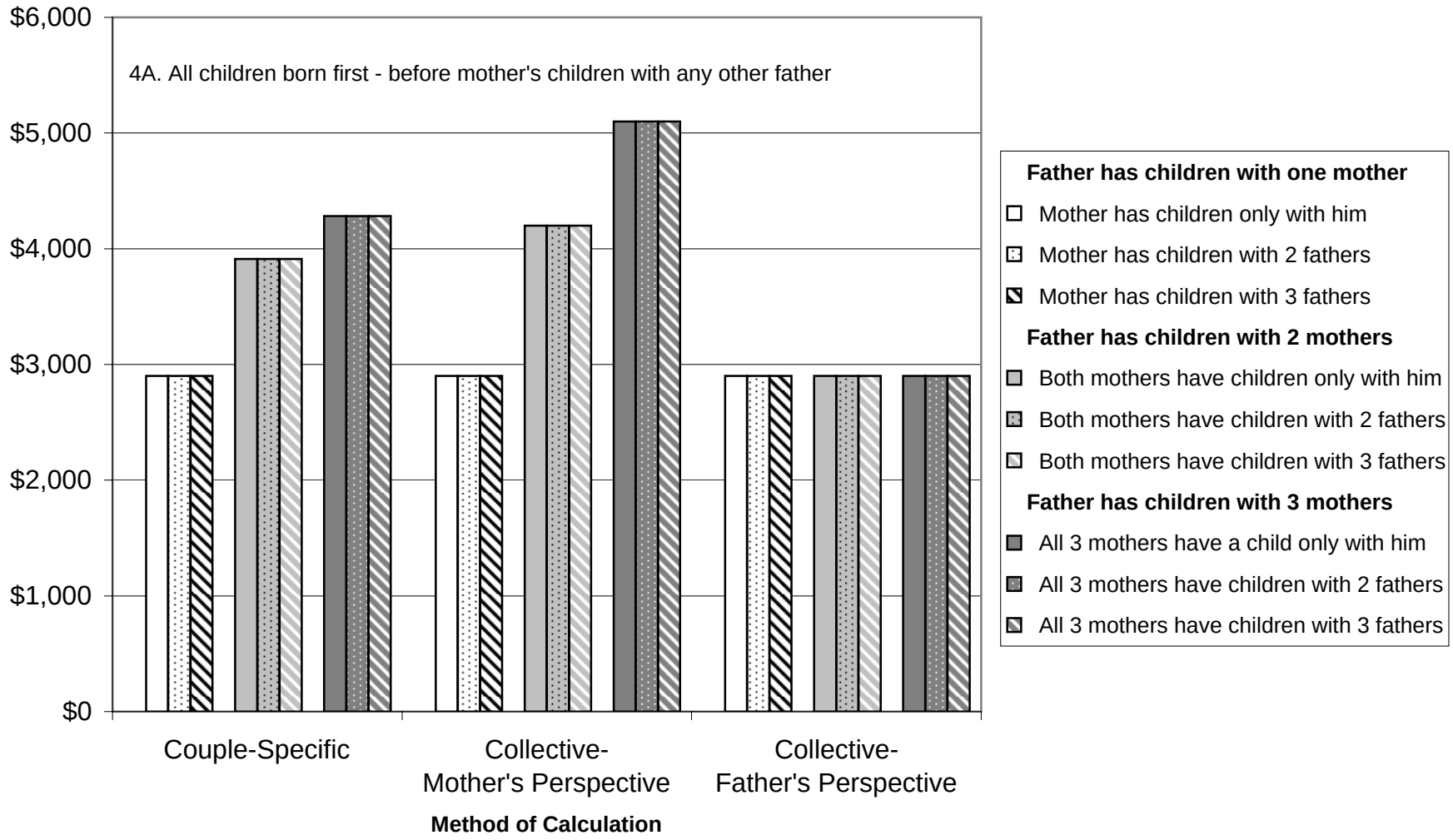
Simulated Orders for Wisconsin Families

The hypothetical orders illustrated in Tables 3 and 4 show the implications of alternative policies for an illustrative set of family structures. Support amounts reflect the assumption that all fathers associated with a given mother have the same income. We now turn to a microsimulation that uses our data on family structure and incomes of families in Wisconsin to simulate the orders that would result from each of the prototypical policies.

Table 5 and Figure 5 show the mean child support due to Wisconsin mothers under each policy regime. These simulations reflect the family structures and actual incomes of the families in our sample, and the second and third column of Table 5 reports fathers' mean earnings and mothers' mean number of children. The tables report results only for the "averaged" approach to couple-specific, collective mother-focused, and collective father-focused approaches. In contrast to the hypothetical simulations, in these empirically based simulations it is impossible to categorize families by birth order; many parents with multiple partners may have been a "first" partner in one relationship and a "last" in another. Given this mix, the mean sequential and averaged amounts are very similar for most cases, and for expositional simplicity we report only the averaged.[20] Finally, in Table 5 we return to the categorization used in Table

[20]In the case of couple-specific orders, the sequential and averaged methods produce similar mean support amounts due across all mothers. However, the means mask changes in the underlying distribution. For example, among all couples with MPF, the move from the sequential to averaged methods results in orders falling by $101 to $500 per year for 11.3 percent of mothers, and by over $500 for 7.1 percent of mothers. This is approximately offset in the mean amounts by mothers who have similar gains—11.7 percent of mothers with orders rising by $101 to $500, and the 7.2 percent of mothers with orders rising by more than $500. A similar pattern of offsetting changes in support due to mothers is observed for the collective approaches.

Figure 4
Child Support Owed by Father with Three Children



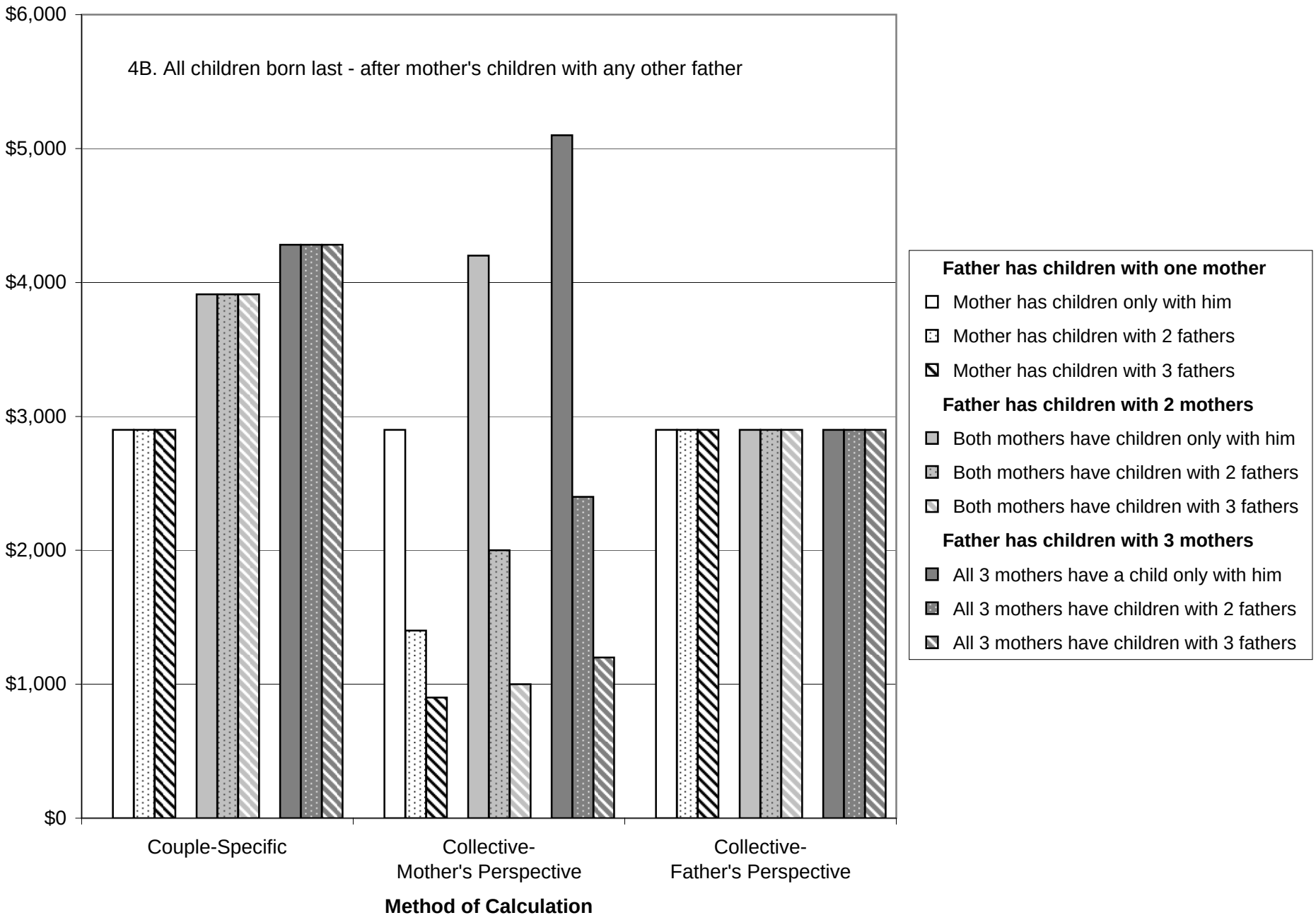
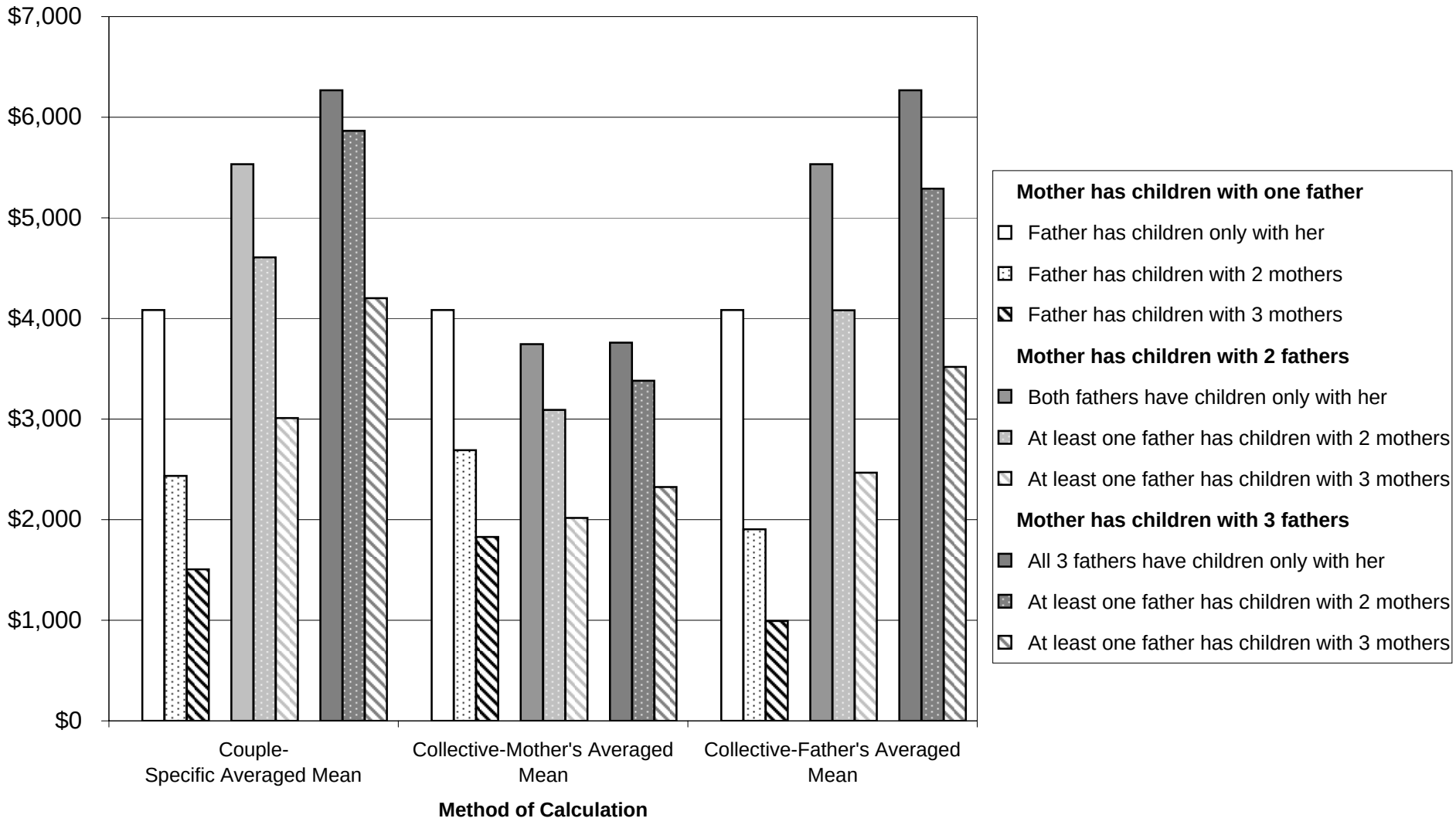

4B. All children born last - after mother's children with any other father
$6,000
$5,000
$4,000
$3,000
$2,000
$1,000
$0
Couple-Specific
Collective-
Mother's Perspective
Collective-
Father's Perspective
Method of Calculation
Father has children with one mother
Mother has children only with him
Mother has children with 2 fathers
Mother has children with 3 fathers
Father has children with 2 mothers
Both mothers have children only with him
Both mothers have children with 2 fathers
Both mothers have children with 3 fathers
Father has children with 3 mothers
All 3 mothers have a child only with him
All 3 mothers have children with 2 fathers
All 3 mothers have children with 3 fathers

Table 5
Microsimulation of Child Support Due to Mothers

	N Obs	Father's Mean Earnings	Mother's Mean Number of Children	Couple-Specific Averaged Mean	Collective-Mother's Averaged Mean	Collective-Father's Averaged Mean
Mother has children with one father						
Father has children only with her	155,057	$19,519	1.5	$4,082	$4,082	$4,082
Father has children with 2 mothers	27,001	13,931	1.4	2,434	2,691	1,904
Father has children with 3 mothers	6,059	9,628	1.3	1,506	1,827	992
Father has children with 4 or more mothers	3,105	5,768	1.4	794	1,098	443
Mother has children with 2 fathers						
Both fathers have children only with her	12,625	$14,633	2.5	$5,534	$3,745	$5,534
At least one father has children with 2 mothers	9,416	12,993	2.5	4,607	3,090	4,081
At least one father has children with 3 mothers	3,521	8,961	2.5	3,010	2,018	2,467
At least one father has children with 4 or more mothers	2,498	6,379	2.5	2,008	1,353	1,542
Mother has children with 3 fathers						
All 3 fathers have children only with her	805	$11,318	3.6	$6,269	$3,760	$6,269
At least one father has children with 2 mothers	1,375	11,230	3.6	5,864	3,382	5,289
At least one father has children with 3 mothers	840	8,414	3.6	4,201	2,324	3,518
At least one father has children with 4 or more mothers	831	5,996	3.6	2,909	1,614	2,341
Mother has children with 4 or more fathers						
All 4 or more fathers have children only with her	36	$5,548	4.8	$4,131	$2,039	$4,131
At least one father has children with 2 mothers	136	7,876	4.9	5,666	2,838	5,142
At least one father has children with 3 mothers	147	6,542	4.8	4,424	2,250	3,723
At least one father has children with 4 or more mothers	217	5,218	4.9	3,531	1,803	2,783

Figure 5
Child Support Due to Resident Mother, Simulation Using Wisconsin Data



1—a set of exhaustive and mutually exclusive categories that show a range from one to four-or-more fathers.

Consider the first panel of Table 5, which includes mothers who have had children with only one father. The first row shows cases in which the father has children only with that one mother. Father's mean earnings were $19,519, and the couples had on average 1.5 children. Under all three policy regimes the mean child support due to the mother is estimated to be $4,082. The next row shows results for mothers who have had children with just one father, while that father has had children with two mothers. While these couples have about the same number of children on average (1.4), the father's mean income is substantially lower ($13,931). Lower earnings account for most of the drop in child support amounts in the case of the collective mother-focused approach (which does not adjust for the father's other children). The father's other obligations account for the additional declines in the couple-specific approach and the collective father-focused approach.

The earnings data show that as the number of a father's partners increases, average father's earnings declines, leading to lower support under all policies. At the same time, as the father's other obligations grow, the differentials between the couple-specific, collective mother-focused, and collective father-focused approaches also grow. To illustrate, consider the last row of the first panel, which shows outcomes for mothers who have had children with one father who himself has had children with four or more mothers. These mothers are due less support, and support amounts vary more substantially across policy regimes—with the collective mother-focused perspective approach resulting in orders that are about two and a half times as great as those derived from a collective father-focused perspective ($1,098 relative to $443).

Looking down the panels in Table 5 and considering patterns of child support as a mother's number of partners increases, we see changes in the relative support levels across policy regimes. Compared to the couple-specific and collective father-focused approach, when fathers have multiple obligations the collective mother-focused approach results in relatively high amounts of child support for

mothers who have had children with one father, but relatively low amounts of support for those with two or more fathers. The couple-specific approach yields higher support amounts than the collective father-focused approach, but the differential shrinks as the number of mother's partners increases.

The child support orders in Table 5 reflect the average amounts owed to mothers with different family structures under each policy regime. Table 6 shows the distribution of changes in simulated order amounts. The first column shows only the mean order amount given a collective couple-specific approach. The other columns show mean amounts, as well as the proportion gaining or losing at least $1000 given a collective mother-focused or collective father-focused approach. For mothers who have had children with only one father, mean orders rise a small amount given the mother-focused approach, but less than 2 percent of mothers would have an increase of at least $1000. For these mothers mean orders fall a small amount given a father-focused approach, but only about 3 percent of mothers would have a decrease of at least $1000. The alternative policies have much larger impacts for mothers with multiple fathers (who, as we saw in Table 1, are also more likely to have children with at least one father who has multiple obligations). The collective mother-focused approach results in a substantial decline in mean order (from $4579 to $3095) and 43 percent of cases would experience a decline of over $1000. The collective father-focused approach results in less of a decline, but about 12 percent of mother with two children experience a decline of at least $1000. The size of the average declines and the proportion with losses over $1000 increase as we consider mothers with greater numbers of fathers.

Turning to child support owed by fathers, Table 7 and Figure 6 show the simulation results for Wisconsin fathers by the number of mothers of their children. Income patterns parallel those shown in Table 5—fathers who have had children with more mothers, or with mothers who have themselves had multiple partners, have lower average earnings. Given a couple-specific approach, we see some increase in total child support owed by fathers with more partners (and on average with more children), but the pattern of increase is not consistent, as the growing percentage of income due is offset by smaller base incomes. Comparing across alternative policies, we see that the collective mother-focused approach

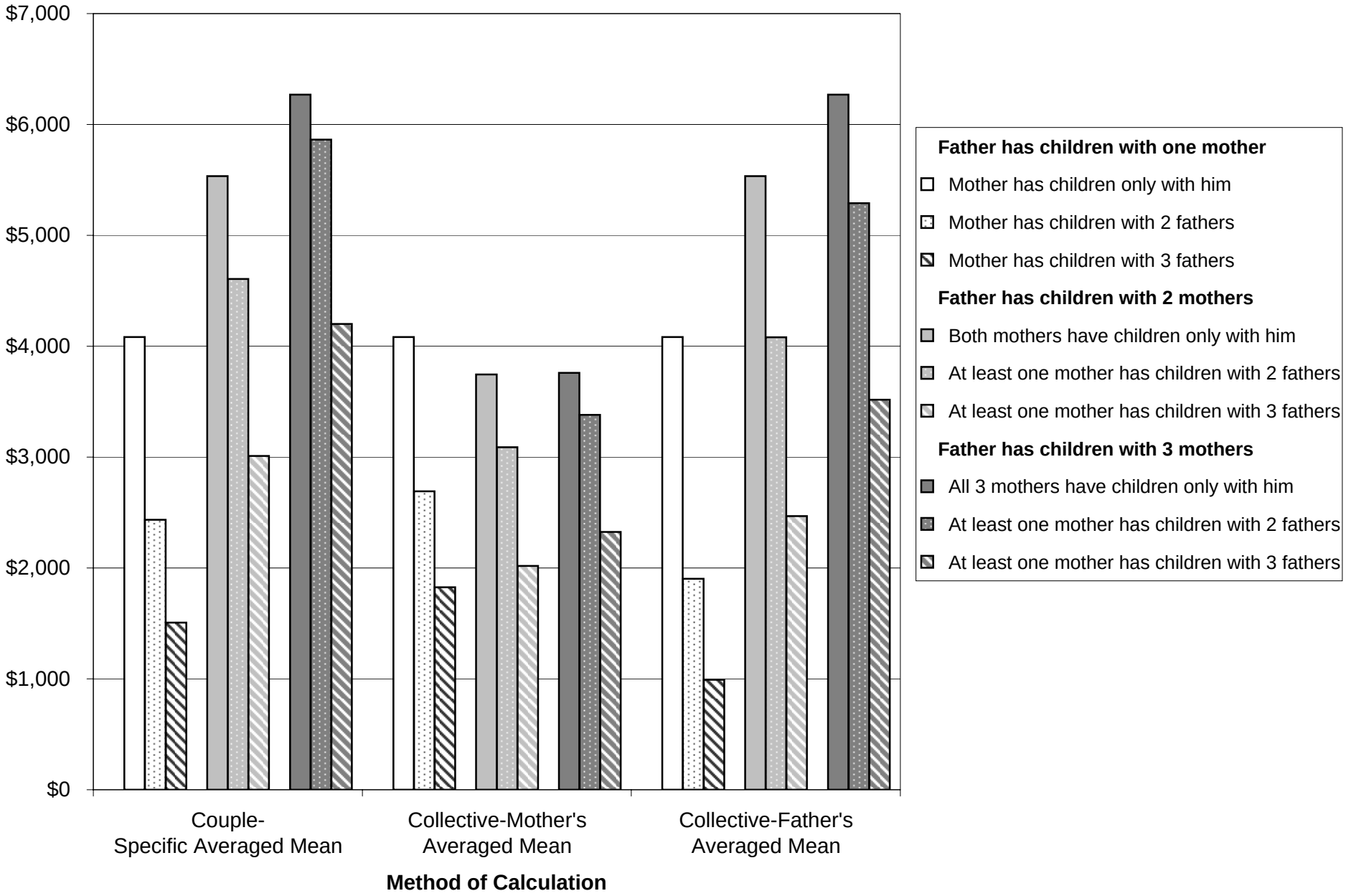
Table 6
Changes in Child Support Due to Mother

	Couple-Specific	Collective Mother-Focused	Collective Father-Focused
Mothers with one father			
Mean amount due	$3,717	$3,766	$3,625
% with decrease over $1,000		0.0	3.4
% staying within $1,000		98.2	96.6
% with increase over $1,000		1.8	0.0
Mothers with 2 fathers			
Mean amount due	$4,579	$3,095	$4,267
% with decrease over $1,000		43.1	11.6
% staying within $1,000		56.2	88.4
% with increase over $1,000		0.7	0.0
Mothers with 3 fathers			
Mean amount due	$4,923	$2,849	$4,397
% with decrease over $1,000		52.0	18.5
% staying within $1,000		47.6	81.5
% with increase over $1,000		0.4	0.0
Mothers with 4 or more fathers			
Mean amount due	$4,351	$2,204	$3,687
% with decrease over $1,000		57.1	24.1
% staying within $1,000		42.5	75.9
% with increase over $1,000		0.4	0.0

Table 7
Microsimulation of Child Support Owed by Fathers

	N Obs	Father's Mean Earnings	Father's Mean Number of Children	Couple-Specific Averaged Mean	Collective-Mother's Averaged Mean	Collective-Father's Averaged Mean
Father has children with one mother						
Mother has children only with him	155,057	$19,519	1.5	$4,082	$4,082	$4,082
Mother has children with 2 fathers	36,194	14,008	1.3	2,657	1,746	2,657
Mother has children with 3 fathers	6,160	10,479	1.2	1,928	1,095	1,928
Mother has children with 4 or more fathers	932	6,624	1.2	1,220	580	1,220
Father has children with 2 mothers						
Both mothers have children only with him	8,581	$14,681	2.6	$5,077	$5,614	$3,969
At least one mother has children with 2 fathers	9,746	12,672	2.6	4,337	3,759	3,402
At least one mother has children with 3 fathers	2,937	10,398	2.6	3,554	2,724	2,789
At least one mother has children with 4 or more fathers	663	6,423	2.6	2,203	1,605	1,731
Father has children with 3 mothers						
All 3 mothers have children only with him	629	$11,493	3.9	$5,291	$6,410	$3,489
At least one mother has children with 2 fathers	1,987	8,627	3.8	3,990	4,053	2,630
At least one mother has children with 3 fathers	1,014	7,444	3.8	3,432	3,093	2,263
At least one mother has children with 4 or more fathers	323	6,274	3.8	2,884	2,365	1,899
Father has children with 4 or more mothers						
All 4 or more mothers have children only with him	74	$7,023	5.2	$4,127	$5,609	$2,339
At least one mother has children with 2 fathers	619	6,215	5.7	3,640	4,317	2,044
At least one mother has children with 3 fathers	603	4,905	5.8	2,915	3,274	1,618
At least one mother has children with 4 or more fathers	254	4,344	6.2	2,628	2,918	1,433

Figure 6
Child Support Owed by Nonresident Father, Simulation Using Wisconsin Data



results in substantial reductions in support owed when fathers have partnered with mothers who have had children with many partners (the later rows in each panel). The collective father-focused approach results in substantial reductions in support owed by fathers who have had children with many partners.

The child support orders in Table 7 reflect the average amounts owed by fathers with different family structures under each policy regime. Table 8 shows the distribution of changes in simulated order amounts. When fathers owe support to only one mother, the three policy regimes result in similar orders (identical orders under a couple-focused or collective father-focused approach, and a small decline given a collective mother-focused approach). However, among fathers with multiple obligations there are substantial changes in orders across the three approaches. For example, for those with children with two mothers, a move from a couple-specific to collective mother-focused approach would cause total orders to fall by more than $1000 for 15 percent of fathers (those who have had children with mothers who are also receiving support from other fathers). Total orders would increase by over $1000 for 12 percent of fathers (primarily those who have had children with mothers who are not receiving support from other fathers, and who are now entitled to a percentage of father's total income, rather than income net of prior child support obligations). These results again illustrate the importance of alternative policies for complicated families. Policy changes that would be inconsequential in the absence of multiple-partner fertility can be expected to result in major changes in orders for many parents with multiple partners.

VI. CONCLUSIONS

The child support system is designed to provide economic support to children who do not live with both of their parents. The parameters of the system have important implications for the economic well-being of children, and their custodial and noncustodial parents. Given the high incidence of multiple-partner fertility documented here, developing a coherent approach to parental obligations in the context of multiple partners should be a policy priority.

We argue that key principles underlying the child support system are in tension when applied to families that include parents with multiple partners. Longstanding child support policies that are

Table 8
Changes in Child Support Owed by Father

	Couple-Specific	Collective Mother-Focused	Collective Father-Focused
Fathers with one mother			
Mean amount owed	$3,742	$3,556	$3,742
% with decrease over $1,000		5.2	0.0
% staying within $1,000		94.8	100
% with increase over $1,000		0.0	0.0
Fathers with 2 mothers			
Mean amount owed	$4,457	$4,245	$3,491
% with decrease over $1,000		15.1	36.1
% staying within $1,000		73.2	63.9
% with increase over $1,000		11.7	0.0
Fathers with 3 mothers			
Mean amount owed	$3,964	$3,905	$2,613
% with decrease over $1,000		12.8	36.2
% staying within $1,000		74.1	63.8
% with increase over $1,000		13.1	0.0
Fathers with 4 or more mothers			
Mean amount owed	$3,215	$3,432	$1,792
% with decrease over $1,000		6.97	30.65
% staying within $1,000		82.19	69.35
% with Increase over $1,000		10.84	0.0

consistent with these principles when applied to simple families, do not work well when applied to situations that include parents with multiple partners. Some policy alternatives may lead to unmanageable burdens for noncustodial parents. Other approaches leave custodial parents with insufficient resources, create inequities across children due to birth order, or leave custodial parents and children vulnerable to the noncustodial parent's later births. Choosing between policy alternatives will be complex given the inevitable trade-offs.

Each policy alternative results in a different cost structure (and economic incentive) associated with an additional child. As we illustrate, child support orders vary dramatically by size of sibship, number of partners, and those partners' other partnerships. The child support system involves some of the most explicit government regulation of parents' obligations to their children. Thus, understanding the principles and tensions underlying alternative policies also provides an interesting perspective on reactions to changing family structure.

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