The Economics of Child Support Guidelines:

Understanding the Inputs and Their Implications

PRESENTED TO

Massachusetts Child Support Guidelines Task Force

PRESENTED BY

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Agenda

1. Child support guidelines overview
2. Common calculations and models
3. Limitations of the income shares approach
4. Possible adjustments
5. About Brattle

1. Child support guidelines overview

The guidelines transcend the economics

- Setting child support guidelines ultimately requires policy decisions, not purely economic decisions
- The economics do not provide objectively "right" answers to policy questions
  - Some decisions are inherently subjective
  - Non-economic (e.g., administrative, legal, moral) principles and objectives are also at stake
- The "right" policy decisions get the economics right for a given set of policy principles/objectives
  - Economics can help inform the policy principles/objectives

The economics do not dictate the policy;
economic consultants are not policymakers.

The guidelines rely critically on the economics

- Economics inherently condition the range of prevailing policy options
  - Presumptive guidelines should reflect economically correct "child costs"
  - Cost table shows child costs increasing in income and number of children
- But do the economics provide the right information?
  - How are the numbers in the cost table actually calculated?
    - What do they represent in economic terms?
    - What are the underlying principles?
    - What are the implicit assumptions?
    - What are the alternatives?
  - What incentives, risks, and rewards do the guidelines create in practice?

Understanding the economics is the only way to truly understand the guidelines and make informed policy decisions.

The cost table does not report direct costs

- Under federal law, each state's quadrennial guidelines review "*must consider economic data on the cost of raising children*"[1]
- But the guidelines are not based on actual child costs
  - Actual costs are not directly observable
  - "Public goods" problem
  - Economic focus on parental expenditures, not child costs[2]
- The cost table reflects income shares[3]
  - Economic basis for measuring "cost" is estimating parental expenditures on children
    - Varies with income, therefore child support does
  - How much income should the non-custodial household be required to share with the custodial household?

Sources:
[1] 45 CFR §302.56(h)
[2] Espenshade (1984)
[3] Guidelines, Attachment A

How are the numbers in the cost table calculated?

- MA Basic Order formula (effective since 2002)[1] is a percent of obligor gross weekly income (i.e., an income share) for different numbers of children

Obligor	Number of Children					
GWI	1		2		3	
$101	$21	21%	$24	24%	$27	27%
$105	$22	21%	$25	24%	$28	27%
$110	$23	21%	$26	24%	$30	27%
$115	$24	21%	$28	24%	$31	27%
$120	$25	21%	$29	24%	$32	27%
$125	$26	21%	$30	24%	$34	27%

- MA's formula is based on a combination of two approaches
  - Percent of obligor income
  - Income shares

Source:

[1] Guidelines, Section 3(A), p. 6

What do the numbers in the cost table mean?

- The entire cost table simply summarizes the result of applying the basic formula[1] to different obligor income levels and numbers of children

Obligor GWI	Number of Children		
	1	2	3
$0 - $100	Court discretion (≥ $80/month)		
$101 - $280	21%	24%	27%
$281 - $750	$59 + 23%	$67 + 28%	$76 + 31%
≥ $751	$167 + 25%	$199 + 30%	$222 + 33%

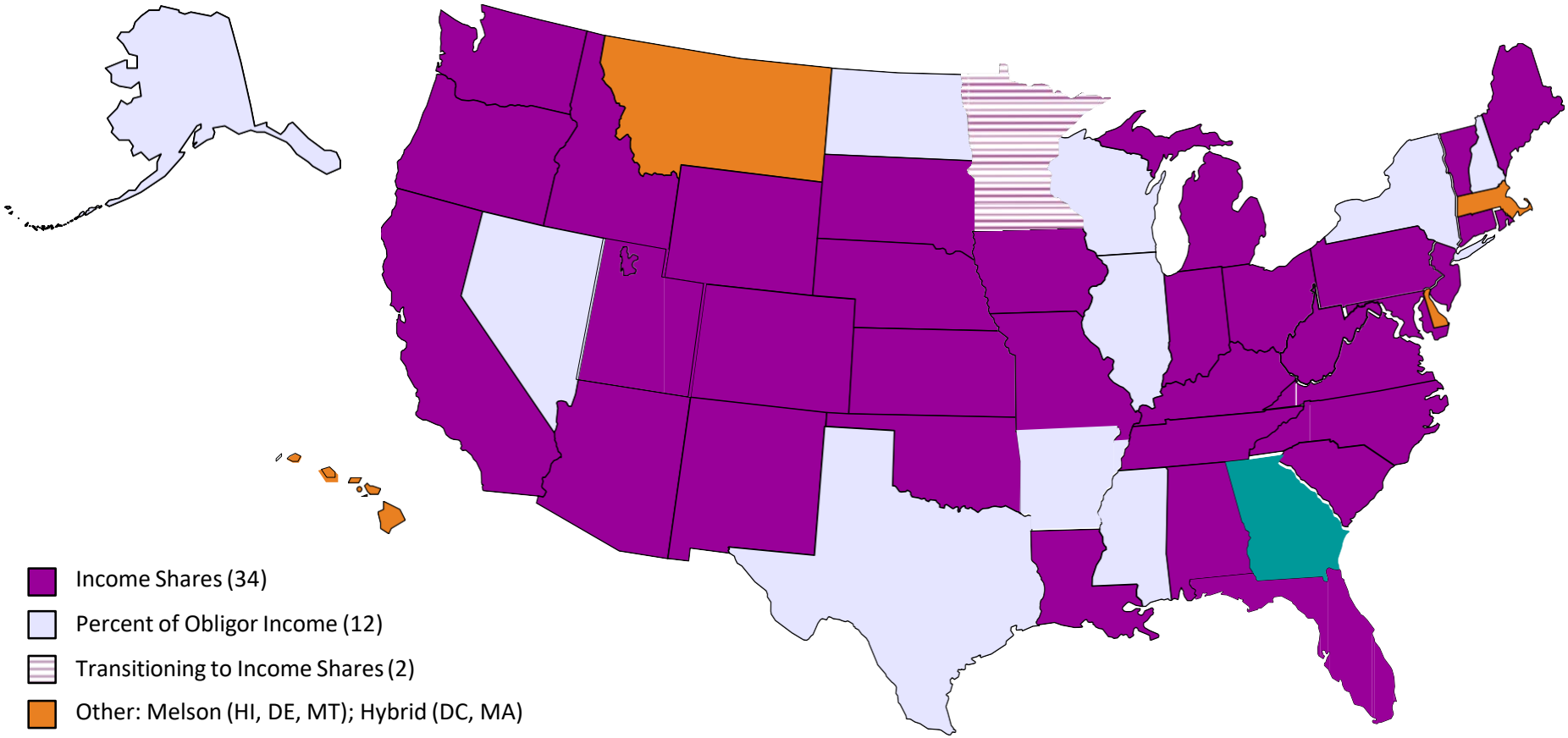
- The formula and cost table tell us what the numbers **are** but not what they **mean**
  - How were the numbers derived?
  - Are they "right"?

Source:

[1] Guidelines, Section 3(A), p. 6

2. Common calculations and models

Most guidelines are based on income shares models[1]



Source:

[1] Jane C. Venohr, "Analysis of the Massachusetts Child Support Guidelines" (November 28, 2006) p. 8

What is the basis for the MA income shares?

- There is no specific attribution or explanation
  - MA guidelines do not say
  - The original Committee report[1] considered several studies
  - Subsequent studies report different numbers
- A combination of consultants (i.e., economics) and consensus (i.e., economics and policy)
- The original income shares (later revised) were based on a report by Thomas Espenshade[2]
  - "*The Committee decided that Espenshade's work was the most comprehensive, up-to-date, reliable and in a form most usable for the Committee's purposes*"[3]

Sources:

[1] *The Report of the Guidelines Committee to the Governor's Commission on Child Support* (October 1985)

[2] Thomas J. Espenshade, *Investing in Children: New Estimates of Parental Expenditures*, The Urban Institute Press, Washington, D.C. (1984)

[3] Guidelines Committee report

How are income shares calculated?

- Espenshade's work extended prior research by Ernst Engel in the child support context
  - In 1857, Engel documented two empirical results:[1]
    - As family size increases for a given income level, the share of expenditures on food increases
    - As income increases for a given family size, the share of expenditures on food decreases
  - Conclusion: Share of expenditures on food is a good (inverse) proxy for a family's standard of living (SOL)
- Adapted to analyze how parents reallocate household consumption to accommodate children
  - Measure the difference in expenditures of married couples with and without children, but with the same SOL (i.e., same food shares)

Source:

[1] Ernst Engel, Die Productions und Consumptionsverhaeltnisse des Koenigreichs Sachsen, Zeitschrift des Statistischen Bureaus des Koniglich Sachsischen Ministeriums des Innern (1857)

The Engel estimator

- Espenshade applied this idea to estimate child costs
  - Defined child costs as the difference between total expenditures of families with and without children, but with the same share of expenditures on food
- PSI based its original income shares guidelines on Espenshade's results:[1]
  - *"Based on intact family data, the child cost is – when comparing two families (one with children and one without children) – the difference in expenditures between the two families when both consume equal proportions of their budget on food."*

The PSI guidelines are "income equivalence" measures, not estimates of actual child costs.

Source:

[1] Robert G. Williams, "Child Support Guidelines: Economic Basis and Analysis of Alternative Approaches," *Improving Child Support Practice, Vol. 1*, American Bar Association, Section I (1986)

The Engel estimator

Stylized example

Household Income	Number of Children 0	1	2
Gross Income	$60,000	$90,000	$100,000
Expenditures			
Total	$55,000	$80,000	$90,000
Food	$11,000	$16,000	$18,000
Food Share	20%	20%	20%
Marginal Child Costs		$25,000	$10,000
Total Child Costs		$25,000	$35,000
As % Income		***28%***	***35%***

- Espenshade estimated 30% and 40–45%
- MA guidelines originally used 24% and 34%[1]
- Now base amounts plus 21–25% and 24–30%

Source:
[1] Guidelines Committee report

The Engel estimator

- Economists agree Espenshade's child cost estimates using the Engel approach are **upwardly biased**
  - Assumes the same relationship of food-to-other consumption for children and adults
    - Otherwise, adding children changes relative food expenditures without changing SOL
  - Lewin/ICF: This assumption is "invalid" since children are "food intensive"[1]
  - Deaton and Muellbauer:
    - "*We can construct no plausible defense for the belief that the food share correctly indicates welfare (well-being) between households of different size, and we do not believe that credence should be given to estimates based on that belief.*"[2]

Sources:

[1] Lewin/ICF, "Estimates of Expenditures on Children and Child Support Guidelines" (October 1990) pp. 28–29

[2] Angus S. Deaton and John Muellbauer, "On Measuring Child Costs: With Applications to Poor Countries," *Journal of Political Economy*, Vol. 94, No. 4 (1986), p. 741

The Rothbarth estimator

- Several alternative estimators exist,[1] but the Rothbarth estimator now is most widely used
  - In 1943, Erwin Rothbarth proposed adult goods (instead of food) as an equivalence measure[2]
    - Parents' utility increases with available income after making family expenditures
    - Child costs = decrease in dollar value of adult expenditures as children are added
  - Conclusion: Higher level of spending on adult goods indicates higher SOL
- Still an income equivalence approach, but based on a different proxy

Sources:

[1] Julie Nelson, "Household Equivalence Scales: Theory versus Policy?" *Journal of Labor Economics*, Vol. 11, No. 3 (July 1993), pp. 471–493

[2] Erwin Rothbarth, "Notes on a method of determining equivalent income for families of different composition," in C. Madge (Ed.), *War-Time Pattern of Spending and Saving*, Cambridge University Press, Cambridge MA (1943)

The Rothbarth estimator

- PSI now promotes the Rothbarth approach for estimating income shares guidelines
  - "… *seems to have the most economic validity and plausibility*"[1]
  - Based on David Betson's view that "… *the Rothbarth method is least objectionable…*"[2]
- Approach:
  - Compare spending on adult clothing in families with different numbers of children
    - i.e., proxies for all adult spending
  - Infer how much additional spending on adult items is required for same SOL for families with/without children
    - Based on results of regression analysis

Sources:

[1] Jane Venohr and Tracy Griffith, *Economic Basis for Updated Child Support Schedule, State of Arizona* (February 6, 2003), p. 3.

[2] See, e.g., (1) David M. Betson, "Alternative Estimates of the Cost of Children from the 1980-86 Consumer Expenditure Survey" (September 1990); and (2) "Parental Expenditures on Children: Rothbarth Estimates" (February 2006), p. 39

The Rothbarth estimator

Stylized example

Household Income	Number of Children 0	1	2
Income	$60,000	$85,000	$95,000
Expenditures			
Total	$55,000	$75,000	$85,000
Adult Clothing	$2,500	$2,500	$2,500
Adult Clothing Share	5%	3%	3%
Marginal Child Costs		$20,000	$10,000
Total Child Costs		$20,000	$30,000
As % Income		***24%***	***32%***

- Child costs = Difference in total expenditures for families that consume the same dollar amounts on adult clothing
- Consistently lower than Engel estimator, but "right"?

Source:
Guidelines Committee report

3. Limitations of the income shares approach

Limitations of the income shares approach

- Cost table lists **indirect estimates** of child costs, not actual spending on children
- Models were not developed for this purpose and rely on **narrow proxies** for SOL
- Requires restrictive/**questionable assumptions**
- Relies on **limited data**
- Based on what parents in **intact families** spend on children
- Therefore, may require several economic **adjustments** specific to the child support context

There is no predetermined economic principle of child support: Whether this approach is reasonable/reliable is a policy decision.

Income shares models yield indirect estimates

- Income shares do not measure child costs directly
  - Estimate the amount of income required to restore a family's SOL to pre-child levels
  - "Continuity of expenditure" rule
    - Is this the right policy principle?
      - The models assume, rather than provide, the answer
      - No economic principle provides an objective answer
      - Trade-off between parent/child interests
      - "Phantom" income problem
- 2005 Ohio task force called Betson-Rothbarth "*a methodology that most people find counterintuitive and indefensible*"[1]

Understand the income shares estimates,
and make adjustments to account for their limitations.

Source/Note:

[1] *Ohio Child Support Guidelines Council Report* (March 2005), p. 15 states, "The common person expects child support calculations to be based on information that directly concerns costs of raising children"

Income shares models are narrowly specified

- Engel and Rothbarth developed their respective approaches long ago, and not in a child support context
  - Are the models sufficient in this context?
- No empirical basis for choosing either approach
  - No inherently "best" theoretical or practical basis for allocating joint consumption within/across families[1]
  - Unknown/untestable error rate
  - No objective measure of relative SOL
- Both approaches rely critically on narrow proxies for SOL
  - Are food and adult consumption reliable proxies?

The resulting estimates warrant detailed scrutiny and are not inherently reasonable or reliable in this context.

Source:

[1] Ira Mark Ellman, "Fudging Failure: The Economic Analysis Used to Construct Child Support Guidelines," The University of Chicago Legal Forum (2004), p. 23

Income shares models make strong assumptions

- Assume continuity of expenditures is the right policy principle

  Assume food and adult consumption are reliable proxies

  Engel approach overstates child costs
  - Assumes the same relationship of food-to-other consumption for children and adults
- Rothbarth also may overstate child costs[1]
  - Depends on whether or not parents prefer sharing income and consumption with their children
    - If parents substitute toward shared goods, Rothbarth estimator will require more income than needed to restore parents' SOL

The resulting income shares reflect the underlying assumptions and are not necessarily "right."

Note:

[1] For a more detailed discussion of Engel and Rothbarth as overestimates, see R. Mark Rogers, "Documenting that Both Engel and Rothbarth Versions of Income Shares Cost Tables Overestimate Child Costs," RogersEconomics.com (November 1, 2005)

Income shares models rely on limited data

- Betson/PSI use the only comprehensive data source: the BLS Consumer Expenditure Survey (CES)
- CES data has known limitations[1]
  - Survey bias
  - Small sample bias
  - Under-reported income
  - Under-reported expenditures
  - "Adult" clothing classification for children > 16 y/o
- Are the Betson/PSI adjustments understood?
- Do the adjustments solve the data problems?

The resulting income shares are only as precise and reliable as the data (and adjustments) which generate them.

Source:

[1] Ellman (2004), op. cit., pp. 27–39.

Income shares models assume intact family costs

- The income shares, and therefore the cost table and the guidelines, reflect expenditures for intact households
  - "*The Income Shares model calculates child support as the share of each parent's income estimated to have been allocated to the child if the parents and child were living in an intact household. A basic child support obligation is computed based on the combined income of the parents (replicating total income in an intact household).*"[1]

- Is this the right policy principle?
  - No economic principle **provides** the answer
  - Income shares models **presume** the answer

Source:

[1] Robert G. Williams, *Development of Guidelines for Child Support Orders*, U.S. Department of Health and Human Services, Office of Child Support Enforcement (September 1987), p. II–68

Income shares models assume intact family costs

- In reality, divorce creates two separate households
  - No evidence of same or similar spending patterns
- Both parents now incur fixed overhead expenses
  - Treated entirely as "adult" consumption in the models
  - The models ignore redundant overhead costs
    - Less income available for non-adult consumption, but the models make no adjustment
    - i.e., the income shares in the cost table require more income than actually exists

Economic principles		
Inability to pay	Horizontal inequity	Economic inefficiency

- What, if any, offsetting adjustments are required?

4. Possible adjustments

Possible adjustments to income shares estimates

- Decrease income shares for higher incomes
  - MA Basic Order applies higher income shares at higher income levels[1]
    - Contradicts economic theory and empirical evidence
  - PSI recommends this adjustment to MA guidelines
    - "… *would be more consistent with the economic evidence*"[2]
    - Economic consensus: consumption is a decreasing proportion of gross income as income increases[3]
    - Espenshade and Betson also report spending on children increases with income, but decreases as a share of income
- Compounded by higher marginal tax rates for obligors

Sources/Notes:

[1] David B. Weden III, "Massachusetts Child Support Guidelines: A Benchmark Analysis" (September 2000), shows the resulting MA child support orders exceed several benchmarks

[2] Jane C. Venohr, "Economic Analysis of the Massachusetts Child Support Guidelines" (November 15 2005), p. 13

[3] See, e.g.: (1) Gardner Ackley, Macroeconomic Theory. Macmillan, New York NY, 3 Ed. (1973), p. 221; (2) Milton Friedman, *A Theory of the Consumption Function*, Princeton University Press, Princeton NJ (1957); (3) H. S. Houthakker, "An International Comparison of Household Expenditure Patterns, Commemorating the Centenary of Engel's Law," *Econometrica*, Vol. 25 (October 1957), pp. 532–551; (4) Simon Kuznets, *Shares of Upper Income Groups in Income and Savings*, National Bureau of Economic Research, New York (1953)

Possible adjustments to income shares estimates

- Account for child-related tax benefits
  - Divorce and custody change relative after-tax incomes
  - Changes include:
    - "Head of Household" to "Single" filing status for obligor
      - Lower marginal tax rates for custodial parents at identical income levels
    - Tax credits for number of children, child care, education, etc.
    - Higher earned income credits
  - Income shares approach includes tax benefits to intact household for estimating cost shares, but the guidelines do not offset for this benefit in allocating child costs
  - Child-related tax benefits are a material cost offset in reality but not in the guidelines

Possible adjustments to income shares estimates

- Eliminate or extend the income disregard
  - No clear policy rationale
    - Absent from original Guidelines Committee report (1985)
    - Weitzman retraction; increasing economic equality[1]
    - Principle 5 (p. 1) regarding "subsistence" income applies equally
  - No economic basis for treating income asymmetrically
    - Economic equity and efficiency suggest same financial participation of both parents relative to their incomes
  - Not observed in any other states
    - MA is the only state with such a disregard
    - DC followed MA; now recommends eliminating the disregard
      - *"… the disregard was based in part on the assumption that an incentive was necessary to encourage work among support-receiving parents… This assumption is not corroborated by academic research or current trends. …academic research indicates that work and child support are complementary."*

Sources/Notes:

[1] See, e.g., BLS and Census Bureau statistics as well as Sanford Braver and David Stockburger, "Child Support Guidelines and Equal Living Standards," *The Law and Economics of Child Support Payments*, William Comanor (ed.), Elgar, Cheltenham UK (2004), pp. 91–127

[2] *Report of the District of Columbia Child Support Guideline Commission: Final Recommendations* (July 2004), pp. 7, 19–20

Possible adjustments to income shares estimates

Account for shared parenting and expenses

- Requiring the symmetric financial participation means accounting for both parents' child costs
- Guidelines in 35 states adjust for parenting time
  - MA is one of only five of the 34 income shares states without a parenting time adjustment
- Other states have a shared parenting presumption
  - NH Parental Rights and Responsibilities (October 2005)[1]
    - Eliminated the concept of one parent having "custody" – replaced it with the concept of shared "parenting time"
    - Presumes both parents share parenting time in some proportion (except in "special circumstances")

Source:

[1] RSA 461-A, enacting HB 640

Possible adjustments to income shares estimates

- Account for shared parenting and expenses
  - MA may be moving toward a shared parenting presumption
    - Current bills: HD.3321 and SD.1976
      - Propose a rebuttable presumption of shared legal and physical custody during/after divorce
  - Governor Patrick supported the concept
    - "… about the question of the presumption in court around shared parenting: I support the presumption that there ought to be shared parenting in the absence of reasons not to."

      "Morning Edition," WBUR (January 12, 2007)

    - "… that there be a presumption that both parents share in the parent rather than a presumption that one parent take command of the parenting. I'm very sensitive to that. I get that point. There has been some legislation…and I'm going to look at it and sort out how to support it."

      "Ask the Governor," WTKK (February 8, 2007)

Possible adjustments to income shares estimates

- Account for shared parenting and expenses
  - Taking both parents' income and parenting time into account improves the guidelines' economic efficiency[1]
    - Both parents' income and parenting time are the most significant determinants of their relative ability to pay child support and its relative costs/benefits
  - A more efficient formula creates mutually beneficial exchanges, not zero-sum transfers between winners and losers
    - Parenting time proxies for the share of each household's fixed overhead expense attributable to children
    - Makes it more economically possible for the obligor to take a more active parenting role
    - Placing same relative values on work/parenting time gives both parents same incentives to strike the right balance

Note:

[1] For a more detailed discussion, see Mark A. Sarro, "Economic Considerations on HB 1580," presented to the NH Senate Ways and Means Committee (March 8, 2006)

Getting the economics right has practical benefits

- Economically fair and efficient guidelines lead to:
  - More precise payment amounts, by accounting for the information most affecting the tradeoffs to both parents
  - More cooperation, by subjecting both parents to the same calculation, which aligns their costs/benefits and economic incentives
  - More, faster, better improvements to the guidelines in the future by aligning everyone's risks/rewards
  - Improved collections, by yielding payments parents understand and are better able to pay because they better reflect economic reality
  - Higher quality of life for children in divorced families by creating opportunity for and consistency of SOL and meaningful interaction with both parents

5. About Brattle

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Dr. Sarro is a leader in Brattle's practice related to cases involving big data and document analytics.

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