

Adequacy Estimates and the Implications of Common Standards for the Cost of Instruction

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by
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Measuring “Adequacy”

- n No consensus strategy for measuring educational adequacy
- n Two basic approaches
 - n Bottom-up analyses sum up the costs of building a model school
 - n Top-down analyses estimate cost based on observed relationship between
 - n school spending
 - n student performance
 - n other school characteristics

Bottom-Up Strategies

- n Professional Judgment (PJ)
 - n Convene focus groups of local practitioners to design prototype schools that meet performance goals
 - n Calculate the cost of the prototype in various locations
- n Evidence-Based (EB)
 - n Resources needs derived from “proven effective” school reform models

Top-Down Strategies

n Successful Schools (SS)

- n Data on student performance identifies schools that meet a designated performance standard

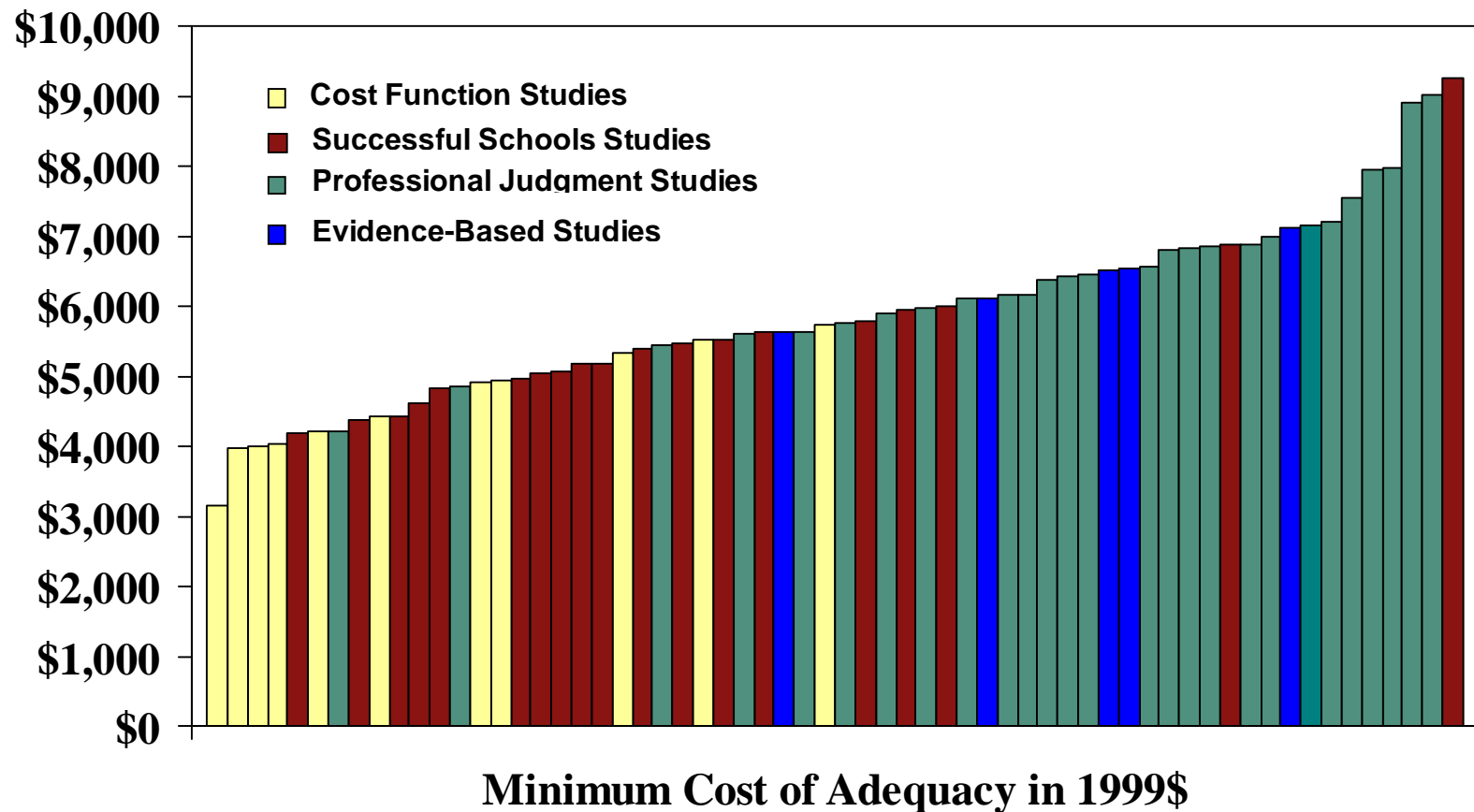
- n The cost of an adequate education is the average level of spending among those “successful schools”

n Cost Function (CF)

Cost Function Analysis

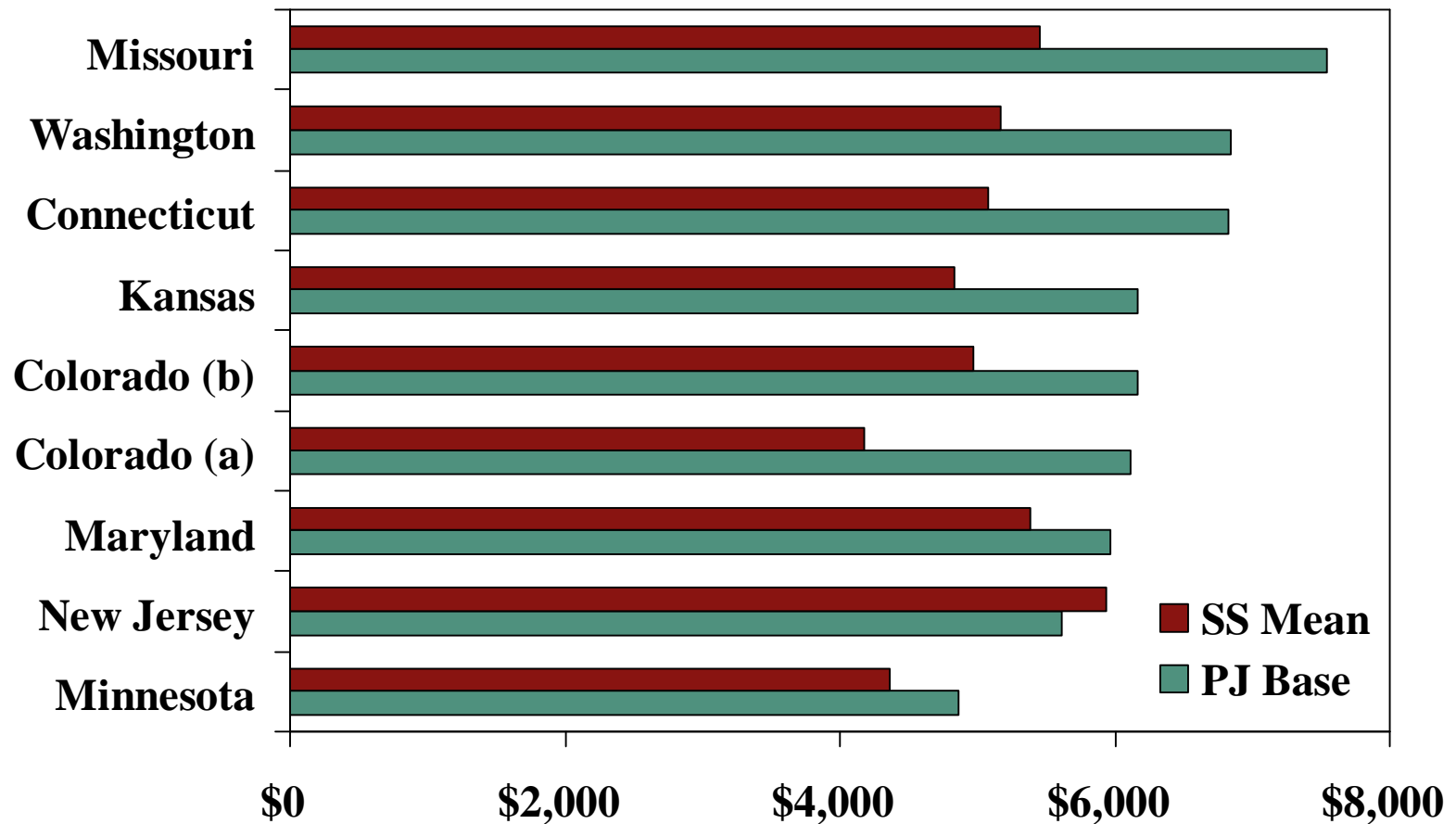
- n Use cost and performance data to estimate the relationship between expenditures and
 - n School outcomes
 - n Resource prices
 - n Student needs
 - n District size
 - n Other relevant characteristics of districts
- n Predict the cost of achieving outcomes given the other factors

Minimum Reported Cost of Adequacy



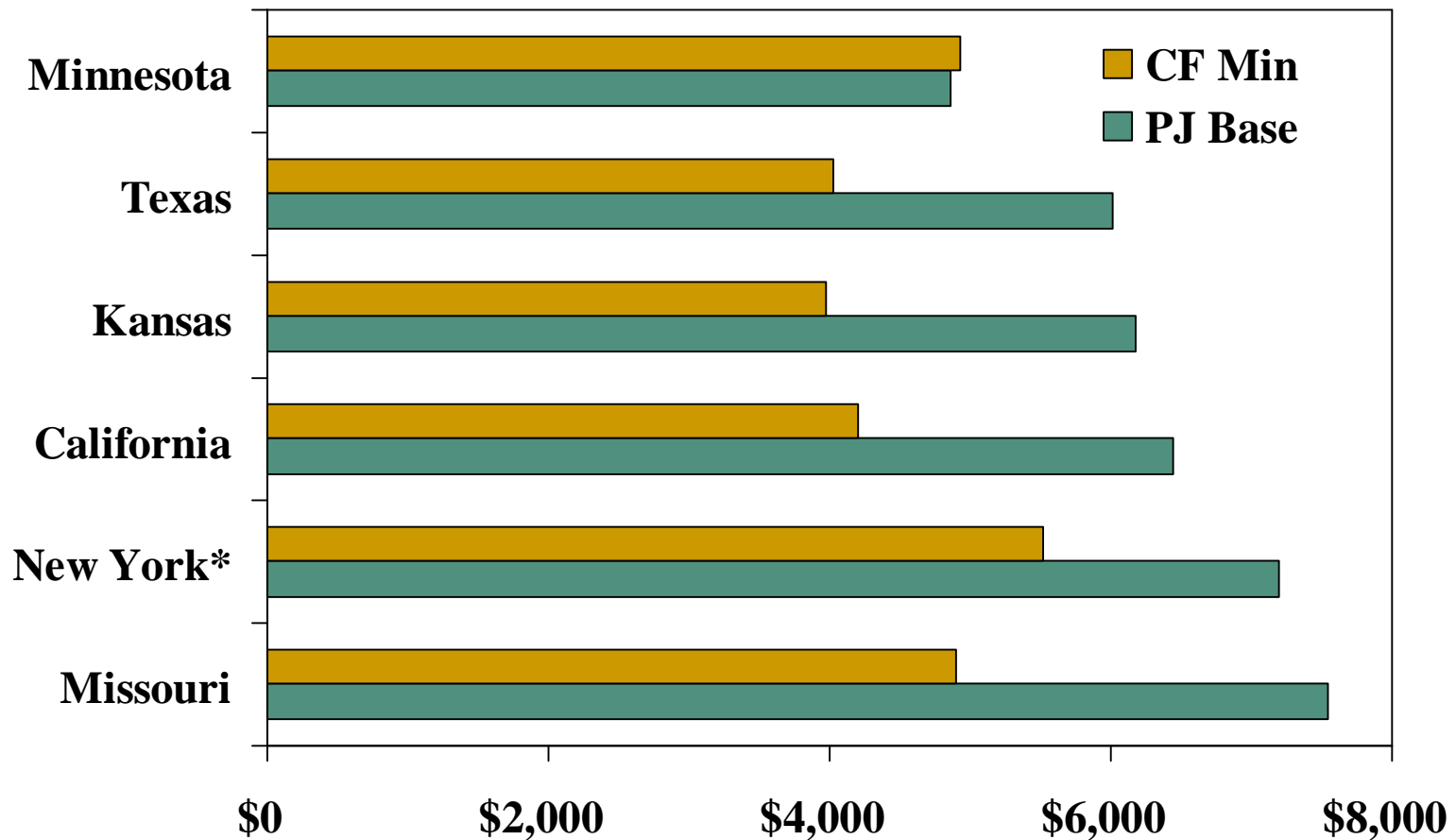
Source: authors calculations. Adjusted for inflation and geographic variation using NCES' CWI

Comparisons within States: PJ & SS



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Comparisons within States: PJ & CF



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*Base cost not reported. This PJ estimate based on minimum reported cost

Explaining the Range of Estimates

- n Differences in reporting across studies
- n Differences in the definition of adequate
- n Differences in adjustments for scale and need
- n Differences in policy environment across states

Differences in Reporting

- n Average cost: Cost in average district or average cost per pupil
 - n Occasionally the only cost estimate available
- n Base Cost: Cost of regular education programs
 - n Typical component of PJ and EB studies
- n Average SS Cost: Cost based on expenditure of successful schools or districts, which frequently have advantaged student bodies
 - n Typical component of SS studies
- n Minimum cost: Cost in a district with least-cost combination of labor costs, scale and pupil needs
 - n Typical component of CF studies

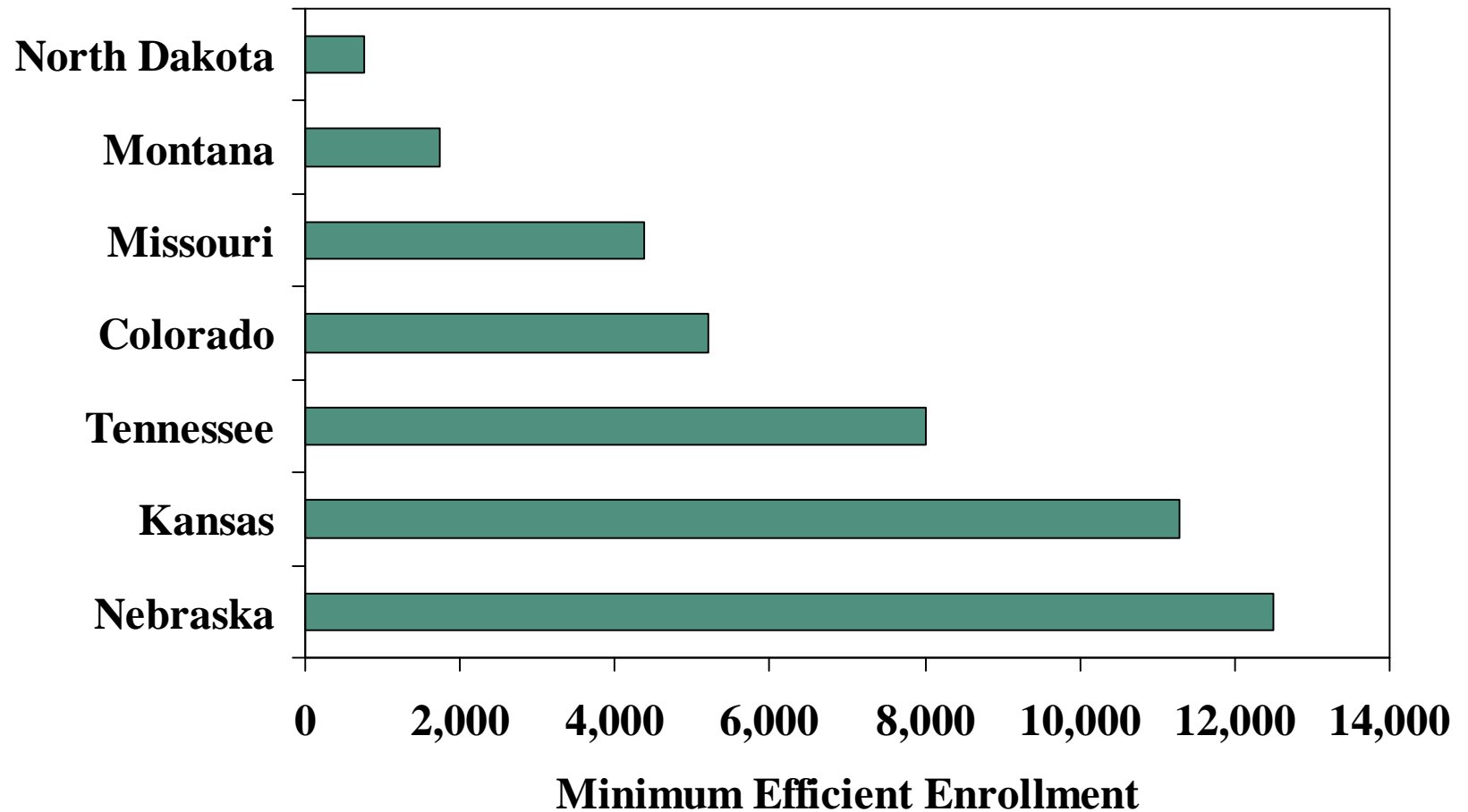
Differences in Definitions of Adequate

- n Different state goals and objectives
- n Methodological differences
 - n Top-down estimates based on a quantifiable standard that is already being achieved
 - n PJ studies frequently cost out performance standards that are
 - n difficult to quantify
 - n well beyond current levels
 - n EB consultants seldom specify the performance standards being evaluated

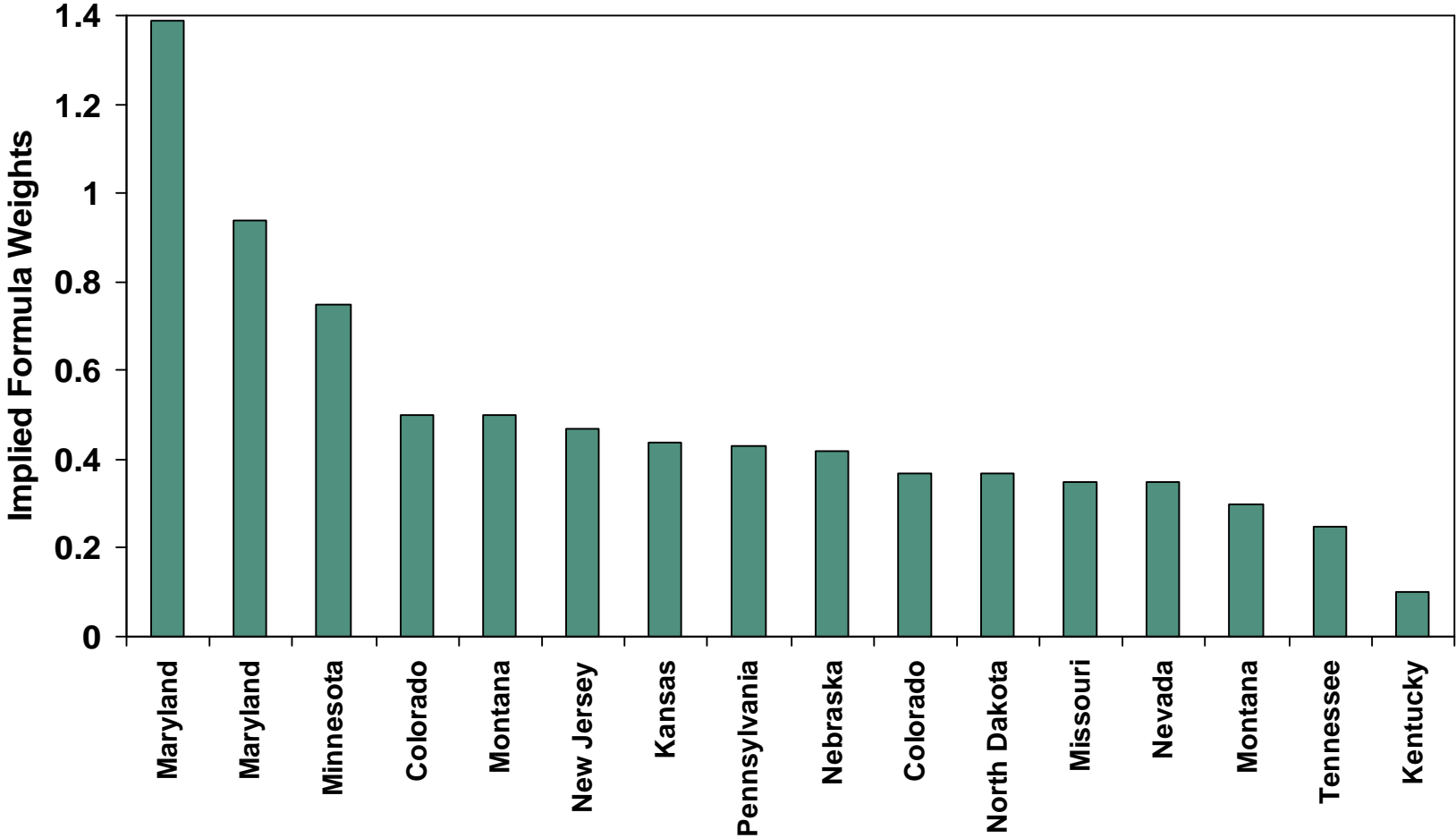
Differences in Adjustments for Scale and Need

- n Differences in school district size and student needs can lead to substantial differences in per-pupil cost
 - n Small districts have higher costs than other districts
 - n Districts with a higher proportion of needy kids also are expected to have higher costs
- n CF studies always adjust for scale and need
- n PJ studies typically adjust for scale and need
- n SS and EB studies typically do not adjust

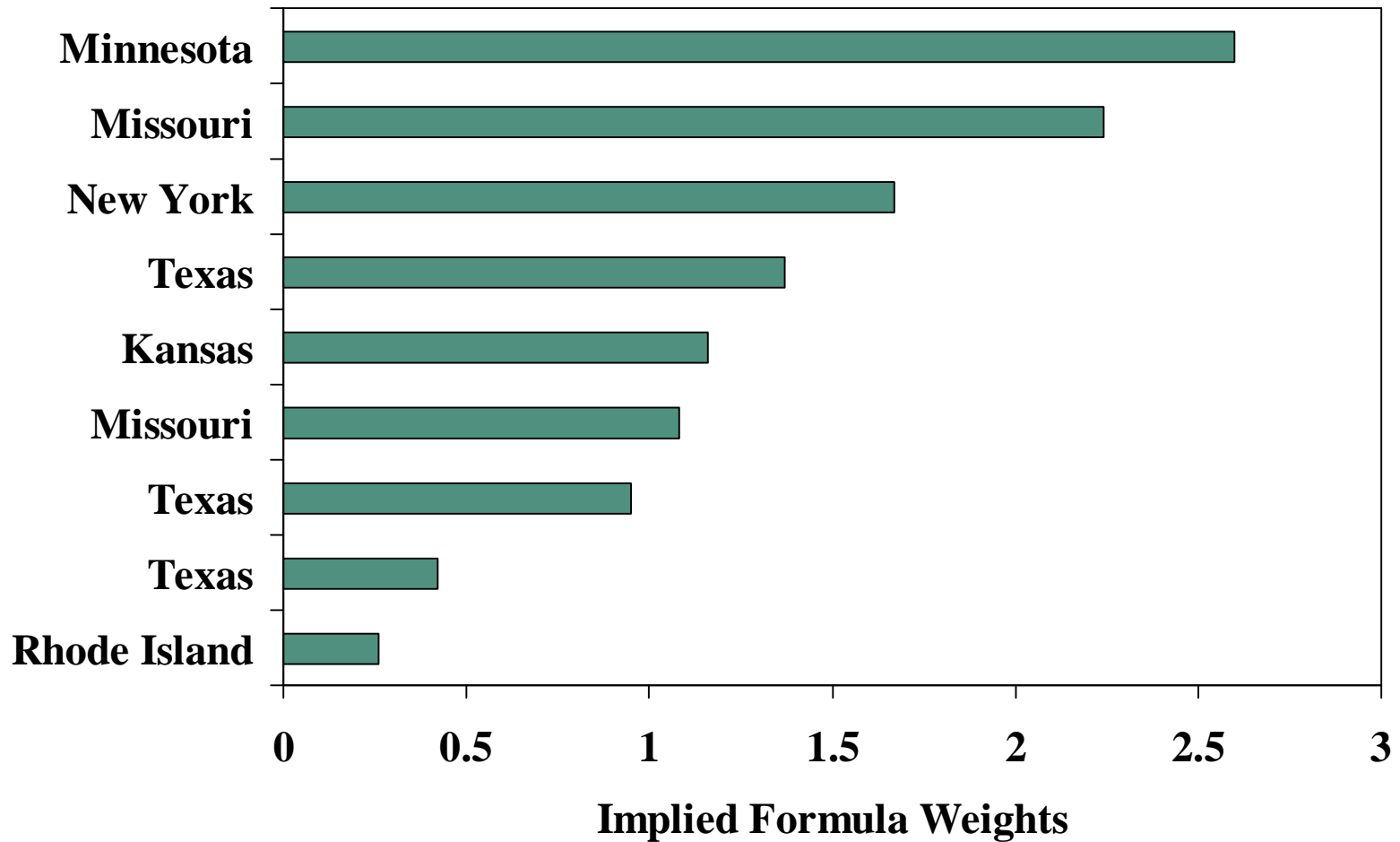
No Consensus Among PJ Studies Regarding Economies of Scale



No Consensus Among Practitioners About the Differential Cost of Student Poverty




Cost Functions Also Disagree About the Differential Cost of Student Poverty




Differences in Policy Environment

- n Structural rules regarding minimum class sizes, allocation of personnel or length of school year may make it more costly to increase student performance in some states
- n Teacher compensation rules regarding certificate requirements, wage ranges, merit and bonus systems and step advancement programs
- n Funding policies regarding taxes, state-local budgetary efforts and finance formula weights



What is the best method for
estimating the cost of
meeting performance
standards?



Bottom-up Strengths

- n The methods are simple, transparent and easily understood
- n No need to define or measure an adequate performance level

Bottom-up Weaknesses

- n PJ analyses are vulnerable to the blind spots and biases of individual panel members
- n Evidence-base for EB reform not always strong
- n The outcomes EB models are “proven” to accomplish may not be the outcomes policymakers hope to achieve
- n In practice, bottom-up methods yield specific recommendations for only a handful of prototypical districts
 - n Can be hard to impute cost when actual school districts differ from the prototypes

Top-down Strengths

- n Direct link between education costs and desired outcomes
- n Estimates based on actual experience
- n CF analyses can provide a strong empirical foundation for estimates of cost differentials

Top-down Weaknesses

- n Policy-makers must designate a *measurable* performance standard
- n Top-down approaches require high quality measures of current performance and expenditures
- n By design, statistical models describe relationships within the experience of the data
 - n Extrapolating to performance standards outside current experience is problematic
- n Statistical models are not transparent and explicitly involve errors of estimation and modeling

Implications of Common Standards for the Cost of Instruction

- n No one approach dominates the others from either a theoretical or a practical perspective
- n All four strategies indicate that increasing student performance to a common standard would require either
 - n An increase in resources
 - n A reallocation of resources away from existing outcomes
 - n An increase in school district efficiency

Conclusions

- n Estimating the cost of meeting common standards would be a massive undertaking
 - n Difficult to generalize from existing studies
 - n State-by-state analysis needed
- n The choice of methodology is likely to influence estimates of the cost of meeting common standards
- n Multiple estimates would be more reliable than a single estimate
- n All estimates likely to indicate a substantial increase in costs