



NEPC Review: From School Aid to Student Aid: Modernizing K-12 Funding in Michigan (Mackinac Center, March 2022)



Reviewed by:

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May 2022

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Summary

From School Aid to Student Aid: Modernizing K-12 Funding in Michigan provides a six-part recommendation for changes to the state's current approach to financing public and charter schools. The overarching theme and goal of the recommendations is to move toward a system where more funding follows the student to either public, charter, or private schools—or to other service providers. The report provides some useful, albeit insufficiently researched, guidance on shifting categorical funding into core funding and modifying the state's approach to financing programs for children with disabilities. However, it mischaracterizes literature on how and whether school finance reforms matter for school quality, and on the benefits of school district consolidation. In addition, the report fails to recognize the various factors that affect the costs of providing children equal educational opportunity, and it largely ignores the realities and constraints of how schools and school systems work. It also fails to recognize how annual budget planning and resource allocation work toward efficiently providing high-quality educational services to children, regardless of sector or location. Accordingly, key elements of the report and its proposals are built on false promises and assumptions and are not helpful for policymakers.



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I. Introduction

Michigan’s school finance system underwent a major overhaul in the 1990s (Proposal A), with the intent to shift the burden and control of financing public schools away from local communities to the state. While Proposal A resulted in some short-term improvements to funding equity, those gains backslid in the decades that followed and the state found itself unable to fully replace local property tax revenues with state revenues. Meanwhile, Michigan has experienced a combination of enrollment decline and charter school expansion.

A recent Mackinac Center for Public Policy report, *From School Aid to Student Aid: Modernizing K-12 Funding in Michigan*, by Ben DeGrow, provides a mixed bag of policy recommendations related to creating a portable, statewide student-based funding formula.¹ While expanded choice is not the primary emphasis of the report’s narrative or recommendations, the report asserts: “Michigan should focus on tying education dollars more directly to student needs and choices and on empowering educator flexibility to meet changing local needs.”²

The report extols the virtues of funding portability at a later point.³

Elements of the proposal in the report are largely built on weak and, at times, illogical justification. Some of the more reasonable elements of the proposal—such as shifting categorical funds into general funds,⁴ or providing appropriate cost adjustment for at-risk children⁵—could have been justified in rigorous empirical research from school finance but were not. Other elements of the proposal were not justifiable, such as arguing that increased portability of student-based funding to support expansion of charter and private school choice programs is a rational response to long-term, statewide declining enrollments. In fact, dispersing students more widely across increasing numbers of institutions while larger shares

of institutions fall below efficient operating scale makes little sense. This approach also increases transportation costs and complexity. Further, expanded funding of private providers does little to enhance and much to compromise financial transparency.

II. Findings and Conclusions of the Report

The report makes a six-part recommendation for reforming Michigan's school funding formula that has not been substantively changed since the 1990s. The six elements of the proposal are:

1. Push more funding back into core funding and reduce categorical grants;
2. Remove current boundaries on school choice programs, permitting students to take their dollars anywhere in the state;
3. Replace a single fall count day of enrollments used in calculating funding with an Average Daily Membership (ADM) count;⁶
4. Report financing in connection with outcomes;
5. Adjust per-pupil core funding to address additional costs and needs of at-risk students;
6. Increase state control over special education funding by:
 - a. Creating state-defined costs of services associated with special education students (to be portable across schools or service providers);⁷
 - b. Limiting additional local taxes, replacing them with pooled revenues, to reduce inequities in spending on services across regional service providers (Intermediate School Districts, or ISDs).

III. The Report's Rationale for Its Findings and Conclusions

The report makes two general arguments to set the stage for the need for reform. First, that enrollment in Michigan's public district schools (such as those in Detroit) and in many private schools has declined, even as charter schooling has generally expanded through the years. Second, that the usual reform strategies have not worked to reduce long-run costs, improve efficiency, and improve school quality. Among the strategies the report maligns and discredits are increased school funding, centralized or top-down teacher evaluation reforms, and school or district consolidation.

The report also provides detailed critiques of specific elements of the Michigan school finance formula, such as increased inequities in special funding resulting from local taxation

and varied spending across intermediate districts (ISDs), as well as inequitable spending across district and charter schools.⁸ The report asserts that the proposed reforms to school funding policy in Michigan will improve efficiency, transparency, portability, and flexibility of local decision making.⁹

IV. The Report's Use of Research Literature

Although the report is reasonably sourced for the most part, it significantly misrepresents some of the research literature. Two specific problem areas are 1) the misrepresentation of evidence on whether increased spending on schools can drive substantial improvements in outcomes, and 2) whether there are benefits—efficiency gains or cost reductions—that result from school and/or district consolidation.

The report asserts, referencing a 2016 Mackinac study, “Simply giving schools more money to spend is unlikely to drive substantial improvements in student outcomes.”¹⁰ In an NEPC Review of the 2016 Mackinac study, however, I explained that the report’s analyses lacked many important elements of the more rigorous peer-reviewed studies it attempted to discredit and, rather than actually studying a period during which substantial reform occurred and funding increased, the Mackinac study evaluated a period over which those funding increases largely faded and inequities re-emerged.¹¹

The report also cites a state-funded study as a basis for implying that large investments yield minimal gains. The study projected that each additional \$1,000 spent would add only one percentage point to the percentage of students proficient in reading and math. The problem is that the cited study does not apply methods that could be used to draw such a conclusion.¹² A far more rigorous growing body of research has led quite decisively to the conclusion that increased funding through school finance reforms is a particularly effective way to improve student outcomes.¹³

The report also addresses whether school district consolidation can lead to cost reductions. Presumably, this topic is included because expansion of choice programs by adding more small startups in a context of enrollment decline does the opposite of consolidation. Therefore, if consolidation has benefits, expanding choice under these circumstances might not. Although this is not explicitly stated, the report attempts to discredit consolidation as a useful strategy.

The report cites (and correctly reports) an article by Duncombe and Yinger¹⁴ that finds potentially significant cost savings from consolidating very small (<300 pupils) school districts. The report correctly points out that these findings are less relevant to larger districts and more populated spaces in the state.¹⁵ The report goes on to counter-argue that larger districts tend to have more formalized management bureaucracies, increasing costs, decreasing parental involvement, and be controlled by more powerful interests, including labor unions. It cites these claims to the same Duncombe and Yinger article. But Duncombe and Yinger’s reference to these concerns is in the introduction to their paper, referring to claims by others regarding diseconomies of scale faced by large districts.¹⁶ Duncombe and Yinger’s own anal-

ysis that follows does not find empirical support for these claims. The current report sows this confusion to conclude “Precisely forecasting the effects of consolidation is difficult.”¹⁷

The report also touches on research literature to conclude that top-down attempts by states to reform district personnel policies have generally failed,¹⁸ and, more generally, that “top-down reforms, no matter how promising or grounded in good evidence, often fail to produce widespread improvements in teaching and learning.”¹⁹

V. Review of the Report’s Methods

No particular methods or analyses are included in the report.

VI. Review of the Validity of the Findings and Conclusions

The report’s overall conclusion is that the state of Michigan should implement its proposed six-part plan to improve portability, efficiency, flexibility, and even to some degree equity of school funding. It does not base these conclusions on any simulations of the proposals, but rather on a selective review of the literature and characterization of flaws of the current Michigan school finance system.

I address each element of the proposal below:

1. Increase core funding

Increasing core funding, or specifically, shifting money from increasingly onerous categorical grants, can be an effective strategy for improving efficiency.²⁰ Constraints on categorical grants may in fact induce inefficiencies, as Duncombe and Yinger found in a 2011 study of California school districts. They concluded that “school district efficiency is undermined by the state’s current emphasis on categorical instead of unrestricted aid.”²¹ This article provides perhaps the strongest justification for the report’s proposal to fold categorical grants into core funding.

2. Remove choice boundaries

If the policy objective of the school funding proposals is to use portability of funding to expand choice options, then this policy recommendation on its face would also appear to make sense. The reality is that whether or not policy imposes boundaries on who can choose to go where to school, geography still imposes limits on available choices. Families tend to choose schools as much based on geographic access and convenience as on measures of purported school quality.²² This is as true in the densely populated Detroit metropolitan area as anywhere.²³

The influence of location on choice can be mitigated by improved fully funded and accessible student transportation.²⁴ But doing so can substantially increase overall costs and the complexity of student transportation services.²⁵ Making choice equitable and accessible by significantly reducing geographic barriers (above and beyond artificial boundaries) may require significant additional funding.

3. Eliminate count days and target funding to “real” student needs

Although the proposal seems innocuous, the report’s explanation reveals a misunderstanding of how state school finance formulas, and annual budgeting in district, charter, or private schools, actually work. First, the report is correct to suggest that the student-based funding should be determined by some count of students enrolled as opposed to daily attendance.²⁶ Either a single day fall count method or an average of enrollment membership over time can capture this.

What the report fails to consider is that data are used in a formula where aid is calculated and budgeted in the spring for the coming year.²⁷ Schools and districts plan for how many students they are expected to enroll and serve, based largely on prior year(s) data. They need to assign classrooms and set staffing levels for the year ahead. This is how efficient, effective budget planning (including effective hiring practices) works—or at least is intended to work.

Enrollment-driven aid doesn’t change day-to-day or month-to-month based on family moves in or out of the district during the current year, even when based on Average Daily Membership (ADM) (though some states do make mid-year adjustments to aid based on updated counts). Sometimes state tax collections come up short and states “prorate” the aid given to schools and districts, leading to mid-year adjustments. But in general, state aid allocations and local district budgets are planned on an annual basis. The same is generally true in private schools. Thus, the statement in the report, “The switch from multiple count dates to an ADM system would ensure dollars more closely follow students throughout the school year”²⁸ naively assumes a system that does not and cannot efficiently exist. This is especially true for a system where 100% of funding is sensitive to enrollment, not merely the state aid share.

4. Report finances in connection with student outcomes

Providing parents more useful information to guide their choices for their children might be helpful. It also may be useful for informing taxpayers who are providing the revenues to these systems. But while this element of the proposal appears sound, showing in simple and transparent ways how financial resources are used to create better outcomes is easier said than done. Attempts to apply facile analyses presenting how much was spent and what test scores were achieved, without regard for other factors influencing costs and outcomes, most often leads to erroneous conclusions.²⁹

Further, it is generally the case that transferring larger sums of public financing to private providers (which includes charter schools and their management companies) significantly reduces transparency of financial reporting, including related-party transactions.³⁰ Michi-

gan is no stranger to these issues and concerns.³¹ More detailed reporting on “how dollars are spent at the school building level” will not uniformly occur under an expanded choice model, as it has not, even in the most tightly governed charter systems.³²

5. Adjust funding for at-risk students

The report suggests providing additional funding for at-risk students, but hedges on defining exactly who these students are and addressing how much would actually be needed (or how to determine how much would be needed) to appropriately serve these children. The report disparages the usefulness of counts of students qualifying for free lunch (<130% poverty income threshold), pointing instead to a list of factors presently considered in state policies.³³ It then suggests an additional 35% of the standard allocation, noting that figure to represent “a compromise recommendation between analysts’ cost estimate of desired educational resources and surveys of local teachers and school administrators.”³⁴

Meanwhile, a sizeable body of rigorous research literature addresses the additional costs associated with providing equal educational opportunity to children from low-income families, as well as other factors that affect the costs of providing equal opportunity to all children, regardless of where they live or attend school.³⁵ The report defers to a 2017 brief by Roza and colleagues that provides no useful or substantive guidance on costs, cost factors, magnitudes, or methods.³⁶

6. Guarantee options to students with disabilities

As with at-risk children, any system of weights for determining costs for children with disabilities should be based on rigorous cost analysis, not merely some political compromise, historical artifact, or best guess. Some recent studies of costs done on behalf of states have paid particular attention to additional costs for children with disabilities and how those costs interact with other student characteristics.³⁷

Limiting local contributions that distort spending across ISDs and local districts may also improve equity in service delivery for children with disabilities. However, whether assigning valid cost weights to children by disability leads to actual options and adequate services for them through a choice system is an unanswered question.

VII. Usefulness of the Report for Guidance of Policy and Practice

This report is not without some useful critiques. Creeping categorical aid can be a problem that requires reconsideration. Inequities in special education services resulting from how local resources flow to ISDs may also be a problem requiring further investigation. Beyond that, if the state wishes to engage in school funding reforms to provide more equitable and adequate schooling to the state’s children, the state should recognize that money does matter and that it costs more to achieve higher than lower and broader than narrower outcome

goals. The state should look to more rigorous analyses done in other states (e.g., Kansas, Vermont, and New Hampshire) addressing the costs of achieving desired outcome goals, and how those costs vary across children and settings. The present report lacks any insights or useful guidance in this regard.

A simple fiscal impact analysis could be conducted to determine effects of shifting from a fall count to Average Daily Membership (ADM) and the likely effects of removing formal boundaries from choice sets, which may or may not lead to significant change. The state should avoid creating facile user interfaces to provide parents or taxpayers information on spending and outcome differences across schools, since these more often misinform.

Finally, policymakers in Michigan and elsewhere need to recognize that the rhetoric of “funding children not systems” is simply not rooted in reality. Children’s education is provided by various levels and types of systems. When we think about how to best finance the services children need to thrive and succeed, we must be cognizant of the ways in which those systems operate; how they plan for, organize, and use financial, human, and capital resources; and how they are set up not only to serve those attending here and now, but also for future cohorts and generations of children. Finance models that support the efficient operation of those systems will better serve children’s educational interests over the long term than superficial proposals built on false promises and assumptions.

APPENDIX A: Understanding Costs and Needs in State School Finance Systems

Most authors who credibly and rigorously study how education costs for providing student equal opportunity to achieve common outcome targets vary recognize that not all costs vary 1:1 at the student level. The following table, from a study done for the Vermont legislature, explains the types of factors affecting cost and the levels at which they vary. Any well designed, equitable school funding formula would account for each of these, not only for those factors that operate at the individual student level such as those that determine specific programmatic needs for specific students (e.g., ELL and special education). Even the effects of child poverty on student outcomes and costs operate both at the individual and collective levels. The additional costs of adding a child from a low-income background to a school that already serves a community of concentrated poverty may differ from adding that student to a school that does not. The Vermont study, among others, also finds that costs for children with disabilities differ by the poverty concentration of setting. It is overly simplistic to assume that each child has a child-specific cost of providing them equitable services, without consideration of context.

Table 1. Commonly Understood Cost Factors in K-12 Education

Individual Student "Risk" (where specific students require specific programs/services/interventions)	Social Context of Schooling (collective student population has greater need)	Scale and Sparsity	Geographic Variation in Input Prices
<p style="text-align: center;">Disability Status English Language Learners</p> <p>(Requires specific staff, with specific credentials to provide services children in need)</p>	<p style="text-align: center;">Concentration of Economic Disadvantage</p> <p>(Generally requires schoolwide supports involving additional staffing resources such as, expanded pre-k options, smaller class sizes, specific pupil-support staff, etc.)</p>	<p style="text-align: center;">District and School Enrollment Size (Affects required staffing ratios)</p> <p style="text-align: center;">Grade Level (Differences in academic and non-academic programming)</p> <p style="text-align: center;">Population Sparsity (Affects transportation costs)</p> <p style="text-align: center;">Degree of Rurality (Affects cost of providing specialized services)</p>	<p style="text-align: center;">Employee Wages (Wage required for recruiting and retaining comparably qualified teachers, administrators and other staff)</p> <p style="text-align: center;">Non-Personnel Resources (Includes contracted services, fuel and utilities, equipment, materials and supplies)</p>

A second misperception presented in the Mackinac report is that all costs are variable at the student level. That is, as students come and go, the money should come and go with them, and budgets adjust in real time accordingly. This is a core premise of funding students rather than systems. But reality doesn't work that way, whether for public district, charter, or private schools or even only for service providers (which may have some more flexibility, though not necessarily without compromising quality).

Student-based funding generally supports institutions that serve students—not the students directly. Within those institutions, some costs vary at the student level, others at some group level (such as sections of classes or grades), others at higher levels (such buildings or programs), and others at even more centralized levels (such as district centralized or even regional services). Not all costs shift with the coming and going of individual students, and

certainly not within a budget year.³⁸ Effective and efficient annual financial planning and human resource management require predictability and stability, and long-term planning for capital needs require them even more so. These are unavoidable considerations for ensuring equitable, high-quality provision of publicly accessible goods and services, whether they are publicly or privately provided. These unavoidable considerations are invariably, conveniently, overlooked in nearly every “fund children not systems” proposal.

Notes and References

- 1 The veiled language of the report title is akin to pro-school-choice talking points like “fund children not systems.” These phrases are generally used to suggest that 100% of education funding should be “portable” and travel with students to charter schools or private schools as a form of tuition payment.
- 2 DeGrow, B. (2022). *From school aid to student aid: Modernizing K-12 funding in Michigan* (p. 2). Mackinac Center for Public Policy. Retrieved April 8, 2022, from <https://www.mackinac.org/archives/2022/s2022-01.pdf>
- 3 Some additional elaboration on portability is included on page 20.
- 4 Duncombe, W. & Yinger, J. (2011). Making do: State constraints and local responses in California’s education finance system. *International Tax and Public Finance*, 18(3), 337-368.
- 5 Duncombe, W. & Yinger, J. (2005). How much more does a disadvantaged student cost? *Economics of Education Review*, 24(5), 513-532.
- 6 Average Daily Membership (ADM) is a rolling average of the number of enrolled students in a school or district over a defined prior period. Typically, ADM of the last several months of a given school year provide the basis for determining state aid for the following fiscal year. By contrast, many states use a single enrollment count day in September or October (a “fall day”) but may also include a second count day in January.
- 7 I have significantly rephrased the special education recommendations based on what I interpret the author to be suggesting.
- 8 The report asserts that charter schools receive less funding because they lack access to local property tax revenues, while serving higher poverty populations. Specifically, as of 2020, conventional districts “took in \$13,365 in revenue for each student enrolled, compared with \$10,242 for charter schools. The typical district spent over \$11,700 per student, more than \$2,000 greater than what the average charter school spent per pupil.”

DeGrow, B. (2022). *From school aid to student aid: Modernizing K-12 funding in Michigan* (p. 10). Mackinac Center for Public Policy. Retrieved April 8, 2022, from <https://www.mackinac.org/archives/2022/s2022-01.pdf>

The citation for these numbers is Footnote #30: Author’s calculations based on NPEFS data. NPEFS is the National Public Education Finance Survey, which is derived from the Census Fiscal Survey of Local Governments (F-33), <https://nces.ed.gov/ccd/stfis.asp>. The NFPEFS data are available through 2016-17 and the most recent available census data are from FY2019 U.S. Census Bureau. Fiscal Survey of Local Governments. Elementary and Secondary School Finance. Retrieved April 24, 2022, from <https://www.census.gov/data/tables/2019/econ/school-finances/secondary-education-finance.html>

Perhaps this citation is incorrect. It is also important to understand that straight averages of per-pupil spending or revenue between districts and charter agencies are generally inappropriate for evaluating equity of funding. For more appropriate methods, see:

Levin, J., Baker, B., Atchison, D., Brodziak, I., Boyle, A., Hall, A., & Becker, J. (2016). *Study of funding provided to public schools and public charter schools in Maryland*. American Institutes for Research. Retrieved April 20, 2022, from <https://marylandpublicschools.org/stateboard/Documents/01242017/TabG-Charter-PublicSchoolFundingStudy.pdf>
- 9 DeGrow, B. (2022). *From school aid to student aid: Modernizing K-12 funding in Michigan* (p. 20). Mackinac Center for Public Policy. Retrieved April 8, 2022, from <https://www.mackinac.org/archives/2022/s2022-01.pdf>
- 10 DeGrow, B. (2022). *From school aid to student aid: Modernizing K-12 funding in Michigan* (pp. 12-13). Mack-

inac Center for Public Policy. Retrieved April 8, 2022, from <https://www.mackinac.org/archives/2022/s2022-01.pdf>

- 11 Baker, B.D. (2016, May 13). *NEPC review: School spending and student achievement in Michigan: What's the relationship?* (Mackinac Center, April 2016). Boulder, CO: National Education Policy Center. Retrieved April 13, 2022, from <https://nepc.colorado.edu/thinktank/school-spending>
- 12 Augenblick, Palaich & Associates (June 2016). *Michigan education finance study*. Retrieved April 13, 2022, from <https://perma.cc/R3AG-S4JC>

On the one hand, tallies the inputs presumably required to meeting outcome standards, and on the other hand, looks at average spending of districts that meet outcome standards. The study does not, as others have done, estimate the sensitivity of spending differences to outcome differences in a “cost modeling” framework inclusive of other relevant factors. See: Taylor, L., Willis, J., Berg-Jacobson, A., Jaquet, K., & Caparas, R. (2018). *Estimating the costs associated with reaching student achievement expectations for Kansas public education students: A cost function approach*. San Francisco, CA: WestEd. Retrieved April 8, 2022, from https://probstforprogress.com/wp-content/uploads/2018/03/kansas_adequacy_study_cost_function_approach_20180315_final.pdf

Duncombe, W., & Yinger, J. (2006). *Estimating the costs of meeting student performance outcomes adopted by the Kansas State Board of Education*. Prepared for the Kansas Legislative Division of Post Audit. Retrieved April 8, 2022, from <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.219.4934&rep=rep1&type=pdf>

Kolbe, T., Baker, B.D., Atchison, D., & Levin, J. (2019). *Pupil weighting factors report: Report to the House and Senate Committees on Education, the House Committee on Ways and Means, and the Senate Committee on Finance*. Retrieved April 8, 2022, from <https://legislature.vermont.gov/assets/Legislative-Reports/edu-legislative-report-pupil-weighting-factors-2019.pdf>

Atchison, D., Levin, J., Baker, B., & Kolbe, T. (2020). *Equity and adequacy of New Hampshire school funding (draft): A cost modeling approach*. Retrieved April 8, 2022, from https://carsey.unh.edu/sites/default/files/media/2020/09/20-12685_nh_final_report_version_v5_draft_1.pdf

- 13 Baker, B.D. (2016). *Does money matter in education?* Washington, DC: Albert Shanker Institute. Retrieved April 13, 2022, from <https://www.shankerinstitute.org/resource/does-money-matter-second-edition>

Barnum, M. (2018). *Does money matter for schools? Why one researcher says the question is ‘essentially settled.’* Chalkbeat. Retrieved April 8, 2022, from <https://www.chalkbeat.org/2018/12/17/21107775/does-money-matter-for-schools-why-one-researcher-says-the-question-is-essentially-settled>
- 14 Duncombe, W. & Yinger, J. (2001). *Does school district consolidation cut costs?* Center for Policy Research, Maxwell School of Citizenship and Public Affairs, Syracuse University. Retrieved April 8, 2022, from <https://perma.cc/ZM6F-G8U3>
- 15 Notably, I also find in a 2016 report that even after the rapid enrollment declines in Detroit, few students were attending schools so small they lacked minimum efficient scale.

Baker, B.D. (2016). *Exploring the consequences of charter school expansion in US cities*. Economic Policy Institute.
- 16 Duncombe and Yinger reference this list of concerns as follows: “Five sources of diseconomies of scale have been cited in this literature (Guthrie 1979; Howley 1996; Lee and Smith 1997),” p. 5.

See: Duncombe, W. & Yinger, J. (2007). Does school district consolidation cut costs? *Education Finance and Policy*, 2(4), 341-375.

Working paper (2005) version here: <https://surface.syr.edu/cgi/viewcontent.cgi?article=1121&context=cpr>
(Page citation is to working paper)

17 The report asserts, “Combining smaller Michigan school districts could save money. But applying the same approach to larger districts, under conditions that likely vary by region, the costs may outweigh the benefits. A general program to reduce the number of Michigan school districts could well have unintended, negative impacts. Some degree of consolidation could marginally improve efficiency, but even that result is not guaranteed.”

DeGrow, B. (2022). *From school aid to student aid: Modernizing K-12 funding in Michigan* (p. 17). Mackinac Center for Public Policy. Retrieved April 8, 2022, from <https://www.mackinac.org/archives/2022/s2022-01.pdf>

18 DeGrow, B. (2022). *From school aid to student aid: Modernizing K-12 funding in Michigan* (p. 13). Mackinac Center for Public Policy. Retrieved April 8, 2022, from <https://www.mackinac.org/archives/2022/s2022-01.pdf>

19 DeGrow, B. (2022). *From school aid to student aid: Modernizing K-12 funding in Michigan* (p. 1). Mackinac Center for Public Policy. Retrieved April 8, 2022, from <https://www.mackinac.org/archives/2022/s2022-01.pdf>

20 One potential benefit of providing targeted categorical grants rather than the same total amount in general aid is that targeted grants get spent by schools and are less likely to be applied toward tax relief. But that’s not to suggest that categorical grants necessarily lead to better provision of services for which the categorical grants are intended, because school district budgets are fungible. Money can and will be moved around. But, on balance, targeted grants of this type tend to lead to reduced efficiency. Validated by:

Duncombe, W. & Yinger, J. (2011). Making do: State constraints and local responses in California’s education finance system (p. 337). *International Tax and Public Finance*, 18(3), 337-368.

21 Duncombe, W. & Yinger, J. (2011). Making do: State constraints and local responses in California’s education finance system. *International Tax and Public Finance*, 18(3), 337-368.

Duncombe, W. & Yinger, J. (2006). *Understanding the incentives in California’s education finance system*. Governor’s Committee on Education Excellence.

Baker, B.D. (2003). State policy influences on the internal allocation of school district resources: Evidence from the common core of data. *Journal of Education Finance*, 29(1), 1-24.

22 Ladd, H.F., Clotfelter, C.T., & Turaeva, M. (2018). *Choosing charter schools in North Carolina: What do parents value?* Working Paper No. 196-0618-1. National Center for Analysis of Longitudinal Data in Education Research (CALDER).

Ladd, H.F. & Turaeva, M. (2020). *Parental preferences for charter schools in North Carolina: Implications for racial segregation and isolation*. Working paper of the National Center for the Study of Privatization in Education. Teachers College, Columbia University.

23 Edwards, D.S. (2021). Just out of reach? Unrestrained supply, constrained demand, and access to effective schools in and around Detroit (p. 414). *Educational Evaluation and Policy Analysis*, 43(3), 391-418.

24 Trajkovski, S., Zabel, J., & Schwartz, A.E. (2021). Do school buses make school choice work? *Regional Science and Urban Economics*, 86, 103607.

25 Buerger, C. & Harris, D.N. (2017). *How did the New Orleans school reforms influence school spending?* Technical report, Education Research Alliance for New Orleans, New Orleans. Retrieved April 8, 2022, from <https://educationresearchalliancenaola.org/files/publications/020717-Buerger-Harris-How-Did-the-New-Orleans-School-Reforms-Influence-School-Spending.pdf>

26 Baker, B.D. & Corcoran, S.P. (2012). *The stealth inequities of school funding: How state and local school finance systems perpetuate inequitable student spending*. Center for American Progress. Retrieved April 1,

2022, from <https://www.americanprogress.org/wp-content/uploads/2012/09/StealthInequities.pdf>

27 See, for example:

The University of the State of New York. (2021). *Formula aids and entitlements for schools in New York State*. Retrieved April 13, 2022, from https://stateaid.nysed.gov/publications/handbooks/handbook_2021.pdf

28 DeGrow, B. (2022). *From school aid to student aid: Modernizing K-12 funding in Michigan* (p.22). Mackinac Center for Public Policy. Retrieved April 8, 2022, from <https://www.mackinac.org/archives/2022/s2022-01.pdf>

29 One particularly egregious example is here, in which the authors suggest drawing conclusions about how well the schools included in the graph allocated their resources toward achieving outcome goals, ignoring the fact that these schools serve very different student populations under very different conditions:

Aldeman, C. (n.d.). *Edunomics lab*. Retrieved April 8, 2022, from <https://us19.campaign-archive.com/?u=179e2a9db6ce62a03ab6a0a74&id=cefbf8d348>

30 Green III, P.C., Baker, B.D., & Oluwole, J.O. (2018). Are charter schools the second coming of Enron: An examination of the gatekeepers that protect against dangerous related-party transactions in the charter school sector. *Indiana Law Journal*, 93, 1121-1160. Retrieved April 13, 2022, from <https://www.repository.law.indiana.edu/ilj/vol93/iss4/5>

31 Gross, A. (2020, March 2). *Ethical questions raised around Cornerstone charter schools' real estate deals*. ABC News WXYX Detroit. Retrieved April 8, 2022, from <https://www.wxyz.com/ethical-questions-raised-around-cornerstone-charter-schools-real-estate-deals>

32 Levin, J., Baker, B., Atchison, D., Brodziak, I., Boyle, A., Hall, A., & Becker, J. (2016). *Study of funding provided to public schools and public charter schools in Maryland*. Washington, DC: American Institutes for Research. Retrieved April 13, 2022, from https://img1.wsimg.com/blobby/go/d37f4ea5-d437-4ee4-85ed-e71b2d52590e/downloads/1crr2n3ul_919608.pdf?ver=1643036201964

33 “. . . in addition to low-income pupils and English language learners, students who are homeless, living in foster care, or who come from migrant families would automatically qualify for an at-risk funding bonus.”

DeGrow, B. (2022). *From school aid to student aid: Modernizing K-12 funding in Michigan* (p. 23). Mackinac Center for Public Policy. Retrieved April 8, 2022, from <https://www.mackinac.org/archives/2022/s2022-01.pdf>

34 DeGrow, B. (2022). *From school aid to student aid: Modernizing K-12 funding in Michigan* (p. 23). Mackinac Center for Public Policy. Retrieved April 8, 2022, from <https://www.mackinac.org/archives/2022/s2022-01.pdf>

35 Duncombe, W.D. & Yinger, J. (2012). Measurement of cost differentials. In *Handbook of research in education finance and policy* (pp. 260-278). Routledge.

Duncombe, W. & Yinger, J. (2005). How much more does a disadvantaged student cost? *Economics of Education Review*, 24(5), 513-532.

Duncombe, W. & Yinger, J. (1999). Performance standards and educational cost indexes: you can't have one without the other. *Equity and Adequacy in Education Finance: Issues and Perspectives*, 260, 261.

See also:

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Duncombe, W. & Yinger, J. (2006) *Estimating the costs of meeting student performance outcomes adopted by the Kansas State Board of Education*. Prepared for the Kansas Legislative Division of Post Audit. Retrieved April 8, 2022, from <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.219.4934&rep=rep1&type=pdf>

Kolbe, T., Baker, B.D., Atchison, D., & Levin, J. (2019). *Pupil weighting factors report: Report to the House and Senate Committees on Education, the House Committee on Ways and Means, and the Senate Committee on Finance*. Retrieved April 8, 2022, from <https://legislature.vermont.gov/assets/Legislative-Reports/edu-legislative-report-pupil-weighting-factors-2019.pdf>

Atchison, D., Levin, J., Baker, B., & Kolbe, T. (2020). *Equity and adequacy of New Hampshire school funding: A cost modeling approach*. Retrieved April 8, 2022, from https://carsey.unh.edu/sites/default/files/media/2020/09/20-12685_nh_final_report_v10.pdf

36 Roza, M. (2017, November). *Funding student types: How states can mine their own data to guide finance policy on high-needs students*. Washington, DC: Edunomics Lab at Georgetown University. Retrieved April 8, 2022, from <https://perma.cc/EGU4-RQAH>

37 Kolbe, T., Baker, B.D., Atchison, D., & Levin, J. (2019). *Pupil weighting factors report: Report to the House and Senate Committees on Education, the House Committee on Ways and Means, and the Senate Committee on Finance*. Retrieved April 8, 2022, from <https://legislature.vermont.gov/assets/Legislative-Reports/edu-legislative-report-pupil-weighting-factors-2019.pdf>

Atchison, D., Levin, J., Baker, B., & Kolbe, T. (2020). *Equity and adequacy of New Hampshire school funding: A cost modeling approach*. Retrieved April 8, 2022, from https://carsey.unh.edu/sites/default/files/media/2020/09/20-12685_nh_final_report_v10.pdf

38 Bifulco, R. & Reback, R. (2014). Fiscal impacts of charter schools: Lessons from New York. *Education Finance and Policy*, 9(1), 86-107.