



**REVIEW OF THE MINNESOTA BASIC CHILD SUPPORT TABLE:  
ECONOMIC DATA ON THE COST OF RAISING CHILDREN  
AND OTHER CONSIDERATIONS**

*Submitted to:*

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Points of view expressed in this document are those of the author and do not necessarily represent the official position of the Task Force, State or Court. The author is responsible for any errors and omissions.

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## EXECUTIVE SUMMARY

Minnesota is reviewing its child support guidelines. This includes reviewing the table of basic support obligations (Minnesota Statutes 2016 Section 518A.35 subdivision 2). The table is based on economic data on the cost of raising children that is over 10 years old. A Task Force of diverse stakeholders has been formed to assist with the review. Minnesota Department of Human Services (DHS) is administering the review. DHS has contracted individually with two economists to provide separate reports “summarizing the commonly used methods for determining base child support in the United States, as well as the methods used by R. Mark Rogers and William Comanor.”

One economist is Comanor. The other is Dr. Jane Venohr, who has prepared this report. Venohr interprets the task as summarizing the data and assumptions underlying state child support tables including the economic studies of child-rearing expenditures and other assumptions such as the state’s choice of guidelines models. State guidelines are part economic data and part policy decisions. Venohr’s approach is to identify the major assumptions and data underlying a child support table, as well as the merits and limitations of alternative assumptions and data. The intent is to provide Minnesota decision makers with objective information to make guidelines changes that will better serve Minnesota children and families.

## ECONOMIC STUDIES OF CHILD-REARING COSTS

There are nine different studies of child-rearing expenditures that form the basis of state guidelines. They vary in data years and economic methodologies used to separate the child’s expenditures from total expenditures for a household that includes the parents and possibly other adults. Economists have not reached a consensus on which methodology best reflects actual child-rearing expenditures, but economists and policymakers generally agree that any amount between the lowest of the most current credible measurements and the highest of the most current credible measurement is appropriate for a state’s guidelines. To this end, Venohr compares the existing Minnesota table, which is mostly based on a 2001 study of child-rearing costs, to three current studies of child-rearing expenditures.

- *The most current United States of Department of Agriculture (USDA) study.*<sup>1</sup> An older USDA study forms the basis of the existing Minnesota table. The USDA measurement is often used as the highest measurement when assessing a state’s guidelines.
- *The most current Betson-Rothbarth (BR) study.*<sup>2</sup> The BR measurements form the basis of most state guidelines tables. Historically, the Rothbarth estimator has been considered the lowest of credible measurements.

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<sup>1</sup> Lino, Mark, et al. (2017). Expenditures on Children by Families: 2015 Annual Report. U.S. Department of Agriculture, Center for Nutrition and Policy Promotion. Miscellaneous Publication No. 1528-2015, Washington, D.C. Available at <http://www.cnpp.usda.gov/publications/crc/crc2015.pdf>.

<sup>2</sup> Betson, David M. (2010). “Appendix A: Parental Expenditures on Children.” In Judicial Council of California, *Review of Statewide Uniform Child Support Guideline*. San Francisco, California. Retrieved from: <http://www.courts.ca.gov/partners/documents/2011SRL6aGuidelineReview.pdf>.

- *The Comanor study.*<sup>3</sup> This offers a new method for measuring the cost of children.

All three studies were updated to 2017 prices using information published by the U.S. Bureau of Labor Statistics.<sup>4</sup> The comparisons of the existing Minnesota table to the USDA study and BR study suggest that increases to the Minnesota table are warranted. This makes sense given changes in price levels alone. The comparisons of the existing Minnesota table to the Comanor study amounts (even when updated to 2017 price levels), however, suggest substantial decreases. In fact, the Comanor study yields child support amounts significantly below poverty levels.

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#### ANALYSIS OF THE COMANOR STUDY

Comanor measures child-rearing expenditures separately for most of the same expenditure categories that the USDA does (*i.e.*, the child's housing, food, transportation, health care, clothing, child care and education and miscellaneous expenses that include personal items and entertainment). Comanor's results are significantly less than the USDA amounts. Some do not seem plausible when compared to other data sources. For example, Comanor estimates that food costs \$8 to \$14 per week for one child which is essentially the cost of a gallon of milk, a dozen of eggs, and two loaves of bread, based on Minneapolis food prices. Iowa also examined the Comanor et al. amounts and rejected them because they were below basic needs amounts. Most states believe that a state's child support guidelines should provide amounts that allow a child to share in the standard of living enjoyed by the obligated parent if the obligated parent can afford a higher standard of living.

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#### ANALYSIS OF OTHER STUDIES

There are also limitations with the BR study and USDA study; however, the BR study and the USDA study have been reviewed and critiqued extensively in the past 25 years. They yield similar amounts. Either the BR study or the USDA study would be appropriate for updating the Minnesota child support table.

#### RECOMMENDATIONS

The Task Force should review all major factors underlying a child support table (see Exhibit 2 for a list). The first factor of discussion should be the guidelines model. The Task Force may want to consider more than one measurement of child-rearing expenditures (*e.g.*, both the BR and USDA measurements) and variations in other underlying assumptions. If there is still interest in the Comanor study, the discussion should consider whether a child support table that yields below-poverty level orders is appropriate; or whether the child support guidelines should yield amounts that allow the child to share in the standard of living afforded by an obligated parent. Beliefs about these outcomes relate to appropriate guidelines model for Minnesota; hence, underscore guidelines models being the first consideration.

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<sup>3</sup> The Comanor study refers to the 2017 materials that Comanor presented to the Minnesota Task Force. Those materials also consist of a paper co-authored by Comanor that provides more detail on the methodology and the results of the measurements of child-rearing costs that Comanor presented to the Task Force in February. Comanor, William. (February 22, 2017.) *Presentation to the Minnesota Child Support Task Force*, Minnesota Department of Human Services, St. Paul, MN. [https://mn.gov/dhs/assets/2017-02-22-Dr-Comanor-Report-to-the-Minnesota-Child-Support-Task-Force\\_tcm1053-280776.pdf](https://mn.gov/dhs/assets/2017-02-22-Dr-Comanor-Report-to-the-Minnesota-Child-Support-Task-Force_tcm1053-280776.pdf).

<sup>4</sup> The February 2017 Consumer Price Index was used. It is available at <https://www.bls.gov/cpi/>.

## SECTION I: INTRODUCTION AND PURPOSE

Minnesota is reviewing its child support guidelines. At the core of the Minnesota child support guidelines is a table of basic support obligations owed by both parents (Minnesota Statutes 2016 Section 518A.35 subdivision 2). (An excerpt of the table is shown in Exhibit 1.) The obligated parent’s prorated share of the basic support obligation forms the guidelines-calculated order amount. Additional

**Exhibit 1: Excerpt from the Existing Minnesota Child Support Basic Table**

Combined Parental Income for Determining Support			One Child	Two Children	Three Children
2500.00	-	2599.00	560	903	1040
2600.00	-	2699.00	570	920	1060
2700.00	-	2799.00	580	936	1078
2800.00	-	2899.00	589	950	1094
2900.00	-	2999.00	596	963	1109
3000.00	-	3099.00	603	975	1122
3100.00	-	3199.00	613	991	1141
3200.00	-	3299.00	623	1007	1158
3300.00	-	3399.00	636	1021	1175
3400.00	-	3499.00	650	1034	1190
3500.00	-	3599.00	664	1047	1204
3600.00	-	3699.00	677	1062	1223
3700.00	-	3799.00	691	1077	1240

adjustments are made for actual child care expenses, the actual cost of health insurance for the children, parenting-time expense, and other factors when calculating the child support order. The table considers a range of incomes and number of children. The basic obligations reflect economic data on what families spend to raise their children.

A Task Force of diverse stakeholders has been formed to assist with the review. Minnesota Department of Human Services (DHS) is administering the review. DHS has contracted individually with two economists to provide separate reports “summarizing the commonly used methods for determining base child support in the United States, as well as the methods used by R. Mark Rogers and William Comanor.”

One of the contracted economists is Dr. Comanor, Professor of Economics, University of California at Santa Barbara. The other is Dr. Jane Venohr, an economist with a non-partisan, non-profit organization, that has over 20 years of experience assisting states with guidelines reviews and the development of guidelines. This is Dr. Venohr’s report.

## OVERVIEW OF MATERIALS SUBMITTED BY DR. COMANOR TO TASK FORCE

Dr. Comanor provided his materials on February 22, 2017.<sup>5</sup> It includes a PowerPoint presentation, an 11-page report to the Minnesota Child Support Task Force, and his co-authored 2015 paper that measured the “monetary cost” of raising children.<sup>6</sup> In this report, “Comanor” is used to refer to the 2017

<sup>5</sup> Comanor, William. (February 22, 2017.) *Presentation to the Minnesota Child Support Task Force*. Minnesota Department of Human Services, St. Paul, MN. [https://mn.gov/dhs/assets/2017-02-22-Dr-Comanor-Report-to-the-Minnesota-Child-Support-Task-Force\\_tcm1053-280776.pdf](https://mn.gov/dhs/assets/2017-02-22-Dr-Comanor-Report-to-the-Minnesota-Child-Support-Task-Force_tcm1053-280776.pdf).

<sup>6</sup> Comanor, William S., Sarro, Mark, and Rogers, R. Mark. (2015). “The Monetary Cost of Raising Children.” *Economic and Legal Issues in Competition*, in James Langenfeld (ed.) *Economic and Legal Issues in Competition, Intellectual Property, Bankruptcy, and the Cost of Raising Children (Research in Law and Economics, Volume 27)* Emerald Group Publishing Limited, pp.209 <http://www.emeraldinsight.com/doi/abs/10.1108/S0193-589520150000027008>.

document while “Comanor et al.” is used to refer to the Comanor, Sarro, and Roger’s study that was appended. Comanor’s Powerpoint presentation (and his 11-page report at a general level) mostly compare United States Department of Agriculture (USDA) 2009 measurements of child-rearing expenditures to the Comanor et al. study, as well provide a limited comparison to “Rothbarth” estimates of child-rearing expenditures. As explained in this report, Rothbarth is an economic methodology used to measure child-rearing expenditures (*i.e.*, separate expenditures for the child from expenditures for adults living in the same household). Measurements of child-rearing expenditures using the Rothbarth methodology form the basis of the majority of state guidelines schedule and formulas.

Comanor concludes that child support guidelines exceeding actual child-rearing costs create some financial incentives around custody of the children and reduces the willingness of obligated parents to pay child support.

#### DR. VENOHR’S APPROACH

Venohr’s approach to fulfilling the scope of work differs from Comanor’s. (As a refresher, the contracted scope of work is shown in the textbox to the right.)

Venohr focuses on the state’s basic guidelines table as provided in Minn. Stat. §§ 518A.35 Subd. 2. (An excerpt was shown in Exhibit 1.) The table reflects economic data on how much families spend on children.

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*Contracted task:* “summarizing the commonly used methods for determining base child support in the United States, as well as the methods used by R. Mark Rogers and William Comanor.”

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There are nine different studies of child-rearing expenditures that form the basis of state guidelines.

They vary in data years and economic methodologies

used to separate the child’s expenditures from total expenditures for a household that includes the parents and possibly other adults. Economists have not reached a consensus on which methodology best reflects actual child-rearing expenditures, but economists and policymakers generally agree that any amount between the lowest of the most current credible measurements and the highest of the most current credible measurements is appropriate for a state’s guidelines. Currently, the fourth Betson-Rothbarth study (the BR4 measurement) is typically considered the lowest of credible measurements and the United States Department of Agriculture (USDA) measurement is typically considered the highest of credible measurements.<sup>7</sup> Using the lowest and the highest of the credible amounts to gauge whether a state guidelines amounts are appropriate was first developed from a U.S. Department of Health and Human Services project aimed to help states with the development of child support guidelines.<sup>8</sup>

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<sup>7</sup> Jane C. Venohr. (2013). “Child Support Guidelines and Guidelines Reviews: State Differences and Common Issues,” *Family Law Quarterly*, vol. 43, no. 3 (Fall 2013).

<sup>8</sup> Lewin/ICF. (1990). *Estimates of Expenditures on Children and Child Support Guidelines*. Report to U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation. Fairfax, Virginia.

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## ASSUMPTIONS AND FACTORS UNDERLYING CHILD SUPPORT TABLES

The underlying economic study on child-rearing costs/expenditures is just one of many components underlying a state's basic guidelines table/formula. Exhibit 2 shows other economic data and assumptions that typically underlie a state's guidelines table and contribute to differences in guidelines amounts among states. In all, state guidelines are part economic data and part policy decision. The state's guidelines model is a policy decision. (As discussed later, there are three guidelines models in use by states and several alternative models.)

Another issue is that most measurements are not presented in a format readily adoptable for base guidelines schedules/formula. States often make adjustments for the number of children, interpolate between income ranges, subtract the child's healthcare expenses and childcare expenses from the base amounts because most states consider the actual amount expended for these items on a case-by-case basis. These also require policy or technical decisions. The number of children is an issue because most studies only measure child-rearing expenditures for one, two and three children since there are few families with four or more children in the data typically used to measure child-rearing expenditures. Still, there are other adjustments. For example, a few states (*e.g.*, Kansas, Louisiana, and Pennsylvania) incorporate a parenting-expense adjustment into the child support table rather than the worksheet as Minnesota does.

Exhibit 2 provides an overview and summary of the typical data and assumptions underlying basic child support tables, what is known about the data and assumptions underlying the existing Minnesota table, under states' tables, and what alternatives are available for an update. The remainder of this report focuses on the economic cost of raising children. However, the information in Exhibit 2 can serve as a tool to the Task Force when it focuses on whether and how to update the basic child support table.

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## ECONOMIC BASIS OF MINNESOTA'S CURRENT BASIC TABLE

Exhibit 2 shows that the existing Minnesota table dates to 2001 economic data. Although the 2001 United States Department of Agriculture (USDA) study is the major source of the Minnesota basic table, Exhibit 2 shows several other studies of child-rearing expenditures underlie the existing table as well. One reason for this was that the draft Minnesota table was reviewed to determine if it adequately provided for children or produced amounts above measurements of child-rearing expenditures. There were some areas in which it did not fulfill these requirements so was adjusted using the study amount with the lowest amount if the proposed amount was below the lowest amount, and using the study amount with the highest amount if the proposed amount was above the highest amount. In other words, the existing Minnesota schedule is bounded by the lowest and highest amounts measured by credible studies of child-rearing expenditures at the time the basic table was developed.<sup>9</sup> There are some notable exceptions. For example, the underlying data source for the table below \$2,000 gross per month is unknown.

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<sup>9</sup> See Exhibit 2 in Jane Venohr. (Sept. 16, 2015.) *Economic Basis of Minnesota Basic Schedule and Parenting-Time Expense Adjustment*. Prepared for the Child Support Work Group, Minnesota Department of Human Services, St. Paul, MN.

Exhibit 2: Major Factors and Assumptions underlying Minnesota Child Support Guidelines Schedule (Minnesota Compared to Other States)

	Basis of Existing Minnesota Table	Summary of Basis of Other States	Possible Updates or Alternatives
1. Measurement of child-rearing expenditures	Mostly USDA (2001) for gross incomes of \$2,000 - \$8,500/mo for 2+ children. <sup>10</sup>  Other sources include Betson-Rothbarth (BR) <sup>11</sup> measurements (for 1 child for \$3,300-\$7,299 and Betson-Engel (BE) for very high incomes.	29 states rely on Betson-Rothbarth (BR) measurements.	<ul style="list-style-type: none"> <li>• USDA (2017)</li> <li>• Comanor (2015)</li> <li>• BR (2010—most current)</li> <li>• Other</li> </ul>
2. Guidelines model	Income shares	39 states rely on the income shares model. The other two models used by states are the percentage-obligor income model and the Melson formula.	Several alternatives
3. Adjustments for state cost of living	Housing expense in USDA (2001) were adjusted because the USDA methodology used at the time was believed to overstate housing expenses.	States with extraordinary high or low incomes or cost of living often adjust BR measurements, which reflect national data	MN is close to average so no adjustment is probably warranted (e.g., MN price parity is 97.6% while US prices are on average 100%) <sup>12</sup>
4. Tax assumptions	<ul style="list-style-type: none"> <li>• No tax assumption needed for USDA measurements because USDA measurements are gross-income based</li> <li>• Further research needed to know tax assumptions underlying other measurements in table</li> </ul>	BR measurements, based on expenditures/after-tax income, must be backed in to gross income. Most states doing so use federal and state income tax and FICA withholding formula and in prevailing year and use the tax schedule for single/head-of-household	2016 tax rates, different tax assumptions (e.g., married couple with same number of children for whom support is being determined), base guidelines on net income instead of gross income, and other options.
5. Price levels	Appears to be based on 2002 price levels	Most states use the Consumer Price Index (CPI) from the year in which they updated their schedule	2017 CPI. (There are few alternatives to CPI, and none are in notable or significant use)
6. Adjustments for more than 3 children (and possibly amounts between 1, 2 & 3 children)	Appears to use USDA multipliers	Most states use equivalence scales developed by the National Academy of Science <sup>13</sup>	Several alternatives. See discussion in Section III.

<sup>10</sup> *Ibid.*

<sup>11</sup> Betson is the economist (Professor David Betson, University of Notre Dame) preparing the estimates. “Rothbarth” is the economic method for determining the child’s share of total expenditures.

<sup>12</sup> Price parity measures prices relative to the U.S. as a whole. If a state’s price parity is less than 100 percent, it has prices below the national average. If a state’s price parity is more than 100 percent, it has prices above the national average. The U.S. Bureau of Economic Analysis. (2016). *Real Personal Income for States and Metropolitan Areas, 2014*. [http://www.bea.gov/newsreleases/regional/rpp/rpp\\_newsrelease.htm](http://www.bea.gov/newsreleases/regional/rpp/rpp_newsrelease.htm) .

<sup>13</sup> Citro, Constance F. and Robert T. Michael, Editors. (1995). *Measuring Poverty: A New Approach*. National Academy Press. Washington, D.C.

7. Exclude highly variable child-rearing expenses	Childcare expenses and health care expenses are excluded from table	Most income shares states make a similar exclusion except include \$250 per child per year for ordinary and routine medical expenses	Alter the amounts are excluded/included
8. Families that spend more/less of their income	Not an issue for USDA but an issue for BE and BR.	Most states use actual ratios with cap on those that spend more than after-tax income	Several alternatives. Depends on which economic measurement of child-rearing expenditures is used.
9. Low-income adjustment and minimum order	MN does not include the adjustment in the basic table. It is addressed in the worksheet.	Most income shares states incorporate a SSR and minimum order in schedule	Several alternatives. Worksheet option has many advantages.
10. Adjustment at high incomes	Current table goes up to \$15,000 gross per month.	Most income shares tables go up to \$20,000 - \$30,000 per month gross.	The highest income considered depends on the measurement of child-rearing expenditures. To address higher incomes, an extrapolation can be made.
11. Adjustments for time-sharing	None included in the basic table	Only three states include an adjustment in the basic table	Several alternatives

## ORGANIZATION OF REPORT

This report is organized into four sections.

- The second section examines three alternative economic data sources for updating the Minnesota table. This section also discusses other economic evidence on the cost of raising children.
- The third section provides more information about guidelines models since that is a core factor underlying the basic table.
- The final section provides a conclusion and recommends next steps.

This report is prepared by Center for Policy Research (CPR), a non-profit organization with almost 35 years of experience conducting research and evaluation and providing technical assistance on policies affecting children and families for government agencies at the federal, state, and local level; courts, and private foundations. Since 2007, CPR has assisted over 25 states, including Minnesota, with the review of their guidelines or development of special factors (*e.g.*, low-income adjustments or parenting expense adjustments).

## SECTION II: ECONOMIC DATA AND THE BASIC TABLE

This section provides an analysis of the economic studies on the cost of raising children as well as preliminary comparisons of the existing Minnesota table to tables based on three different studies that could be used to update the Minnesota table:

- The most current United States of Department of Agriculture (USDA) study,<sup>14</sup>
- The most current Betson-Rothbarth (BR) study,<sup>15</sup> in which BR measurements form the basis of most state guidelines tables, and
- The Comanor study.<sup>16</sup>

The first subsection compares the results from updated tables based on each of these three studies. The remaining subsection examines the studies, particularly the Comanor study in detail because of its anomalous results.

### COMPARISONS OF EXISTING TABLE TO UPDATES USING USDA, BR, AND COMANOR

This section compares child support orders using the existing table to amounts using the three economic studies of child-rearing expenditures mentioned above: USDA, BR, and Comanor study. The studies were converted to tables using data at hand, so may not perfectly align with the assumptions favored by Minnesota once Minnesota decision makers have an opportunity to review all of the factors in Table 2. Nonetheless, this is still a useful framework for examining these studies. Differences between what assumptions are used in the comparisons and what would be favored by Minnesota are likely to be minor.

Exhibit 3 summarizes the assumptions underlying the existing table and the USDA, BR and Comanor tables, and the North Dakota, South Dakota and Wisconsin child support tables/formulas. North Dakota, South Dakota and Wisconsin are included in the comparisons because they are bordering states. Iowa and Montana, the two other states bordering Minnesota, rely on BR measurements and the Melson formula, respectively. (The Melson formula is discussed in more detail in a later section about guidelines models.) (CPR did not have either of these states' formulas readily available in a format that could be used for inclusion in the comparisons.)

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<sup>14</sup> Lino, Mark, et al. (2017). *Expenditures on Children by Families: 2015 Annual Report*. U.S. Department of Agriculture, Center for Nutrition and Policy Promotion. Miscellaneous Publication No. 1528-2015, Washington, D.C. Available at <http://www.cnpp.usda.gov/publications/crc/crc2015.pdf>.

<sup>15</sup> Betson, David M. (2010). "Appendix A: Parental Expenditures on Children." In Judicial Council of California, *Review of Statewide Uniform Child Support Guideline*. San Francisco, California. Retrieved from: <http://www.courts.ca.gov/partners/documents/2011SRL6aGuidelineReview.pdf>.

<sup>16</sup> Comanor (2017), Table 10 in PowerPoint.

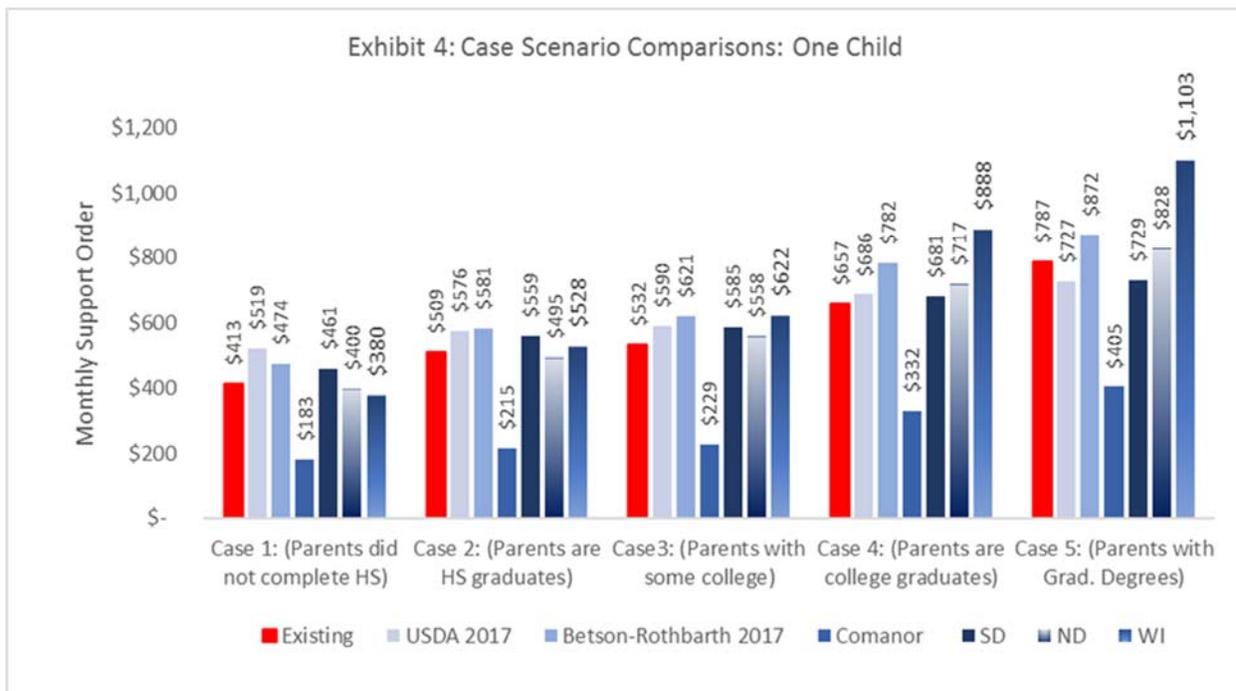
Exhibit 3: Major Factors and Assumptions underlying Comparisons							
	Existing MN Table	USDA (2017)	Betson-Rothbarth	Comanor	North Dakota	South Dakota	Wisconsin
1. Measurement of child-rearing expenditures	Mostly USDA (2001)	USDA (2017)	Betson-Rothbarth (4 <sup>th</sup> study)	Comanor (Table 10 from PPT)	Unknown	Betson-Rothbarth (3 <sup>rd</sup> study)	van der Gaag (1981) <sup>17</sup>
2. Guidelines model	Income shares	Income shares	Income shares	Income shares	% of obligor income	Income shares	% of obligor income
3. Adjustments for state cost of living	Housing expense in USDA (2001)	USDA for Midwest region	None	None	Unknown	Yes, SD cost of living lower	None
4. Tax assumptions	No tax assumption needed	N/A	2017 MN and fed. tax rates and FICA	N/A	N/A	N/A	N/A
5. Price levels	Appears to be 2002	2017	2017	2017	Unknown	2008	Unknown
6. Adjustments for more children	None	None	None	None	None	None	None
7. Exclude highly variable child-rearing expenses	Child care expenses and health care expenses are excluded from table	Excludes child care and all medical except \$250 per child per year	Excludes child care and all medical except \$250 per child per year	Excludes medical, includes child care	DK	Excludes child care and all medical except \$250 per child per year	DK
8. Families that spend more/less of their income	N/A	N/A	actual ratios with cap on those that spend more than after-tax income	N/A	DK	actual ratios with cap on those that spend more than after-tax income	DK
9. Interpolation between income ranges	Yes	Yes	Yes	Yes	Unknown	Yes	No
10. Low-income adjustment and minimum order	N/A (comparisons don't consider extremely low income)	N/A	N/A	N/A	N/A	N/A	N/A
11. Adjustment at high incomes	N/A (comparisons don't consider extremely high income)	N/A	N/A	N/A	N/A	N/A	N/A
12. Adjustments for time-sharing	None	None	None	None	None	None	None

<sup>17</sup> van der Gaag, Jacques. (1981). *On Measuring the Cost of Children*. Discussion Paper 663-81. University of Wisconsin Institute for Research on Poverty, Madison, Wisconsin.

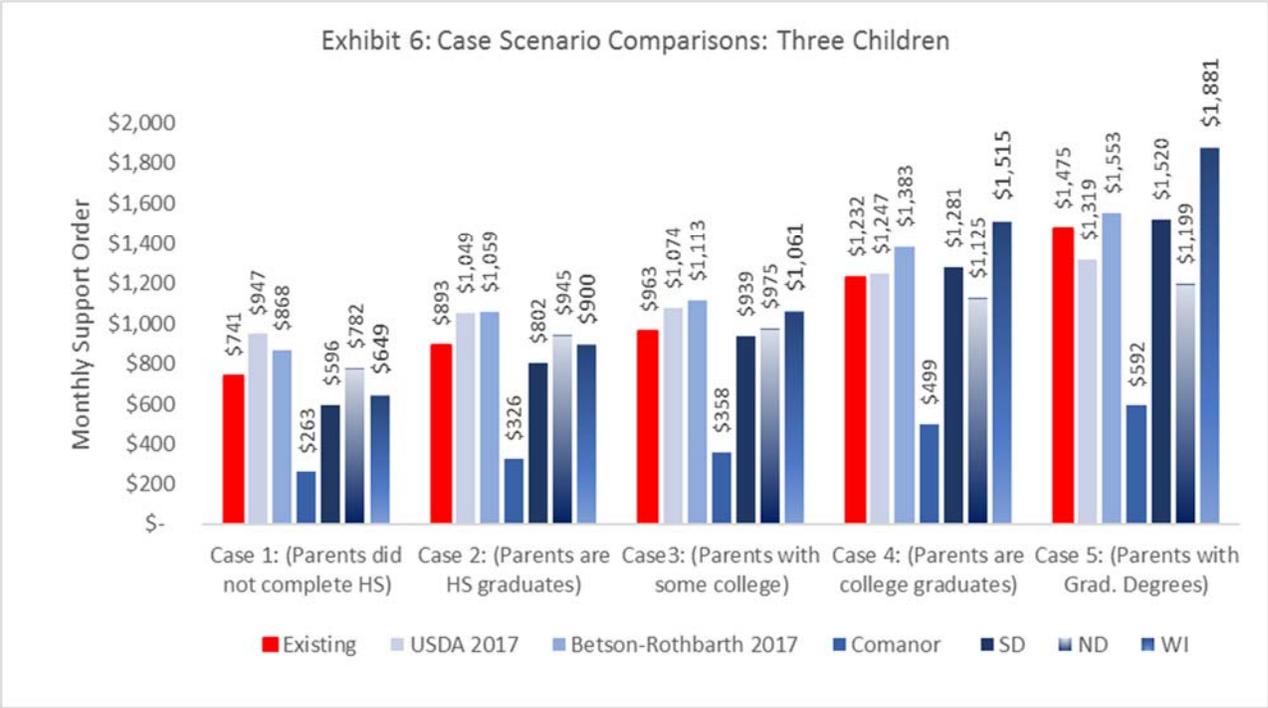
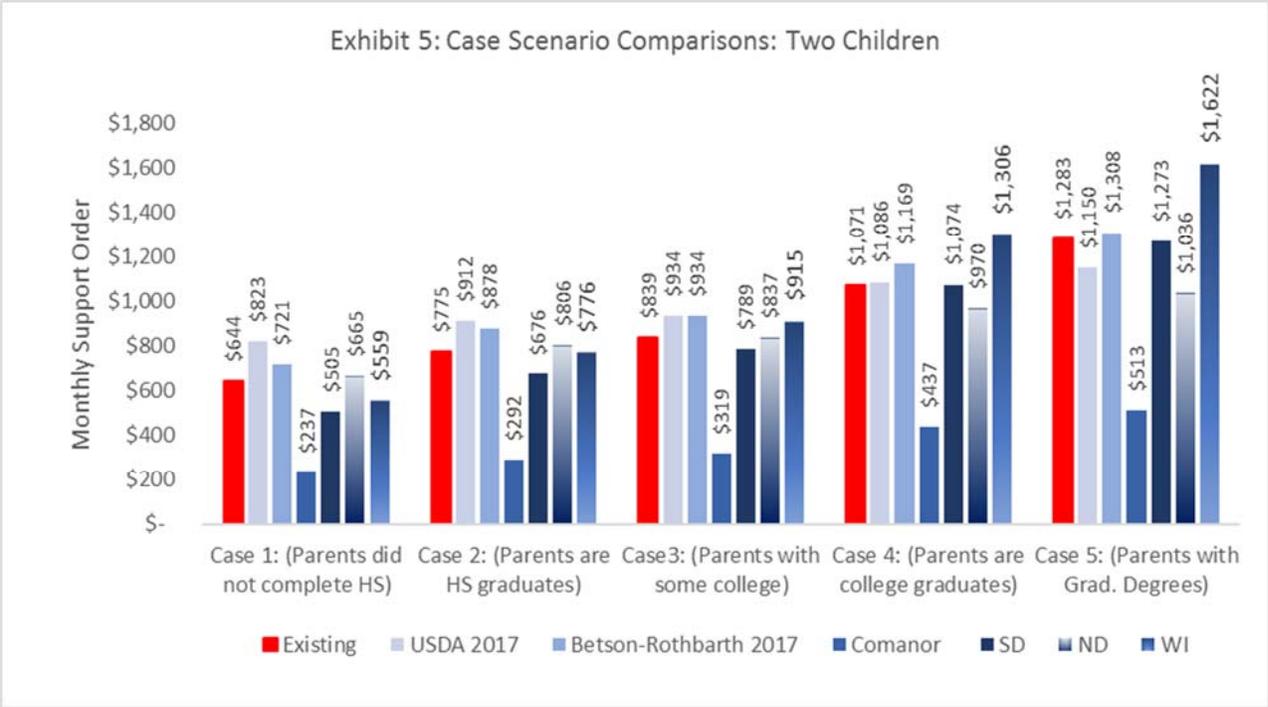
Five different case scenarios are used for the comparisons. They consider median incomes by five different levels of educational attainment of Minnesota workers. The data are from the 2015 U.S. Census American Community Survey.<sup>18</sup> Median earnings for five levels of educational attainment are:

- \$18,061 for females and \$26,844 for males with less than a high school degree;
- \$24,020 for females and \$37,256 for males with a high school degree or GED;
- \$31,099 for females and \$43,917 for males with some college or associate’s degree;
- \$42,703 for females and \$62,708 for males with a bachelor’s degree; and
- \$60,319 for females and \$77,837 for males with a graduate or professional degree.

The case scenarios assume that median male earnings is the obligated parent’s income and the median female earnings is the income of the parent with primary custody. Statistically, the clear majority of obligated parents are male. Exhibits 4, 5, and 6 compare amounts for one, two, and three children, respectively. The calculations only consider the base table amounts. There are no adjustments for additional dependents, child care expenses, the cost of the child’s health insurance, shared-parenting expense, or other factors. Application of Minnesota’s shared-parenting expense would lower the Minnesota amounts. South Dakota, North Dakota, and Wisconsin have more restrictive shared-parenting expense, and are not as likely to be applied. In other words, the existing Minnesota amounts would be lower if its shared-parenting expense was applied; but that is not true of other states due to the more restrictive adjustment in those states.



<sup>18</sup> [www.census.gov](http://www.census.gov) .



Several conclusions are drawn from the comparisons.

- In most scenarios, Minnesota is generally in mid-range of bordering states.
- Using either the USDA or Betson-Rothbarth measurements will generally result in increases to the existing Minnesota amounts for most case scenarios. (There are some exceptions at very high incomes.)

- In all scenarios, the Comanor amounts are significantly less than any state’s guidelines amounts as well as significantly less than the USDA and Betson-Rothbarth measurements. The Comanor amounts would be even less if child care and education expenses were excluded. (They are excluded in the Minnesota table and Betson-Rothbarth and USDA amounts).
- Most of the Comanor amounts are below the 2017 poverty level for each additional person in a household (*i.e.*, \$350 per month per person). If each parent was only responsible for his/her prorated share of the poverty level based on the incomes in the case scenarios, the obligated parent’s order would be \$197 to \$213 per child per month. The one-child amounts under Comanor are close to these levels, which suggests that the Comanor amounts produce a basic needs level of support or support less than that.
- The Comanor amounts are the only amounts to include child care and education expenses. Child care expenses are excluded from the Minnesota basic table and excluded from the USDA and BR amounts. If child care and education expenses were excluded from the Comanor amounts, it would cut the Comanor amounts to about a half to two-thirds as much as the amount shown.
- The USDA and Betson-Rothbarth measurements produce similar amounts. The USDA amounts are higher at low incomes, while the Betson-Rothbarth measurements are higher at high incomes. One reason that the USDA is higher than the Betson-Rothbarth measurements at low incomes is that the Betson-Rothbarth amounts are capped to assume that families do not and cannot spend more than their after-tax incomes. (The reality is, however, that on average, very low-income families do spend all or more of their income. Without the cap, the Betson-Rothbarth amounts would be more at low incomes.)
- The Wisconsin guidelines produce the lowest amount among states for the low-income scenario (Case 1) and the highest amount among states for the high-income scenario (Case 2). This is a consistent pattern among percentage-of-obligor income guidelines. Wisconsin is a percentage-of-obligor income guidelines.

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*Based on the case scenarios for one child, the Comanor amounts produce a basic needs level of support that align to the obligated parent’s prorated share of the federal poverty level for the child.*

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## ANALYSIS OF COMANOR STUDY

Comanor’s major objective is to challenge whether the studies of child-rearing expenditures used for state guidelines reviews reflect actual expenditures on children.<sup>19</sup> Nonetheless, the bottom-line question is whether the Comanor amounts are a realistic basis for a child support basic table. The Comanor amounts are lower than other studies and produce amounts much lower than state guidelines (see Exhibits 4, 5 and 6). This question is answered three ways:

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<sup>19</sup> See slide 4 of Comanor’s PowerPoint presentation.

- From what can be learned from other states that have considered the Comanor study as part of their guidelines review;
- Comparing Comanor’s amounts for specific expenditure categories to amounts from other data source; and
- Analyses of the theoretical and empirical results.

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## CONSIDERATION OF THE COMANOR STUDY BY OTHER STATES

The Comanor study has been considered by a few states (*e.g.*, Iowa, Massachusetts, and Virginia). CPR also did an online search for other states that may have considered the Comanor study as part of its guidelines review but could find none. One reason that few states have considered it is that the study was just released in 2015.

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### MASSACHUSETTS

Massachusetts is currently reviewing its guidelines and has not released any information to the general public yet. Mark Sarro, one of Comanor’s co-authors, is the economist for Massachusetts current review. Sarro and Mark Rogers, who also co-authored with Comanor, were the economists to Massachusetts’ 2013 review.<sup>20</sup> In that study, they concluded that the Massachusetts guidelines were generally high relative to the USDA and Betson-Rothbarth study. Venohr (2017 forthcoming)<sup>21</sup> also provides evidence that the Massachusetts guidelines are high even when considering Massachusetts’ higher cost of living. With or without the help of Comanor’s research, given the findings of the 2013 review and Venohr’s new research, it is expected that the same conclusion will be reached: Massachusetts guidelines are still too high.

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### VIRGINIA

According to the minutes of the Virginia Child Support Guidelines Review Panel,<sup>22</sup> a Panel member suggested Comanor speak to the Panel, however, he did not. The Panel had concerns whether Comanor could address the specific guidelines issues they were pursuing since he has not been heavily involved in child support work. Virginia was dealing with very nuanced and complex issues (*e.g.*, changing the multiplier used in the shared custody cross-credit formula, deviation factors for child’s age and educational expenses, and the cost of living in various parts of the state). In other words, the Virginia Panel was addressing issues other than the table, which is where Comanor’s expertise would apply. After over twenty years, Virginia had just successfully updated its guidelines table as a result of its last guidelines review, so a table update was not a major agenda item for this review. Venohr was the economist who assisted the Panel with the table update that was legislated.

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<sup>20</sup> Mark Sarro and R. Mark Rogers. (June 2013). *Economic Review of the Massachusetts Child Support Guidelines*. <http://www.mass.gov/courts/docs/child-support/economist-report.pdf>.

<sup>21</sup> Jane C. Venohr (2017 Forthcoming). “Differences in State Child Support Guidelines Amounts: Guidelines Models, Economic Basis, and Other Issues. *Journal of the American Academy of Matrimonial Lawyers*.

<sup>22</sup> [Virginia Child Support Guidelines Review Panel. April 27, 2016\). Meeting Minutes. http://dls.virginia.gov/GROUPS/childsupport/meetings/042716/sm042716.pdf](http://dls.virginia.gov/GROUPS/childsupport/meetings/042716/sm042716.pdf)

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## IOWA

Iowa reviewed its guidelines in 2016. Iowa hired Venohr to provide technical assistance and asked her to review the Comanor, Sarro and Rogers (2015) study, as well as some Iowa-specific basic needs studies. Her Iowa slides responding to this charge are shown and explained below.<sup>23</sup>

### Iowa Slide 9

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This slide identifies the three types of studies measuring child-rearing costs: minimum needs, “continuity of expenditures,” and “out-of-pocket method.” Most states do not use a minimum needs study as the basis of their guidelines formula/table because most states believe that a child should share in the standard of living enjoyed by their parent(s) particularly if a parent can afford a standard of living beyond basic needs. The “continuity of expenditures” description is a term coined by University of Wisconsin to refer to measurements of child-rearing expenditures in intact families.<sup>24</sup> “Continuity” means the child should continue to enjoy the standard of living the child would experience had the parents lived together and shared financial resources. In other words, the child’s standard of living should be unaffected by the parents’ decisions to marry, separate, divorce or never marry. The “out-of-pocket” method is another way to refer to the Comanor et al. method. In the Comanor PowerPoint slides, it is called “incremental costs” or “monetary child costs.”

### Studies of Child-Rearing Costs

Minimum Needs	“Continuity of Expenditures Studies”	“Out-of-Pocket Method”
<ul style="list-style-type: none"><li>• e.g., Federal Poverty Level</li><li>• Basic support amount for child in Melson formula</li><li>• Often used as a “self-support reserve for obligated parent”</li></ul>	<ul style="list-style-type: none"><li>• Most states use as the basis of their guidelines (Univ of Wisc 2007)</li><li>• E.g., Betson-Rothbarth (BR)</li></ul>	<ul style="list-style-type: none"><li>• New method developed by California professor co-authored with Cost Share model author</li></ul>

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<sup>23</sup> Jane Venohr, (August 2016). *Economic Review of the Iowa Child Support Guidelines*. Presentation to the Iowa Child Support Commission, Des Moines, Iowa.

<sup>24</sup> Ingrid Rothe and Lawrence Berger, “Estimating the Costs of Children: Theoretical Considerations Related to Transitions to Adulthood and the Valuation of Parental Time for Developing Child Support Guidelines” (April 2007), *IRP Working Paper*, University of Wisconsin: Institute for Research on Poverty, Madison, Wisconsin.

This slide identifies three minimum needs studies: the federal poverty level, and two Iowa-specific minimum needs studies: ALICE and the 2015 Iowa Basic Needs Budget. ALICE is conducted by United Way of Iowa.<sup>25</sup> The federal poverty level shown on the slide is from 2015. The 2016 federal poverty level is \$1,050 for one person and \$350 for each additional person.<sup>26</sup> The Iowa Basic Needs Budget is

## Minimum Needs Studies

2015 Federal Poverty Level	ALICE (Asset Limited, Income, Constrained, Employed)	2015 Iowa Basic Needs Budgets w/o Insurance
<ul style="list-style-type: none"> <li>• One person: \$990 per month</li> <li>• Each additional person: \$347 per month</li> </ul>	<ul style="list-style-type: none"> <li>• 12% of Iowa households face financial hardship + 19% qualify for ALICE</li> <li>• 2014 Iowa "Household Survival Budget"                             <ul style="list-style-type: none"> <li>• 1 adult: \$1,411/mo</li> <li>• Family of 4: \$3,890/mo</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Single-Parent Family                             <ul style="list-style-type: none"> <li>• 1 Child: \$3,163/mo</li> <li>• 2 Children: \$3,879/mo</li> </ul> </li> <li>• 2 Working Parents                             <ul style="list-style-type: none"> <li>• 1 Child: \$4,200/mo</li> <li>• 2 Children: \$5,329/mo</li> </ul> </li> </ul>

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measured by the Iowa Policy Project.<sup>27</sup> Other economic indicators<sup>28</sup> find that the cost of living in Minnesota is more than the cost of living in Iowa. This would suggest that the Minnesota basic needs amounts may be more than the Iowa amounts.

ALICE and basic needs studies are not conducted for Minnesota; however, the Minnesota Department of Employment and Economic Development prepares an annual report to the legislature on the cost of living in Minnesota.<sup>29</sup> It finds it costs \$54,804 per year for a typical Minnesota family of two adults and one child to maintain a simple living that meets basic needs for health and safety.

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*It costs \$54,804 for a typical Minnesota family of two adults and one child to maintain a simple living that meets basic needs for health and safety.*

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<sup>25</sup> United Ways of Iowa. (2014). *ALICE: Asset Limited, Income Constrained, Employed*. United Way of Northern New Jersey. [http://www.unitedwayalice.org/documents/16UW%20ALICE%20Report\\_IA\\_FINAL\\_6.28.2016\\_Lowres.pdf](http://www.unitedwayalice.org/documents/16UW%20ALICE%20Report_IA_FINAL_6.28.2016_Lowres.pdf) .

<sup>26</sup> U.S. Department of Health and Human Services. (January 2017). *US Federal Poverty Guidelines*. <https://aspe.hhs.gov/poverty-guidelines> ,

<sup>27</sup> Fisher, Peter. (2016). *The Cost of Living in Iowa: 2016 Edition. Part 1: Basic Family Budgets*, The Iowa Policy Project, Iowa City, IA. Retrieved from: <http://www.iowapolicyproject.org/2016Releases/160405-COL-release.html> .

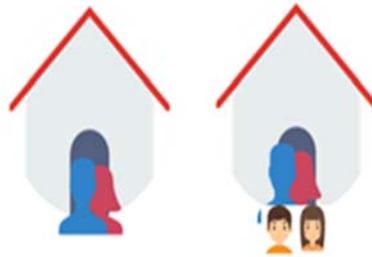
<sup>28</sup> On a scale where 100 percent is the U.S. average price level, Minnesota's price parity is 97.6 percent while Iowa at 90.3 percent is considerably less. Source: U.S. Bureau of Economic Analysis. (2016). *Real Personal Income for States and Metropolitan Areas, 2014*. [http://www.bea.gov/newsreleases/regional/rpp/rpp\\_newsrelease.htm](http://www.bea.gov/newsreleases/regional/rpp/rpp_newsrelease.htm) .

<sup>29</sup> John Clay, et al. (May 2016). *Minnesota Cost of Living Study Annual Report*. Report to the Legislature. <https://www.leg.state.mn.us/docs/2016/mandated/160558.pdf>

This slide compares the data and estimating equation of the Betson-Rothbarth study and the Comanor et al. study. A key difference is that Comanor et al. study includes single individuals without children and single-person households, while the Betson-Rothbarth measurements do not. Single parents generally spend less on children than two-parent households do. One reason is that many single-parent families

have incomes below poverty (38 percent of Minnesota female-headed families with related children live in poverty).<sup>30</sup> Using expenditures from impoverished families as the basis of child support guidelines leads to poverty-level child support guidelines, whereas most states believe that the child should share in the standard of living afforded by parents who can afford to enjoy a higher standard of living. Another key point of the slide is the difference in the estimating equations. The Betson-Rothbarth equation, which is not excerpted in its entirety, includes exponentials and is generally more complicated because it is more reflective of how families actually spend. (As discussed more later, and even in the Comanor materials, economic models describing household decisions on income, number of children that a couple has, and hours work by each parent are complex and intertwined.) In contrast, the Comanor equation is linear meaning that families spend the same proportion of income regardless of their income level. Consumption patterns change depending on how much income a family has. For example, low-income families may spend all or more of their income while high-income families may only spend part of their income. The linear equation, as Comanor et al. specifies, cannot capture this.<sup>31</sup> Including logged income variables and squared income and cubed income improve the equation's ability to capture the non-linear relationship between income and expenditures.

## Marginal Cost Method v. Out-of-Pocket Method



Both compare expenditures using 2004-2009 CES between  
 a) households without children to  
 b) households with children

Betson-Rothbarth 4 <sup>th</sup> study (BR4)	Comanor, Sarro, and Rogers
Difference in expenditures for equally well-off households	Expenditures for specific expenditures categories
About 8,000 married couples of child-rearing age	About 19,000 households: 62% married & 38% headed by single person With children: 48% of married & 17% of single-person households
$\frac{T_{3K} - T_{2K}}{T_{2K}} = j \left( \frac{2}{2+K} \right)^{\frac{2+K}{2}}$ <p>where</p> $\ln(K, T_{3K}, X) = a(X) + \ln(2+K) + \ln\left(\frac{T_{3K}}{2+K}\right)$	$E_i = a + bY_i + c_1K_1 + c_2K_2 + c_3K_3 + dCA_i + \sum eX_{ij}$

<sup>30</sup> 2015 American Community Survey. [www.census.gov](http://www.census.gov).

<sup>31</sup> Comanor partially offsets by analyzing expenditures separately for three income ranges: low, middle, and high. Still there may be non-linear consumption patterns within each of these ranges not captured by this equation.

This slide compares Iowa minimum need amounts (and the USDA amounts) to the Comanor et al. amounts for housing, food, transportation, and clothing. Housing cost for two children under the Iowa minimum needs studies is \$2,412 to \$2,880 per year. In contrast, Comanor et al. find the housing cost for two children is \$1,439 to \$1,522 per year for a low-income household. The disparity in food cost between the Iowa basic needs studies and the Comanor et al. study is much larger: \$2,172 to \$2,964 per year under the Iowa basic needs studies and \$484 per year under the Comanor et al. study.

### Cost of 2 Children\* in Low-Income, Married Households

	Housing	Food	Transportation	Clothing
USDA (children only)*	\$5,940/year	\$2,280-\$4,280/year	\$2,240-\$3,200/year	\$1,020-\$1,540/year
Iowa Household Survival Budget (2 adults + 2 children)	\$623/month	\$533/month	\$702/month	Not measured
Iowa Household Survival Budget (Single adult)	\$422/month	\$176/month	\$351/month	Not measured
Implicit Amount: children only	\$2,412/year	\$2,172/year		
Iowa Basic Needs (2 working adults + 2 children)	\$723/month	\$787/month	\$1,021/month	\$413/mo (includes HH expense)
Iowa Basic Needs (Single adult)	\$483/month	\$270/month	\$568/month	\$205/mo (includes HH expense)
Implicit Amount: children only	\$2,880/year	\$2,964/year		
Comanor, Sarro, and Rogers (children only)*	\$1,439-\$1,522/year	\$484/year	\$384/year regardless # of children	\$407/year

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### COMPARISONS TO OTHER MEASUREMENTS BY EXPENDITURE CATEGORY

Exhibits 7 and 8 summarize the Comanor results<sup>32</sup> by expenditure categories for one and two children in a married household. (The vast majority of child support orders cover one and two children.) The categories generally align with five of the seven categories measured by the USDA (*i.e.*, housing, food, transportation, children’s clothing, and child care and education). Comanor excludes the child’s health care cost, which is another USDA expenditure category, for reasons explained below. Comanor does not explain why he excludes entertainment/miscellaneous expenses as an expenditure category. One reason may be that some family types spend a negative amount on entertainment when they have children. Based on Comanor et al. (p. 238), low-income, married households with children spend \$42 per year less on entertainment than low-income, married households without children spend. For middle and higher income families, however, married families with children spend more on entertainment (\$84 per year and \$247 per year, respectively) than those without children.

In all, Comanor et al. find that together, expenditures on the seven categories, account for 72 to 82 percent of total household expenditures.<sup>33</sup>

<sup>32</sup> From slides 16, 17, and 18 of Comanor PowerPoint.

<sup>33</sup> Comanor et al. (p. 239).

Exhibit 7: Imputed Child-Rearing Costs for One Child: Married Households (Source: Comanor slides 16, 17, & 18)

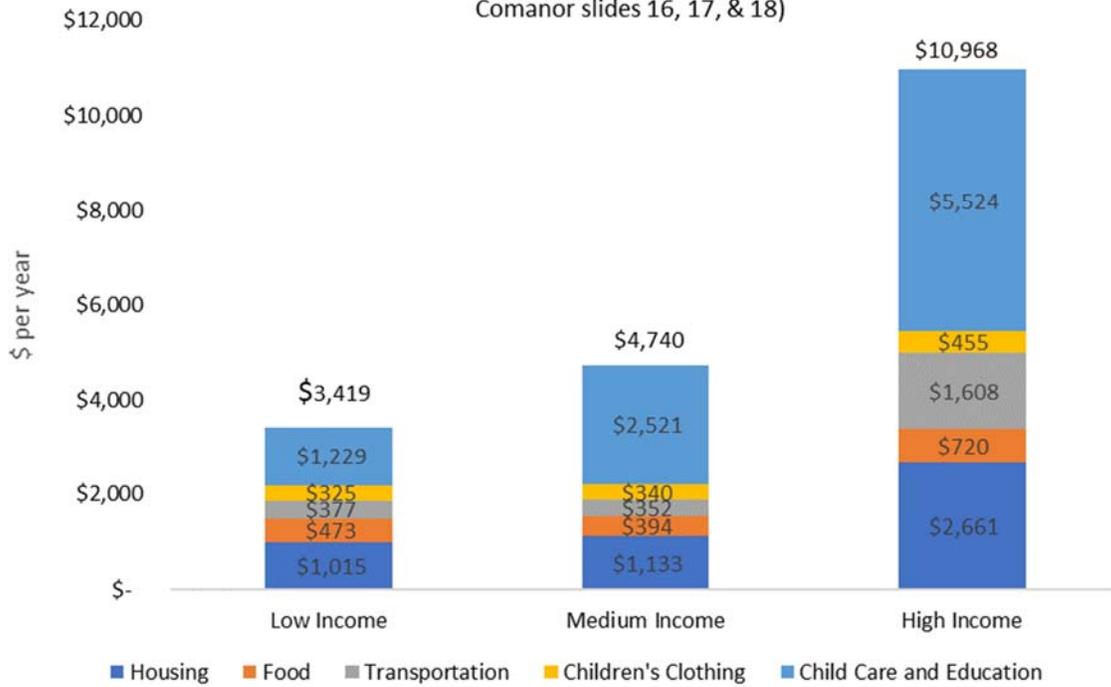
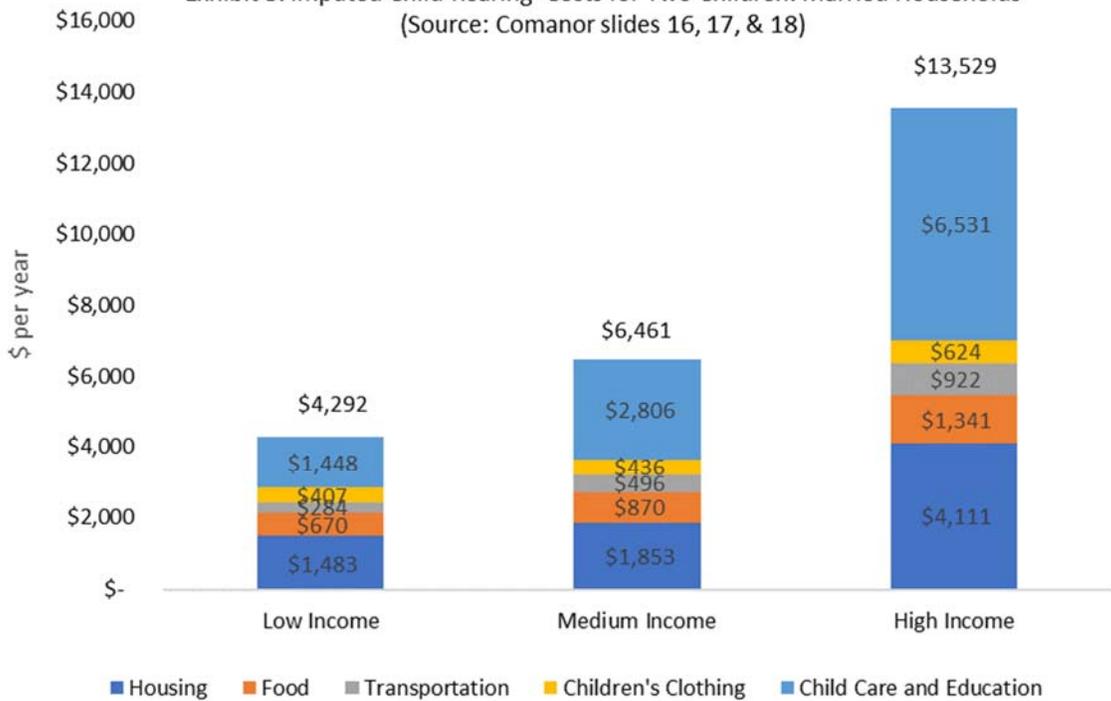


Exhibit 8: Imputed Child-Rearing Costs for Two Children: Married Households (Source: Comanor slides 16, 17, & 18)



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## CHILD’S HEALTH CARE COST

Comanor excludes outlays for the child’s health care costs because

“ . . . households directly pay only a minor share of their own health care costs. For higher-income households, employers pay the largest share of these outlays in the form of health insurance benefits which are not included in taxable earnings.”<sup>34</sup>

For the purposes of updating the Minnesota basic table, exclusion of the child’s health care cost is appropriate. As identified in Exhibit 2, the current Minnesota basic table does not include the child’s health care costs. Instead, the actual cost of the child’s health care cost (whether it be the cost of the child’s health insurance or for out-of-pocket medical expenses) is considered elsewhere in the guidelines calculation.

As an aside based on the 2014 Medical Expenditure Panel Survey (MEPS) data, 87 percent of children incur a health-services related expense, and although just over half is paid for by private insurance, 12.1 percent is paid out-of-pocket, which amounts to an average of \$288 per child per year for those with health service expenses.<sup>35</sup> The average amount would be higher for those with private insurance because they incur out-of-pocket expenses more often and less for those with public insurance such as Medicaid.

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## CHILD CARE AND EDUCATION

Child care and education comprise the largest expenditure category in Comanor’s summary tables. They comprise \$1,229 to \$5,524 per year for one child, which is 36 to 50 percent of the total child-rearing costs shown in Comanor’s summary tables. Child care expenses (see Exhibit 2) are not included in Minnesota’s basic table. Instead, the actual amount expended for child care is addressed on a case-by-case basis in the guidelines calculation.

The dollar amount expended for child care and education in the Comanor study may be plausible for all families if it is averaged across families with and without child care and education expenses. For example, the results of a Minnesota statewide survey of prices charged by licensed family child care and licensed center child care providers finds that provider prices at the 50th percentile (*i.e.*, median price) ranged from \$115 to \$325 per child per week; and, at the 75th percentile of provider prices ranged from \$120 to \$356 per child per week depending on the age of the child.<sup>36</sup> Using the median price and assuming 52 weeks of paid care, this would result in annual child care expenditures of \$5,980 to \$16,900. The amounts may be less because not all parents have paid care for 52 weeks of the year, and some families incur no child care expenses. 2011 Census data support this: it finds that 24 percent of

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<sup>34</sup> Page 10 of Comanor’s 2017 report to the Task Force.

<sup>35</sup> Computed from the U.S. Department of Health & Human Services Agency for Healthcare Research and Quality 2014 Medical Expenditure Panel Survey. [https://meps.ahrq.gov/mepsweb/data\\_stats/meps\\_query.jsp](https://meps.ahrq.gov/mepsweb/data_stats/meps_query.jsp).

<sup>36</sup> Minnesota Department of Human Services. (n.d.). *Results of the 2014 Child Care Market Rate Survey*. <https://www.leg.state.mn.us/docs/2016/other/160082.pdf>.

families with mothers present and children under 15 years made weekly child care payments.<sup>37</sup> Comanor et al. (page 219), however, appeared to limit the estimate to only those with a child care or education expense.

What seems unrealistic is child care and education expenses comprising 36 to 50 percent of the total costs for one child, as deduced from the information from Exhibits 7 and 8, albeit Comanor does not explicitly state that. In contrast, the USDA (2017) study finds child care and education expenses comprise 16 percent of total child-rearing expenditures.<sup>38</sup> This indirectly raises concerns about the results and use of the sum of the Comanor expenditure categories to update the Minnesota guidelines table.

## HOUSING

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Housing is the second largest expenditure category measured by Comanor using the incremental cost method. The USDA definition of housing includes mortgage payments or rent, utilities, maintenance and repairs, house furnishings and equipment and other expenses. It is not entirely clear that Comanor's

definition of housing cost is as comprehensive.

Comanor finds housing costs are \$1,015 to \$2,661 per year for one child and \$1,483 to \$4,111 per year for two children. The lower amount is the cost to low-income households and the higher is the cost to high-income households. On a monthly basis, this ranges from \$85 to \$222 for one child and \$124 to \$343 for two children.

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*When converted to a monthly amount, Comanor finds the children's housing cost ranges from \$85 to \$222 per month for one child and \$124 to \$343 per month for two children.*

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Comanor postulates that one reason that the monetary cost of the child's housing may be low is

because there may be an offset (*i.e.*, opportunity cost) as in the situation where a childless couple with a two-bedroom apartment uses the second bedroom as a den until a child arrives, then the den is transformed into a nursery.<sup>39</sup>

In general, the Comanor amounts for low-income families (*i.e.*, the lower of Comanor's range) appear to be about half as much as the marginal cost of adding an extra bedroom per child using Minnesota Fair Market Rent (FMR) that are representative of lower rents. Tracked by the U.S. Department of Housing and Urban Development and used for housing subsidies, the FMR represents the 40th percentile of gross rents for typical, non-substandard rental units occupied by recent movers in a local housing market. In other words, they reflect housing cost for lower incomes. Exhibit 9 shows the Fair Market Rent (FMR) for 2017. Higher income families may typically spend more than the FMR. The 2015

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<sup>37</sup> Laughlin, Lynda. (April 2013.) *Who's Minding the Kids Child Care Arrangements: Spring 2011*, U.S. Census Bureau. P70-135.Table 6.

<sup>38</sup> Lino (2017), page 11.

<sup>39</sup> Comanor, slide 8 of PowerPoint presentation.

American Community Survey reports a median gross rent of \$888 per month and median monthly home owner cost is \$1,016 in Minnesota in 2015.

Housing is a critical issue for children, especially for low-income families that sometimes do not have the financial means to secure adequate housing. Not only does housing fulfill the basic need of shelter, but where a child lives can affect the quality of education a child receives. The quality of public schools varies among school districts. A family may be willing to pay more for housing for their children to live in an area with a better school district. Another important consideration is appropriate housing for the age and gender of the children. This may mean providing separate bedrooms for the child and the adult(s) living in the household (rather than one “sleeping on the couch”), ensuring that male and female children have separate bedrooms, and meeting other housing standards that often are imposed in family re-unification cases (e.g., a parent must have adequate housing, such as a two-bedroom apartment before a child can be reunified with a parent in a Child Protective Service case) or what housing would be considered adequate and appropriate in a custody determination that sometimes may be subject to a home assessment.

**Exhibit 9: 2017 Fair Market Rents (Rents at the 40 Percentile) in Selected Minnesota Areas<sup>40</sup>**

	One-Bedroom	Two-Bedroom	Three-Bedroom	Difference between One- and Two-Bedroom	Difference between Two- and Three-Bedroom
Duluth, MN-WI MSA	\$603	\$771	\$1,001	\$168	\$230
Fargo, ND-MN MSA	\$602	\$767	\$1,117	\$165	\$350
Minneapolis-St. Paul-Bloomington MN-WI HUD Metro FMR Area	\$862	\$1,086	\$1,538	\$224	\$452
Wright County	\$862	\$1,086	\$1,538	\$224	\$452
Yellow Medicine County	\$551	\$681	\$983	\$127	\$452

## FOOD

Comanor’s incremental cost method produces a negligible amount for the child’s food cost (i.e., \$394 to \$720 per year for one child depending on whether the household is low, middle or high income.)<sup>41</sup> This amounts to \$8 to \$14 per week for the child’s food. Exhibit 10 shows the cost of USDA food plans. The “thrifty food budget,” which is a minimal cost for a nutritious diet, is used to set benefit levels for SNAP (Supplemental Nutrition Program, formerly called

*When converted to a weekly amount, Comanor finds the children’s food cost ranges \$8 to \$14 per week for one child.*

<sup>40</sup> U.S. Department of Housing and Urban Development (2017). *Final FY 2017 Fair Market Rent Documentation System*. [https://www.huduser.gov/portal/datasets/fmr/fmrs/FY2017\\_code/2017state\\_summary.odn](https://www.huduser.gov/portal/datasets/fmr/fmrs/FY2017_code/2017state_summary.odn)

<sup>41</sup> Comanor, slides 16, 17, and 18.

“food stamps”) and the liberal plan is used by the U.S. Department of Defense to set basic allowance for military personnel.

**Exhibit 10: Weekly Cost of Food at Home for Selected Age-Gender Groups<sup>42</sup>**

	Individual child: 1 year old	Individual Child: 4-5 year old	Individual Child: 9-11 years old	Male: 12-13 years old	Male 14-18 years old
Thrifty Plan	\$21.50	\$24.70	\$35.50	\$38.30	\$39.50
Liberal Plan	\$39.90	\$47.20	\$71.20	\$79.90	\$80.30

Exhibit 11 shows the cost of various food items in Minneapolis from an internet site that provides information about the cost of living in various cities.<sup>43</sup> The internet site does not provide information about the price of peanut butter, hamburger and other food more typical for a child’s diet. Further, there may be better prices for some items (e.g., white bread) at discounted grocery stores. Nonetheless, the information in Exhibit 11 illustrates that the child’s food cost estimated by Comanor does not go far.

**Exhibit 11: Cost of Selected Food Items in Minneapolis**

- Milk (regular, 1 gallon): \$2.81
- Eggs (dozen): \$2.01
- Apples (1 lb): \$2.34
- Bananas (1 lb): 0.66
- Tomatoes (1 lb): \$2.29
- Potatoes (1 lb): \$1.03
- Loaf of fresh white bread (1 lb): \$2.80
- Chicken breasts (boneless, skinless, 1 lb): \$4.71

**TRANSPORTATION**

Child’s transportation cost may relate to school, medical visits, and sports and recreation opportunities. Several factors may affect it: availability of public transportation, whether the children live in a rural or urban area, and whether the parents can afford reliable transportation appropriate for family travel. Comanor found that transportation costs among married households averaged \$284 to \$505 per year for low- and medium-income households, and \$922 to \$1,608 per year for high-income households. Comanor also found no consistent increase in transportation costs with the number of children. Comanor et al. (page 231) found that the number of children was not a significant factor explaining children’s transportation cost with one exception: low-income married households with three or more children.

There is a limited amount of alternative data on the child’s transportation cost. What alternatives do exist are not as direct or lucid as the alternatives presented so far for other expenditure categories (e.g.,

<sup>42</sup> U.S. Department of Agricultural (2017). *Official USDA Food Plans: cost of Food at Home at Four Levels, U.S. Average, January, 2017*. <https://www.cnpp.usda.gov/sites/default/files/CostofFoodJan2017.pdf>.

<sup>43</sup> Numbeo.com. <https://www.numbeo.com/cost-of-living/in/Minneapolis> . The website was developed by Mladen Adamovi, a former Google software engineer.

child care, housing, and food). One source of indirect information is a summary table compiled from the 2015 Consumer Expenditure Survey.<sup>44</sup> It finds that married couples without children spend an average of \$10,852 per year on transportation, while married couples with children spend an average of \$14,196. Based on the difference (\$3,344) and there being an average of 1.5 children in the married family households, the average transportation expense per child is \$2,229 per year. The caveat to this is that it is a crude measurement. The married couples without children includes very young and very old couples who may not be of child-rearing age, and have very different transportation needs or wants than a married couple of child-rearing age. Further, using the average number of children to derive a “per child” amount does not capture the marginal cost of transportation associated with more children.

Another piece of information is from the methodology used to develop the Minnesota Cost of Living Study.<sup>45</sup> The researchers found that the vehicle miles traveled increased from one-child families to four-child families, but there was not a linear progression for the two- and three-child families.<sup>46</sup> To compensate for this this, they interpolate the amounts for these steps.

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## THEORETICAL AND EMPIRICAL ISSUES

The Comanor et al. study was published recently (2015), so there has been little time to substantially review, vet, or critique it. The theoretical issues surrounding the expenditure decisions of the family present challenges to any and all empirical methods used for measuring the cost of raising children. Specifically, the complexities of family consumption decisions do not lend themselves to use of the classical normal linear regression model, a common estimation technique, that can produce biased and inconsistent results due to incorrect mathematical form of the regression equation, incorrect specification of the way in which the disturbance (error term) enters the regression equation, and other reasons.<sup>47</sup>

The estimation model used in Comanor et al. (page 219) appears to produce the results reported in Comanor (PowerPoint slides 16, 17 and 18).

$$E_i = a + b Y_i + c_1 K_1 + c_2 K_2 + c_3 K_3 + d CA_i + \sum e_i X_{ij}$$

Where

$E_i$  = category expenditures made by the  $i$ th household.

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<sup>44</sup> <https://www.bls.gov/cex/2015/combined/cucomp.pdf> .

<sup>45</sup> Steve Hine, John Clay, and Amanda Rohrer. (2015). *Minnesota Cost of Living Study: Methodology 2015*. Minnesota Department of Employment and Economic Development Labor Market Information Office, St. Paul, MN. [https://mn.gov/deed/assets/col-methodology-2015\\_tcm1045-133025.pdf](https://mn.gov/deed/assets/col-methodology-2015_tcm1045-133025.pdf) .

<sup>46</sup> *Ibid*, p. 11.

<sup>47</sup> For example, see Jan Kmenta (1986). *Elements of Econometrics*, Macmillan Publishing Company, NY, NY. On page 208, Kmenta lists the basic assumptions necessary for the classical normal linear regression model: normality, zero mean, homoscedasticity, nonautocorrelation and nonstochastic explanatory variables. On page 443, Kmenta lists and describes errors in specification of a regression model including omission of a relevant explanatory variable, inclusion of an irrelevant explanatory variable, incorrect mathematical form of the regression equation, and incorrect specification of the way in which the disturbance enters the regression equations.

$Y_i$  = is the household's income

$K_j = 1$  where  $j$  children in the  $i$ th household and zero otherwise,

$CA_j$  = child age

$X_{ij}$  = dummy variables representing urban/rural and U.S. regions.

It resembles the estimating model in the USDA study (page 4).

$E_i = F(Y, HS, CA)$

Where

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

$Y$  = household before-tax income (divided into three categorical variable groups for married couples families)

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

$CA$  = age of youngest child (divided into six categorical variable age groups).

The key difference is that Comanor et al. use the equation to apportion the dollar amount of the expenditure category to the child (*i.e.*, determine the child's share). They do this by applying the estimating equation to a data set that includes **both** families with and without children. In contrast, the USDA limits the data set to families with children. The USDA does this to adjust its measurements of child-rearing expenditures for each expenditure category (*e.g.*, food and housing) for income level, family size, and age of the youngest child, but, it does not use the equation to determine the child's specific share of that expense. (How the USDA measures the child's share is discussed in the next section.)

Although the difference may appear subtle, the problem is that income is a determinant of the number of children theoretically and empirically, so the use of this equation to determine the child's share is an incorrect mathematical form of the economic model. The relationship between income and number of children dates back to Thomas Malthus's prediction of overpopulation—that is, fertility is increased by higher incomes— but has also been incorporated in the family economic models developed by Nobel Laureate economist Gary Becker.<sup>48</sup> Becker recognizes the complexities of modern life in a family's decision to have children and more children. Becker also identifies other factors such as the time spent on child care, the opportunity cost of child care, parents' decision to invest in the human capital (education) of their children, wage differentials between men and women, the division of household labor between a husband and wife, and the specialization within a marriage in types of activities that

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<sup>48</sup> Gary Becker. (1996) *Accounting for Tastes*. Harvard University Press, Cambridge, Massachusetts. Page 150-51.

benefit the household as well earnings.<sup>49</sup> With this said, Comanor does acknowledge some of these issues in his presentation (see slide 7 of the PowerPoint) by discussing the opportunity cost of the time spent by the children and how time spent raising children detract from their preferred leisure time activities. Another early study of child-rearing expenditures addresses other issues and the difficulty of measuring income consumed by separate family members.<sup>50</sup> For any economist, empirically, it is difficult if not impossible, to develop an estimation model with all of these factors. Called “constrained maximum,” a set of equations and its solutions are bounded by the number of constraints and unknown variables for which a solution is sought. A non-mathematical and intuitive explanation of this is to consider a family that may want to have more children because they enjoy their children. When the decision is viewed in isolation of what makes the family happy, the simple solution is to have more children. However, the solution (whether to have more children) becomes less clear when the family also considers their budget (income) constraint, time constraint, child care needs, trade-offs between working outside the home and in the home, and other possible constraints.

In summary, the functional form of the estimating equation of Comanor et al. appears mis-specified. The application to both families with and without children implies that all other explanatory variables are held constant when a childless family has its first child or adds an additional child; that is, income and the existence of children and the number of child is a decision made independent of income and total expenditures. This is a flawed assumption that produces flawed results empirically. A similar issue exists with number of children and child’s age. As a family has more children, they are more likely to have older children; hence, there is correlation between the number of children and child’s age. Estimates may be biased and inconsistent if the explanatory variables are correlated.

There are other theoretical and empirical issues with Comanor et al. and Comanor. For example, as mentioned earlier, the relationship between consumption and income is non-linear, not linear: that is, the percent of income devoted to consumption changes as income increases. Although Comanor et al, partially deals with this issue by dividing the sample into thirds (*i.e.*, low income, middle income and high income), this could produce biased and inconsistent estimation of the coefficient on income. The bias is likely to understate the importance of income to expenditures. Still another previously identified issue is that the Comanor et al. measurements account for only 72 to 82 percent of total household expenditures.<sup>51</sup> There may be other issues, but an exhaustive critique of the theoretical and empirical issues is beyond the scope of this paper.

With the theoretical and empirical criticisms put aside, it is important to remember that the objective of Comanor’s research is to question the studies underlying state child support guidelines. Through

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<sup>49</sup> Other seminal research that estimates fertility in the complexities of modern life that also maps out budget constraints and time constraints of a family to develop an optional solution for each family member’s devotion to market work and household activity is Richard Easterlin, Robert Pollack, and Michael Wachter. (1980). “Toward a More General Economic Model of Fertility Determination: Endogenous Preferences and Natural Fertility” in *Population and Economic Change in Developing Counties*, Richard Easterlin, University of Chicago Press, Chicago, IL.

<sup>50</sup>Edward Lazaer and Robert T. Michael (1988). *The Allocation of Income within the Household*. University of Chicago Press. Chicago, Illinois. pp. 18–21.

<sup>51</sup> Comanor et al., (p. 239).

empirical analysis, he concludes that the underlying studies may overstate actual child-rearing costs, but Comanor does not specifically suggest his measurements should be used as an alternative.

## ROTHBARTH AND USDA MEASUREMENTS

In this paper, I take the position that either the Betson-Rothbarth measurement or USDA measurement would be appropriate for updating the Minnesota basic table. They are the most current and credible economic studies available for updating child support basic tables and they yield similar results (see Exhibits 4, 5, and 6). The USDA study is the most widely cited study on child-rearing expenditures, its numbers are frequently reported by major media sources.<sup>52</sup> The Rothbarth measurements form the basis of the child support guidelines in the majority of states.<sup>53</sup>

For over two decades, the Rothbarth and USDA measurements of child-rearing expenditures have been substantially vetted, reviewed, analyzed, and scrutinized for use of state child support guidelines.<sup>54</sup> In fact, Betson has critiqued the USDA method and Lino et al. (the authors of the USDA method) have critiqued the Rothbarth method and other marginal cost methods.<sup>55</sup> One criticism of the marginal cost approach (such as the Rothbarth method)—where the marginal cost approach measures expenditures on children as the differences in expenses between families with children and equivalent families without children—is that there is no generally accepted equivalency measure in the economic literature. Another criticism is marginal cost approaches do not consider substitution effects: that is, families may reduce the number of expensive vacations they take once having children. Historically, the most frequently mentioned criticism of the USDA approach was that it used a per-capita approach to measure the child's housing expenses.<sup>56</sup> As described later, the USDA replaced the per-capita approach for measuring the child's housing expense in 2008 with an improved approach.

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## 1990 STUDIES AND BASIS OF TODAY'S STATE CHILD SUPPORT TABLES/FORMULA

As directed by the Family Support Act of 1988, the U.S. Department of Health and Human Services (DHHS), Office of the Assistant Secretary for Planning and Evaluation sponsored studies aimed at helping states develop and review child support guidelines. DHHS sponsored two studies on child-rearing expenditures that were completed in 1990. Federal regulation required states to have advisory guidelines by 1987 and rebuttable presumptive guidelines by 1989.

DHHS commissioned the University of Wisconsin Institute for Research on Poverty (IRP) and Professor David Betson, University of Notre Dame (who is an affiliate of IRP) to conduct a study of child-rearing

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<sup>52</sup> For example, see Lam Thy Vo. (Jun 22, 2016). "How Much Does It Cost to Raise a Child?" *Wall Street Journal*, and CNN. (n.d.) *How Much Will It Cost to Raise Your Child?* <http://money.cnn.com/interactive/pf/cost-of-children/>, .

<sup>53</sup> Jane C. Venohr. (2013). "Child Support Guidelines and Guidelines Reviews: State Differences and Common Issues," *Family Law Quarterly*, Vol. 43, No. 3 (Fall 2013).

<sup>54</sup> For example, see Rothe, I., J. Cassetty, and E. Boehnen. (2001). *Estimates of Family Expenditures for Children: A Review of the Literature*. Report prepared for the Wisconsin Department of Workforce Development, Institute for Research on Poverty, University of Wisconsin–Madison.

<sup>55</sup> Lino et al. (2017) pp. 16-17.

<sup>56</sup> See Betson (2010), p. 142.

costs.<sup>57</sup> The study fulfilled a Congressional mandate to provide information about child-rearing expenditures for states to develop and revise child support guidelines. For this 1990 study, Betson used and compared five different methodologies for measuring child-rearing expenditures and concluded that the Rothbarth estimator produced the most “robust” (*i.e.*, sound and statistically reliable) results, and recommended its use for state guidelines.

At the time, states that based their table/formula on economic evidence on child-rearing expenditures relied on a 1981 study of child-rearing expenditures<sup>58</sup> (mostly because they adopted the Wisconsin model<sup>59</sup>) or a 1984 study that relied on expenditure data collected in 1972–73.<sup>60</sup> Examining extant studies in which an estimated cost of child rearing could be extracted, van der Gaag (1981) concluded that a couple who adds one child to their household needs 25 percent more income to maintain their standard of living, the second child costs about half as much as the first child, and the third child costs about the same as the second child. The other study relied on the “Espenshade” methodology to separate the child’s share of expenditures. Both Espenshade and Rothbarth are named after the economists who developed them, are marginal cost approaches to measuring child-rearing expenditures, and are considered in Betson’s 1990 study. The marginal cost is the difference between how much a couple with children spends and how much a childless couple spends assuming that the two couples are equally well off. The Engel methodology uses the percentage of expenditure devoted to food as a proxy for equally well-off households, and the Rothbarth methodology relies on expenditures on adult goods to determine equally well-off households.

The other 1990 study commissioned by DHHS reviewed the results of the first study and other economic evidence relevant to child support guidelines.<sup>61</sup> It found a wide range of estimates of expenditures on children and did not pinpoint one methodology as necessarily being better than another. The study suggests that the Engel approach overstates actual child-rearing expenditures and the Rothbarth approach understates actual child-rearing expenditures.<sup>62</sup> Further, it suggests that the two estimates be used to calculate the likely upper and lower bounds of the true average level of expenditures on children.<sup>63</sup> In other words, state guidelines that provide amounts less than the Rothbarth amounts may provide inadequate amounts for children.

Nonetheless, Betson’s 1990 conclusion set the path for the usage of measurements of the Rothbarth estimator to develop and update child support guidelines. Ohio was the first state to adapt the

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<sup>57</sup> David M. Betson. (1990). *Alternative Estimates of the Cost of Children from the 1980–86 Consumer Expenditure Survey*, Report to U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, University of Wisconsin Institute for Research on Poverty, Madison, Wisconsin.

<sup>58</sup> van der Gaag, Jacques. (1981). *On Measuring the Cost of Children*. Discussion Paper 663-81. University of Wisconsin Institute for Research on Poverty, Madison, Wisconsin.

<sup>59</sup> New York adopted the Wisconsin model and has detailed on both models. See New York State Commission on Child Support and Association of the Bar of the City of New York, *What Are the Child Support Guidelines? The Child Support Standards Act*, presentation to the Association of the Bar of the City of New York on October 21, 1989, New York, New York.

<sup>60</sup> Espenshade, Thomas J. (1984). *Investing in Children: New Estimates of Parental Expenditures*. Urban Institute Press: Washington, D.C.

<sup>61</sup> Lewin/ICF. (1990). *Estimates of Expenditures on Children and Child Support Guidelines*. Report to U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation. Fairfax, Virginia.

<sup>62</sup> Lewin (1990) pp. 2-28 and 2-29.

<sup>63</sup> Lewin (1990) p. 7-3.

Rothbarth estimator as the basis of its child support table after extensive analysis of the Rothbarth measurement, and impact compared to the use of other measurements.<sup>64</sup> As identified later, Betson has subsequently updated his Rothbarth measurements thrice: each time using more current expenditure data.

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## BASIS OF TODAY'S CHILD SUPPORT TABLES/FORMULAS

Venohr (2017 forthcoming) identifies the economic basis of state guidelines.<sup>65</sup> Minnesota is categorized as relying on the USDA although it actually relies on multiple sources. At least twelve states mostly rely on the van der Gaag (1981) or Espenshade (1984) as the basis of their child support guidelines table or formula (*i.e.*, Alaska, California, Florida, Illinois, Indiana, Kentucky, Michigan, New Hampshire, New York, Nevada, Texas, Washington, and Wisconsin). Most (26 states and the District of Columbia and Guam and Indiana partially and Georgia partially) rely on a Betson-Rothbarth (BR) measurement: eight states rely on the two oldest BR measurements, 12 states rely on the third BR measurement, and seven states rely on the fourth BR measurement. A few states (*i.e.*, Delaware, Georgia, Indiana, and Montana) use multiple sources. New Jersey relies on Rothbarth estimates developed by one of its university professor.<sup>66</sup> Kansas has developed its own unique method that is updated by one of its universities.<sup>67</sup> Still, the source is unknown among five states (*i.e.*, Hawaii, Idaho, Mississippi, North Dakota, and Utah).

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## USDA

The USDA typically updates its measurements annually or bi-annually. The most current USDA study, which was published in January 2017, reflects child-rearing expenditures in 2015.<sup>68</sup> The USDA estimates child-rearing expenditures individually for seven expenditure categories (*e.g.*, food, transportation, housing, clothing, health care, child care and education, and miscellaneous expenses), then adds them to develop a total. Exhibit 12 lists these categories and summarizes the method used to apportion that expense to the child. In the exhibit, CES refers to the Consumer Expenditure Survey conducted by the U.S. Bureau of Labor Statistics, that is the data set that all economists used to measure child-rearing expenditures. Exhibit 12 shows that several expenditure items are estimated using a per-capita approach, which other economists have criticized.

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<sup>64</sup> See Policy Studies Inc. (1993). *Updated Economic Tables for the Ohio Child Support Guidelines*. Report to Office of Child Support Enforcement, Ohio Department of Human Services, Columbus, Ohio.

<sup>65</sup> Jane C. Venohr (Forthcoming 2017). "Differences in State Child Support Guidelines Amounts: Guidelines Models, Economic Basis, and Other Issues." *Journal of the American Academy of Matrimonial Lawyers*.

<sup>66</sup> New Jersey Child Support Institute (March 2013). *Quadrennial Review: Final Report*, Institute for Families, Rutgers, the State University of New Jersey, New Brunswick, NJ. Retrieved from: [http://www.judiciary.state.nj.us/reports2013/F0\\_NJ+QuadrennialReview-Final\\_3.22.13\\_complete.pdf](http://www.judiciary.state.nj.us/reports2013/F0_NJ+QuadrennialReview-Final_3.22.13_complete.pdf).

<sup>67</sup> See Kansas Judicial Branch, <http://www.kscourts.org/Rules-procedures-forms/Child-Support-Guidelines/archives.asp>.

<sup>68</sup> Lino, Mark, et al. (2017). Expenditures on Children by Families: 2015 Annual Report. U.S. Department of Agriculture, Center for Nutrition and Policy Promotion. Miscellaneous Publication No. 1528-2015, Washington, D.C. Available at <http://www.cnpp.usda.gov/publications/crc/crc2015.pdf>.

**Exhibit 12: List of Expenditure Categories Measured by USDA and Summary of Methodological Methods**

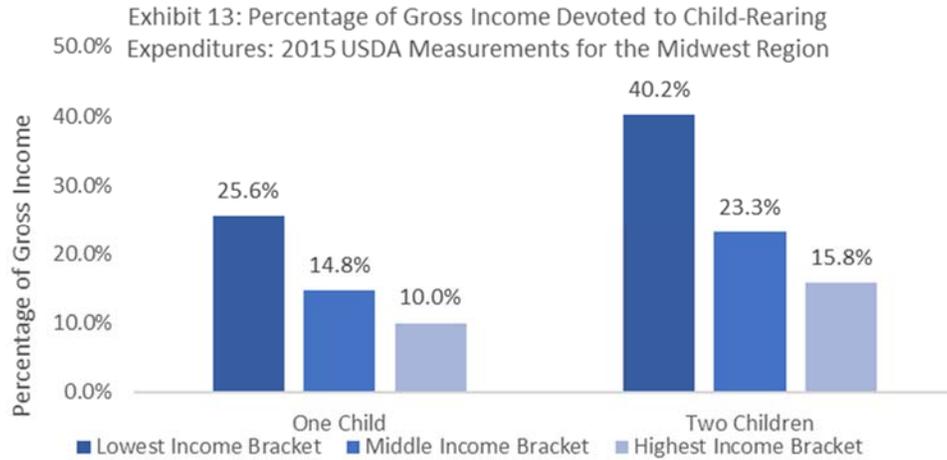
Expenditure Category	Methodology
Food	CES captures food expenditures for the entire household. It is apportioned to the child using the USDA Food Plans by considering the age of the household member, household size and income; specifically, the food shares under the USDA using the USDA Low-Cost Plan for low-income families, the Moderate-Cost Plan for middle-income families, and the Liberal Food Plan for high-income families.
Housing	The cost of an extra bedroom as measured by multivariate analysis that regresses housing expenditures on the number of bedrooms in a home controlling for income level.
Transportation	The CES captures transportation expenses for the entire household. The USDA excludes employment-related expenses, and considers transportation expenses for family-related activities (using an apportionment from a U.S. Department of Transportation study). Family-related transportation is assumed to be shared equally between the parents and the children, then allocated to the children on a per capita basis.
Health care	The CES captures health care expenditures for the entire household. Data from the U.S. Department of Health and Human Services 2012 Medical Expenditure Panel Survey that collects detailed data on health care expenditures on individual household members is used to determine the share of health care expenditures on children.
Clothing	CES captures expenditures on children’s clothing for children age 15 and under. USDA assumes that expenditures for older children is similar to those for a 15-year old.
Child care and education	CES captures child care and education expenditures directly. More than half of households reported no child care expenditures.
Miscellaneous expenses (e.g., personal care products and services and entertainment)	CES captures miscellaneous expenses for the entire household. The USDA uses a per capita method to apportion them to family members.

Using expenditures data from the 2011 through 2015 Consumer Expenditure Survey (CES), the USDA found that average child-rearing expenses are \$9,060 to 22,730 per year for the youngest child in a two-child family in the Midwest in 2015.<sup>69</sup> The USDA finds that child-rearing expenditures are more in high-income families and for older children.

The USDA estimates consider three income ranges for the Midwest region. In 2015, they were before-tax income less than \$59,200 per year, with an average income of \$37,600; before-tax income of \$59,200 to \$107,400 per year, with an average of \$81,700 per year; and before-after tax income more than \$107,400 per year, with an average of \$186,910 per year. Exhibit 13 compares the percentage of gross income devoted to child-rearing expenditures for each of these income ranges. Specifically, the percentage is calculated by dividing average expenditures (less the child’s health care expenses and child care expenses) for each income range by average income of that range. This is done to make the USDA percentages comparable to the Minnesota guidelines. Most state guidelines exclude these expenses from their core formula or schedule because they use the actual amount expended on a case-by-case basis in the child support calculation.

<sup>69</sup> Lino, Mark, et al. (2017). *Expenditures on Children by Families: 2015 Annual Report*. U.S. Department of Agriculture, Center for Nutrition and Policy Promotion. Miscellaneous Publication No. 1528-2015, Washington, D.C. Available at <http://www.cnpp.usda.gov/publications/crc/crc2015.pdf>.

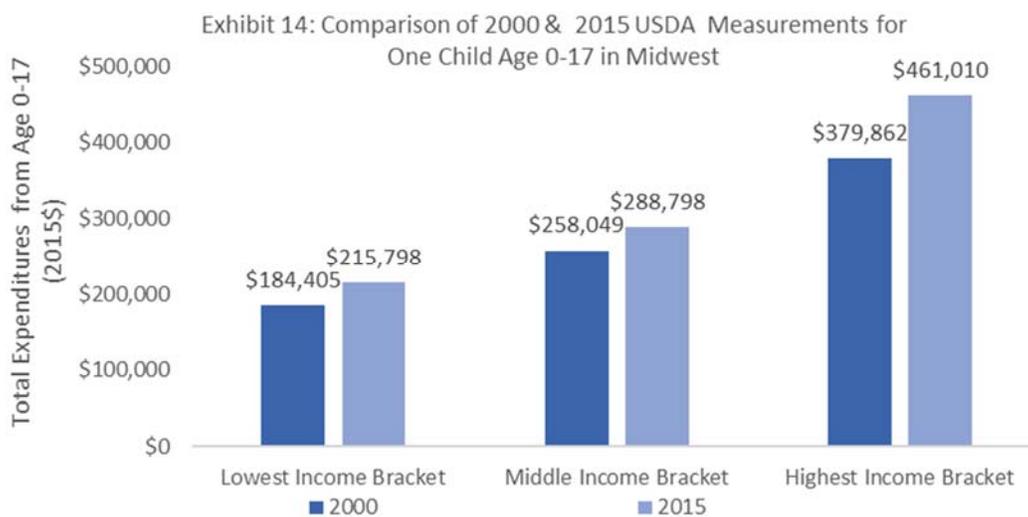
One observation from Exhibit 13 is the percentage of gross income devoted to child-rearing expenditures declines as gross income increases. Progressive federal tax rates contribute to this decline. Spending decisions are made from after-tax income, not gross income.

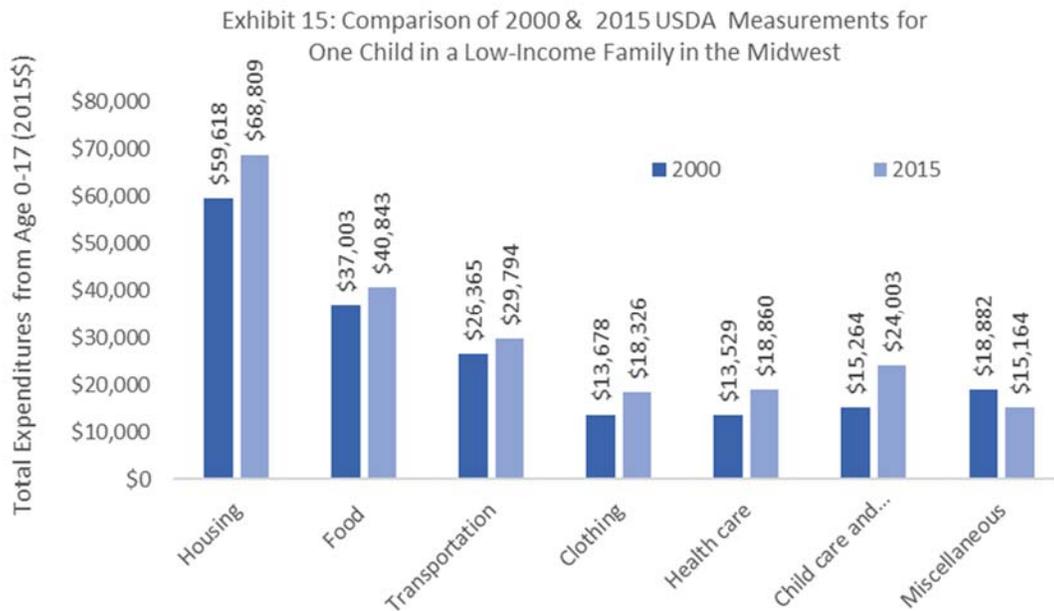


#### Changes in USDA over Time

The existing Minnesota basic table is based on an older USDA study (2001). Since then, the USDA changed its methodology and uses updated data. The 2015 USDA measurements rely on 2011-2015 Consumer Expenditure Survey data. In 2008, the USDA switched to a marginal cost methodology for measuring housing cost (*i.e.*, the additional cost for an additional bedroom or bedrooms for the child or children). This may have contributed to increases to the USDA measurements. Exhibit 14 shows those increases for the one-child USDA amounts from 2000 to 2015 in 2015 dollars.

As shown in Exhibit 15, which also shows the amounts in 2015 dollars, the increase was not just due to the change in the methodology used to measure the child’s housing expenses. The increase was for every expenditure category except miscellaneous. (The reason for the exception is unknown.)





#### ROTHBARTH STUDIES UNDERLYING STATE CHILD SUPPORT BASIC TABLES

There are five different Rothbarth measurements that form the basis of 29 state guidelines. Four were developed by Professor David Betson, University of Notre Dame. The fifth was developed by a Rutgers University professor for New Jersey, is adjusted for New Jersey’s relatively high income, and is used only by New Jersey. Named after the British WWII economist who derived it, the Rothbarth methodology is a marginal cost approach that compares expenditures of two sets of equally well-off households: one set consists of two-parent families with children, and the other consists of couples without children. The difference in their expenditures is presumed to be spent on child rearing. The Rothbarth methodology relies on the percentage of total expenditures devoted to adult goods (*i.e.*, adult clothing in Betson’s application) to determine equally well-off families. Betson has conducted sensitivity analysis to determine whether alternative definitions of adult clothes (*i.e.*, those that include expenditures on alcohol and tobacco) produce different results and have concluded that they do not.

In viewing the Rothbarth measurements for use of state child support guidelines, it is important to note that:

- Studies using the Rothbarth methodology measure how much of total household expenditures are spent on children;
- To this end, they typically measure child-rearing expenditures as a percentage of total expenditures (*e.g.*, 20 percent of all family expenditures are devoted to one child);
- They do not separate child-rearing expenditures by expenditure category (*e.g.*, food and housing); and

- They do not typically relate to income. Instead, expenditures must be converted to income for use of a child support guidelines. (This is the reason behind assumptions about tax rates and addressing families that spend more or less than their income, as shown in Exhibit 2. These assumptions can impact a state child support basic table just as much as which economic study is used to develop the table.)

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## BETSON-ROTHBARTH

Over time, four sets of Betson-Rothbarth (BR) measurements have been produced. For Betson’s first study,<sup>70</sup> he used 1980–1986 CES data. For his second study,<sup>71</sup> he initially used 1996–1998 CES data, but later expanded it to encompass 1996–1999 CES data. For his third study<sup>72</sup> and fourth study,<sup>73</sup> respectively, he used data from the 1998–2004 and 2004–2009 CES. Exhibit 16 and Exhibit 17 illustrate the differences in BR over time for one child and two children, respectively. The percentages exclude child care, the child’s health insurance, and the child’s extraordinary medical expenses and are converted from expenditures to after-tax income by using average expenditures to after-tax income ratios calculated from the same subset of data used to develop the BR measurements.

The first three sets of BR measurements (BR1, BR2, and BR3) rely on the same assumptions and methodologies, but different data years. The most recent BR measurements (BR4) included two changes in data assumptions. Earlier BR measurements consider “expenditures,” while BR4 considers “expenditures-outlays.” Expenditures include the purchase price (and sales tax) on any item purchased within the survey year regardless whether the item was purchased through installments. In contrast, outlays only capture what was actually paid toward that item during the survey period. So, if there were only four out of 20 installment payments made during the survey period, only those four payments are captured.

Unlike expenditures, outlays also capture mortgage principal payments, payments on second mortgages, and payments on home equity loans. Both expenditures and outlays capture interest on the first mortgage among homeowners and rent, utilities, and other housing expenses among renters. The merit of expenditures for use of state guidelines is that it excludes mortgage principal payments. This is consistent with property settlements that have historically addressed equity in the home as part of the divorce settlement. The merit of outlays for use in state guidelines is it is a better reflection of the monthly budget cycle; that is, household spending in consideration of monthly bills and expenses.

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<sup>70</sup> Betson, David M. (1990). *Alternative Estimates of the Cost of Children from the 1980–86 Consumer Expenditure Survey*. Report to U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation. University of Wisconsin Institute for Research on Poverty, Madison, Wisconsin.

<sup>71</sup> Betson, David M. (2001). “Chapter 5: Parental Expenditures on Children.” In Judicial Council of California, Review of Statewide Uniform Child Support Guideline. San Francisco, California.

<sup>72</sup> Betson, David M. (2006). “Appendix I: New Estimates of Child-Rearing Costs.” In State of Oregon Child Support Guidelines Review: Updated Obligation Scales and Other Considerations. Report to State of Oregon, Prepared by Policy Studies Inc., Denver Colorado.

<sup>73</sup> Betson, David M. (2010). “Appendix A: Parental Expenditures on Children.” In Judicial Council of California, Review of Statewide Uniform Child Support Guideline. San Francisco, California.

Exhibit 16: Changes in Betson-Rothbarth Measurements over Time: One Child

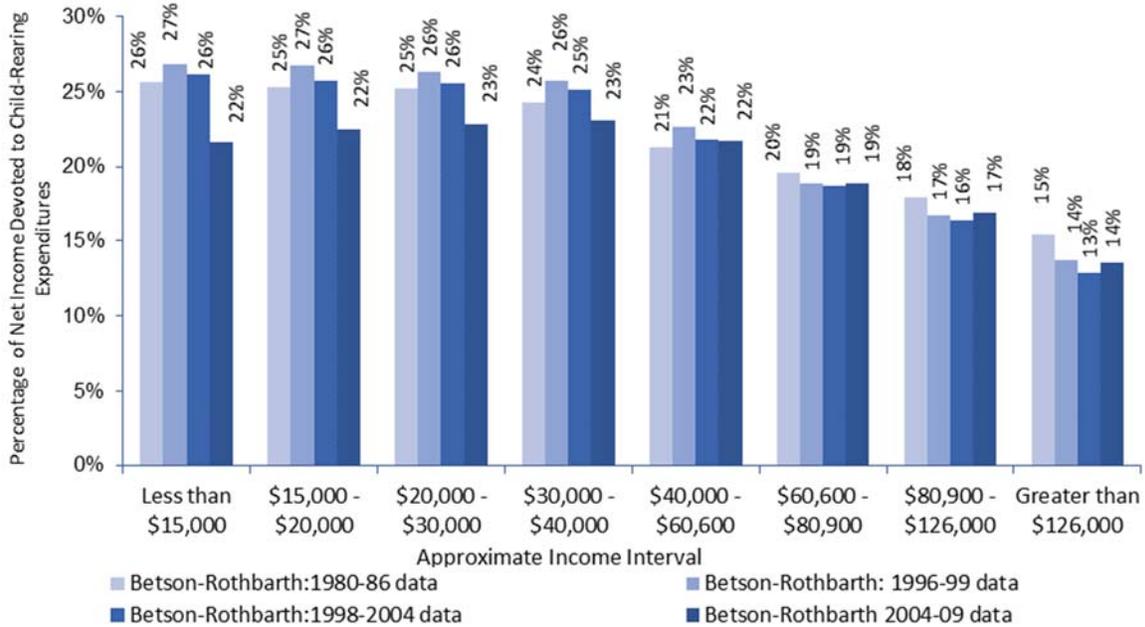
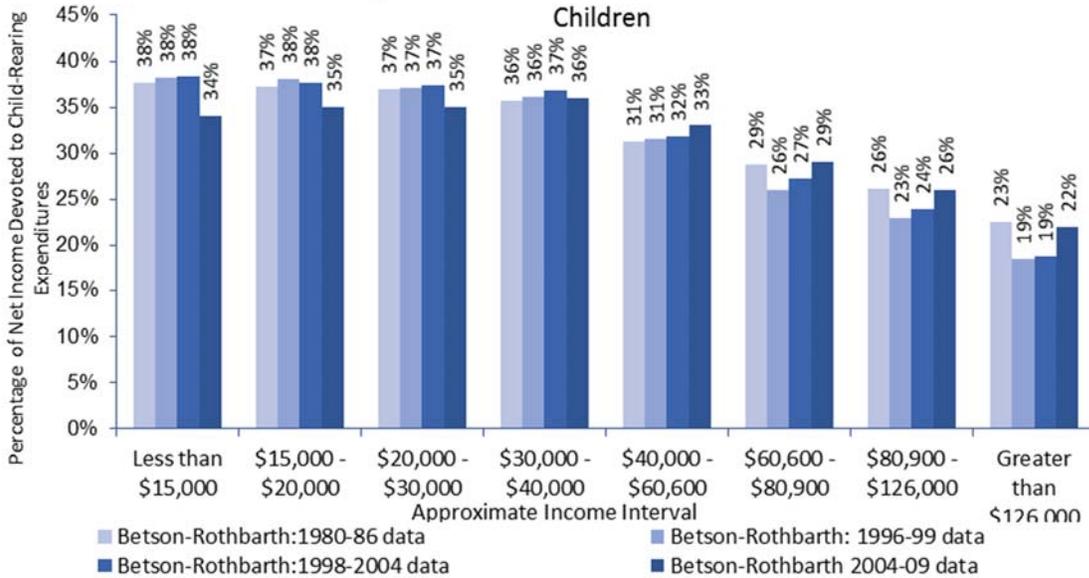


Exhibit 17: Changes in Betson-Rothbarth Measurements over Time: Two Children



The second difference is that Betson relied on a newly available measure of income developed by the Bureau of Labor Statistics, the organization that conducts the CES. The underreporting of income is a problem inherent to most surveys. The new measure attempts to correct underreporting, particularly at low incomes. The problem was identified from findings from analysis of earlier CES that revealed that many low-income families spend considerably more than what they report as income. The new

measurement essentially bumps income for some families—hence, reducing the percentage of their income spent on child rearing.

In general, the BR4 measurements are less than the BR3 measurements at lower incomes, which may be due to the correction of the underreporting of income, as described above, and the BR4 measurements are more than the BR3 measurements at higher income, which may be due to the change to outlays. Due to the decreases coupled with the fact that most conventional economists believe that the Rothbarth methodology understates actual child-rearing expenditures, several states (*i.e.*, Arizona, Iowa, and Pennsylvania) have decided to retain the BR3 as their basis but update the BR3 measurements for current price levels and other economic factors (*e.g.*, changes in tax rates). Seven states (*i.e.*, Colorado, Connecticut, North Carolina, Rhode Island, Vermont, Virginia, and Wyoming) base their guidelines schedules on BR4.

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#### NEW JERSEY-ROTHBARTH MEASUREMENTS

In 2013, New Jersey updated its guidelines using a study that was conducted by a Rutgers University professor applying the Rothbarth methodology. However, its average results are much less than that of the BR studies. The New Jersey study found that the average percentage of total household expenditures devoted to children in intact families is 20 percent for one child, 23 percent for two children, and 29 percent for three children. In contrast, the average percentage of total household expenditures devoted to children in intact families under the BR measurements range from 24 to 26 percent for one child, 35 to 37 percent for two children, and 40 to 45 percent for three children. The Rutgers study considers expenditures data from a larger time period (2000 through 2011). The Rutgers study also considers single-parent families and families with more than two adults living in the household, while the BR studies consider dual-parent families only. Inclusion of single-parent families may explain some of the differences.

Despite the differing study results, when New Jersey developed a schedule, it adjusted its Rothbarth measurements for New Jersey's above average income. This results in the New Jersey schedule amounts for one child being more than most BR-based schedules. However, the New Jersey schedule amounts are only more than BR-based schedules for one-child amounts, not for two or more children. This is because of an anomalous result of the Rutgers study: it found that two children do not cost much more than one child (*i.e.*, the amount allocated for two children is about 10 percent more than the amount allocated for one child). This finding eclipses any adjustment for New Jersey's higher incomes for comparisons considering two or more children.

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#### TRANSFORMING ROTHBARTH MEASUREMENTS TO CHILD SUPPORT TABLES

As shown in Exhibit 2, several other assumptions must be made to transform the Rothbarth measurements into a gross-income based child support table. The BR measurements of child-rearing expenditures relate to total expenditures, which is equivalent to after-tax income if a family spends all of their income and incurs no savings. In turn, from after-tax income, they must be backed out to a gross-income basis. Exhibit 18 illustrates why this transformation is needed.

Exhibit 18: Family Consumption and Net and Gross Income	
Gross Income:	Federal and State Taxes and FICA
Net Income:	Savings and Other Spending
Family Expenditures:	Total Family Expenditures/Outlays for the Family
	Child's Share of Total Family Expenditures/Outlays

As summarized in Exhibit 2, most gross-income guidelines using the Rothbarth methodology are backed into a gross-income basis using prevailing federal and state income withholding and FICA tax formula. The most common tax rate assumptions are (a) a single individual (which is the same tax rate for head-of-household in the withholding formula); and (b) two federal withholding allowances (one for a single exemption and one to simulate the standard deduction), based on IRS instructions. One alternative, which is used by the District of Columbia, is to assume tax rates for a married couple claiming the same number of children for whom support is being determined. This results in a lower effective tax rates, more spendable income available for child-rearing expenditures, and higher child support table amounts.

Before the BR measurements can be backed out to gross income, they must also be backed out to after-tax income. Various assumptions can be made to back out the measurements to a net-income base. One assumption is that families spend all of their after-tax income. Under this assumption, family expenditures and after-tax income are equal and no additional adjustment is necessary. The District of Columbia is the only state using the BR estimates to make this assumption. Instead, most BR states consider the expenditures to consumption ratios observed in the same subset of CES data used to measure child-rearing expenditures. For incomes in which families spend more than their incomes on average (*i.e.*, typically below \$3,000 net per month), many states cap income so families never spend more than their after-tax income.

## SECTION III: GUIDELINES MODELS

Most states including Minnesota relate their child support table to a study of child-rearing expenditures. The guidelines model is a policy decision and should be made before selecting the economic measurement of child-rearing expenditures because it can affect what type of measurement of child-rearing expenditures are needed. Most state guideline models are based on what University of Wisconsin researchers call “continuity of expenditures model”—that is, the child support award should allow the children to benefit from the same level of expenditures had the children and both parents lived together.<sup>74</sup> There are two types of continuity of expenditures models used by states: the income shares model and the percentage-of-obligor income guidelines. However, a few states use the Melson formula which considers the basic needs of the child as well as a “standard of living adjustment” to ensure that the child shares in the standard of living of the obligated parent if the obligated parent can afford a higher standard of living. In addition, there are some alternative guidelines, that are not used in any state, that rely on expenditures in single-parent families. However, no states use them.

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### INCOME SHARES MODEL

Most states (39 states), including Minnesota and many Midwestern states (*i.e.*, Iowa, Indiana, Missouri, Michigan, Nebraska, and South Dakota), rely on the income shares model. Beginning in 2017, Illinois will also begin using the income shares model. The switch in Illinois comes after five years of deliberation, planning, and policy making. The income shares model considers both parents’ incomes in the calculation of support, so it is generally perceived to be more fair. Each parent is responsible for his or her share of the prorated expense of raising the child in the income shares model. The income shares model was developed through the 1983–1987 National Child Support Guidelines, which was convened by the Federal Office of Child Support Enforcement (OCSE) to fulfill a congressional request.<sup>75</sup> At the time, most states did not have statewide child support guidelines, while the federal time line was initially 1987 for advisory statewide guidelines, then extended to 1989 when the requirement was expanded to presumptive statewide guidelines. The architect of the income shares model designed it to fulfill the guidelines principles identified by the project’s oversight committee, which included a wide range of stakeholders. Examples of some of the principles are: the financial responsibility of the children should be shared by the parents who have legal responsibility for the children, child support guidelines should at least cover a child’s basic needs (but the child should also share a higher standard of living enjoyed by a parent); the subsistence needs of each parent should be taken into consideration; and each child of a given parent should have a right to that parent’s income.

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<sup>74</sup> Ingrid Rothe and Lawrence Berger, “Estimating the Costs of Children: Theoretical Considerations Related to Transitions to Adulthood and the Valuation of Parental Time for Developing Child Support Guidelines” (April 2007), *IRP Working Paper*, University of Wisconsin: Institute for Research on Poverty, Madison, Wisconsin.

<sup>75</sup> National Center for State Courts. (1987). *Development of Guidelines for Child Support Orders*, Final Report. Report to U.S. Department of Health and Human Services, Office of Child Support Enforcement, Williamsburg, Virginia.

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## PERCENTAGE-OF-OBLIGOR INCOME MODEL

There are nine states (including North Dakota and Wisconsin that border Minnesota) that rely on a percentage-of-obligor income guidelines model. None of these nine states rely on identical percentages. One variation is some states rely on flat percentages while other states rely on a sliding-scale percentage. The major difference between the income shares model and the percentage-of-obligor income guidelines model is the former includes the custodial parent's income in the guidelines calculation; specifically, the more income the custodial parent has, the lower is the guidelines-determined award amount. Although the amount of the custodial parent's income has no bearing on the guidelines-determined award amount in the percentage-of-obligor income guidelines model, the explicit or implicit premise is that the custodial parent contributes the same percentage of income or dollar amount to the children as the amount of the child support award owed by the obligated parent.

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## MELSON FORMULA

Delaware, Montana, and Hawaii rely on the Melson formula. Mechanically, the Melson formula blends elements of both the income shares model and the percentage-of-obligor income model. It first prorates a basic needs level for the child between the parents, then if the obligated parent has any income remaining after meeting his or her own basic needs as well as his or her prorated share of the child's basic needs, an additional percentage of the remaining income is assigned to child support.

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## ALTERNATIVE GUIDELINES MODELS

Besides the three guidelines models currently used by states, there are many other guidelines models that are not in use. Many are premised on equalizing income or closing the gap in after-tax, after-child support payment/receipt incomes of the two households. When state guidelines were first federally mandated, one frequently mentioned alternative was the income equalization model.<sup>76</sup> These alternative models vary in tax assumptions, the amount of time the child spends with each parent, and other factors. Most states find that changing child support guidelines models takes several years to develop and vet among guidelines users and stakeholders. All states that have successfully changed guidelines models in the last 15 years have switched to the income shares model.

Massachusetts and the District of Columbia initially used the "hybrid" model but both states switched to income shares in the late 2000's. The hybrid model relied on a percentage-of-obligor income guidelines model until the custodial parent's income reached a certain threshold (*e.g.*, \$20,000 per year in Massachusetts) then switched to an income shares approach. The premise was that custodial-parent households need a larger income disregard to raise them out of poverty. The premise became outdated as shared custody became more prevalent and there was not clearly just one custodial parent. The hybrid model is not in use by any state currently.

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<sup>76</sup> National Center for State Courts (1987). *Development of Guidelines for Child Support Orders, Final Report*. Report to U.S. Department of Health and Human Services, Office of Child Support Enforcement, Williamsburg, Virginia.

A few alternative guidelines models — the cost shares model introduced by the Children’s Rights Council —and later modified and promoted by Mark Rogers in several versions including one that amalgamated income shares; the American Law Institute’s model (ALI); and Arizona’s Child Outcome-Based Support model (COBS) — received significant attention several years ago, but none have been adopted by any state. All of them are alternatives to guidelines models rooted in measurements of child-rearing expenditures in intact families. The original cost shares model considers child-rearing expenditures in single-parent families rather than expenditures in intact families. Advocates of the cost shares model are critical of the income shares model because they believe that the standard of living afforded when the family was intact cannot be maintained when there are now two households to support (*i.e.*, the household that includes the custodial parent and the children and the household that includes the obligor). Further, they believe that if the standard of living of the children and custodial parent is maintained, then the standard of living of the obligor must diminish. This is one reason why the original cost shares model relied on measurements of child-rearing expenditures in single-parent families rather than measurements in intact families. One of the criticisms of using expenditures in single-parent families is that it sets a basic needs or poverty-level guidelines because many single-parent families live in poverty and few have high incomes.<sup>77</sup> For instance, in Minnesota, 38 percent of female-headed families with children under age 18 live in poverty and only 26 percent of female-headed families with children under age 18 have annual incomes of \$50,000 or more.<sup>78</sup> In contrast, 51 percent of two-parent families with children under age 18 have annual incomes of \$100,000 or more. This creates a problem for informing guidelines amounts at high incomes. The cost shares model generally produces lower support orders than other guidelines models. Another criticism of the cost shares model is that it considered the tax benefits associated with the children, which not all families receive, and when they receive it is at year-end rather than on a monthly basis. Instead, many families live paycheck to paycheck. In earlier years, the Earned Income Tax Credit (EITC) was advanced to eligible families in their paycheck, but it is no longer advanced. Instead, families must wait for their year-end tax filing to receive it, assuming that they do receive it and file for it. About three out of four individuals eligible for EITC actually receive it, and just under two-thirds of Minnesota welfare recipients eligible for the working family credit (WFC) actually received it.<sup>79</sup>

Both the ALI and COBS models are “forward-looking methods” of calculating support in that they consider the living standard of each parent and the children after the transfer of child support.<sup>80</sup> This contrasts vastly from the income shares model, which “looks backward” toward what is spent on child-rearing expenditures in intact families. No state has seriously considered the ALI model. One reason is that the ALI exists in concept, but has not been developed into an actual set of working guidelines.

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<sup>77</sup> A more thorough critique of the cost shares guidelines is provided by Jo Michelle Beld and Len Biernat, “Federal Intent for State Child Support Guidelines, Income shares, Cost Shares, and the Realities of Shared Parenting.” *37 Family Law Quarterly* 165 (2003).

<sup>78</sup> Calculated from 2015 American Community Survey. <http://census.gov>.

<sup>79</sup> Donald, Hirsuna. (July 2010). *Research Examines the Receipt of Earned Income Tax Credits among Welfare Recipients*. Federal Reserve of Minneapolis. <https://www.minneapolisfed.org/publications/community-dividend/research-examines-the-receipt-of-earned-income-tax-credits-among-welfare-recipients>

<sup>80</sup> More information about COBS can be found in Arizona Child Support Guidelines Review Committee, *Interim Report of the Committee*, Submitted to Arizona Judicial Council, Phoenix, Arizona on October 21, 2009. More information about the ALI can be found in the *1999 Child Support Symposium* published by *Family Law Quarterly* (Spring 1999).

Although the architects of the COBS model insist it is not an ALI model, it is a close cousin. Arizona, a state where the guidelines are promulgated through judicial rule, is the only state to have seriously considered the COBS. In fact, COBS was developed by Ira Ellman, an Arizona child support guidelines review committee member and legal scholar, who was involved in the development of the ALI model. One principle objective of the COBS is to narrow the income gap between the households of the obligee and obligor when the obligor has considerably more income than the obligee. Another principle of COBS is that the guidelines-determined amounts should not impoverish very low-income obligors. In 2010, the Arizona child support guidelines review committee recommended that Arizona adopt COBS,<sup>81</sup> but the Arizona Judicial Council decided it needed further study and referred the issue to a legislative committee. As part of its decision, the Arizona Judicial Council also updated its income shares table.

Relative to Arizona's version of income shares, COBS generally decreases the guidelines amounts for low-income obligors, increases the guidelines amounts for middle to high-income obligors, and decreases the guidelines amounts in cases where the obligor has less income than the obligee. Arizona's version of income shares produces amounts that are generally less than many income shares guidelines because Arizona includes a relatively generous timesharing adjustment that is applicable when the child spends at least four overnights per year with the obligated parent.

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#### COMPARISONS OF GUIDELINES MODELS AND OTHER GUIDELINES MODELS

Two states using the same guidelines model rarely yield the same guidelines amounts. This is because there are numerous other assumptions and data considered in the guidelines award.<sup>82</sup> For example, two income shares may use a different economic study on the cost of raising children as the basis of their guidelines calculation. Further, guidelines amounts vary depending on the case scenario considered. One state may yield a higher amount for a low-income, obligated parent because it uses an updated self-support reserve while another state has no self-support reserve. Yet, when the guidelines amounts are considered from two states for the same high-income scenario, the other state may yield a higher amount.

In general, percentage-of-obligor income guidelines yield lower amounts at low-middle incomes than income shares guidelines and higher amounts at high incomes than income shares guidelines.<sup>83</sup> Melson guidelines generally yield amounts similar to income shares states guidelines at very high incomes, at which Melson states generally yield more than income shares guidelines.

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<sup>81</sup> Honorable Bruce Cohen, Chair of the Arizona Child Support Guidelines Review Committee, *Request for Arizona Judicial Council Action*, October 21, 2010. Downloaded from <http://www.azcourts.gov/Portals/74/CSGRC/1%20AJC%20cover%20sheet%20for%20the%20GRC.pdf> on November 4, 2010.

<sup>82</sup> More information about state guidelines differences can be found at: Jane C. Venohr. (2013). "Child Support Guidelines and Guidelines Reviews: State Differences and Common Issues," *Family Law Quarterly*, Vol. 43, No. 3 (Fall 2013).

<sup>83</sup> See Jane C. Venohr (Forthcoming). "Differences in State Child Support Guidelines Amounts: Guidelines Models, Economic Basis, and Other Issues." *Journal of the American Academy of Matrimonial Lawyers*.

## SECTION IV: CONCLUSIONS AND RECOMMENDED NEXT STEPS

Minnesota is reviewing its child support guidelines. At the core of its guidelines is a table of basic support obligations that is used to calculate child support. The table reflects economic data on the cost of raising children dating back to 2001. Minnesota has contracted with two separate economists to

“summarize the commonly used methods for determining base child support in the United States, as well as methods used by R. Mark Rogers and William Comanor.”

It is not clear whether “methods” refers to the economic studies of child-rearing expenditures that underlie state child support guidelines or child support guidelines models used by states. Nonetheless, this study summarizes both. The vast majority of states’ guidelines, including Minnesota’s, are based on the income shares model. In turn, the income shares model is based on the principle that both parents are financially responsible for the children and the children should receive the same amount of expenditures that the children would receive had the parents lived together and shared financial resources. The premise applies to all children regardless whether their parents married, separated, divorced, or never lived together because most states believe that children should be treated equally regardless of their parents’ decisions. If unmarried parents have the same financial resources as divorced parents and other circumstances are similar, the amount of the child support should be the same.

Because of the income shares premise of parents living together and sharing financial resources, most income shares guidelines base their core table on measurements of child-rearing expenditures in intact families. There are nine different studies of child-rearing expenditures underlying state guidelines. The studies vary in age and methodology used to separate the child’s share of expenditures from total family expenditures. The most frequently used studies rely on the Rothbarth methodology to measure child-rearing expenditures and are conducted by Dr. David Betson, University of Notre Dame. The Rothbarth methodology is a specific marginal cost approach in which expenditures on children are measured by comparing expenditures between two equally well-off families: one with children and one without children. The difference in their expenditures is deemed to be child-rearing expenditures.

The United States Department of Agriculture (USDA) has also developed measurements of child-rearing expenditures that are updated at least bi-annually. The existing Minnesota table is based on 2001 USDA measurements. The USDA measures child-rearing expenditure for seven categories (*i.e.*, housing, transportation, food, clothing, health care, child care and education, and miscellaneous expenses) separately and then uses the sum to arrive at a total.

In this report, updated child support tables are developed from the most Betson-Rothbarth (BR) study (2010)<sup>84</sup> and USDA study (2017)<sup>85</sup> and a new method developed by Comanor, Sarro, and Rogers.<sup>86</sup> All of the studies are updated to reflect 2017 price levels; then, they are compared to the existing Minnesota child support amounts using five case scenarios. The comparisons to the BR and USDA study suggest that increases to the Minnesota child support table are warranted. The comparisons to the Comanor amounts do not support that. Instead, the Comanor amounts yield amounts that are often half as much as the current Minnesota guidelines yields. The Comanor amounts are less than poverty amounts.

The Comanor amounts are analyzed in greater detail due to their anomalous results. The Comanor study also essentially measures child expenditures for separate categories of expenditures that are almost identical to the USDA categories. The Comanor amounts are generally significantly less than the USDA. Some of the Comanor results do not appear plausible (*i.e.*, \$8 to \$14 per week for the food cost for one child). Further, there is concern that the Comanor regression model is mis-specified.

There are also limitations to the USDA and BR studies. However, the USDA and BR studies yield similar amounts, and have been reviewed, and critiqued several times in the past 25 years. Either study would be appropriate for updating the Minnesota child support table.

## RECOMMENDED NEXT STEPS

Which study of child-rearing expenditures to use is just one consideration in the update and development of a child support guidelines table. Exhibit 2 lists other data and assumptions that states often consider in the development of a child support schedule. Minnesota should review all of these factors first, starting with reviewing which guidelines model is most appropriate for the state before considering which study of child-rearing expenditures to use. Then, Minnesota should review the other factors listed in Exhibit 2 to ensure that there is the appropriate consideration of each factor that goes into a child support table.

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<sup>84</sup> Betson, David M. (2010). "Appendix A: Parental Expenditures on Children." In Judicial Council of California, *Review of Statewide Uniform Child Support Guideline*. San Francisco, California. Retrieved from: <http://www.courts.ca.gov/partners/documents/2011SRL6aGuidelineReview.pdf>.

<sup>85</sup> Lino, Mark, et al. (2017). Expenditures on Children by Families: 2015 Annual Report. U.S. Department of Agriculture, Center for Nutrition and Policy Promotion. Miscellaneous Publication No. 1528-2015, Washington, D.C. Available at <http://www.cnpp.usda.gov/publications/crc/crc2015.pdf>.

<sup>86</sup> Comanor, William S., Sarro, Mark, and Rogers, R. Mark. (2015). "The Monetary Cost of Raising Children." *Economic and Legal Issues in Competition*, in James Langenfeld (ed.) *Economic and Legal Issues in Competition, Intellectual Property, Bankruptcy, and the Cost of Raising Children (Research in Law and Economics, Volume 27)* Emerald Group Publishing Limited, pp.209 <http://www.emeraldinsight.com/doi/abs/10.1108/S0193-589520150000027008>.