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Review of *Weighted Student Funding for California*

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Summary of Review

A new policy brief from the Reason Foundation examines California Governor Jerry Brown's school finance reform plan. It touts the benefits of the reform and makes suggestions for improvements, some of which are based on a recently adopted school finance bill in Colorado. The Reason report asserts that Brown's proposed plan is better than the status quo, arguing that it has the potential to more equitably distribute funding across local public school districts. Yet no data are presented or evaluated to support these claims. The bulk of Reason's report is dedicated to the claim that Brown's reforms should be expanded to include "money follows the child." That is, weighted student funding should be distributed directly to the school, and the principal should be provided autonomy in the way the money is spent. While the claim is made that such a system is more equitable, efficient and transparent, little evidence is available or presented that supports this claim. The report instead offers a highly filtered summary of existing literature on the efficacy of weighted student funding for improving educational equity or school quality. While many would concur that California's funding system is in disrepair, the Reason report offers little precise or valuable guidance for policymakers.

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Review of *Weighted Student Funding for California*

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I. Introduction

Weighted Student Funding for California, the new policy brief from the Reason Foundation, examines California Governor Jerry Brown's school finance reform plan. It touts the benefits of the reform and makes suggestions for improvements, some of which are based on a recently adopted school finance bill in Colorado.[1] The Reason report asserts that Brown's proposed plan is better than the status quo, arguing that it has the potential to more equitably distribute funding across local public school districts. Yet no data are presented or evaluated to support these claims. The bulk of the brief is instead dedicated to the claim that additional controls are needed to ensure that equitable funding is distributed to students in the specific schools they attend.

The report argues that the state should require local district adoption of *weighted student funding (WSF)* formulas, which means passing along to schools the weighted state funds allocated to the district for each student. The policy brief argues that the literature invariably supports the contention that driving these funds down to the school level improves within-district equity. But this assertion is drawn from a filtered reading of the literature. As discussed herein, the literature on the equity successes of district-level weighted funding formulas is mixed. Yet, even though sufficient evidence to establish that link is lacking, the Reason Foundation makes the leap of suggesting that just such reforms in Oakland and San Francisco are responsible for achievement gains. The report also asserts that the benefits of decentralized control are uncontroversial and are perceived positively by the involved parties. But even the reports cited in the brief raise questions about buy-in from principals.

II. Findings and Conclusions of the Report

The report asserts that the major advantages of the California finance reform proposal are as follows:

1. The funding is simple and more transparent;
2. The funding is more local, more direct and more accountable; and
3. Through a school-level weighted student formula, the funding is more equitable for the most disadvantaged students.

First, with regard to "simple" and "transparent," the report argues that Governor Brown's proposed formula is more predictable and understandable than the current formula. That is, a formula that sets a target amount of funding based on a basic funding figure

The goal of the Reason policy brief is to raise concerns that while the proposal is viewed as a step in the right direction, more needs to be done.

multiplied by various cost adjustment factors is easier to understand and interpret than California's current system of allocating numerous restricted categorical grants. By more "local," the author of the Reason report seems to mean that unrestricted formula aid would be controlled more at the school level. Notably, California had already taken steps in recent years to permit greater local control over expenditures of categorical funds.[2]

The brief provides an overview of Brown's proposal, explaining that the formula would set a basic funding level and include weights, or cost adjustments, to provide greater funding for limited English proficient children, low-income and foster youth, and a high concentration of ELL/Low-Income students, as well as weights for early grades and class-size reduction and a small weight on children enrolled in high schools.

The goal of the Reason policy brief, however, is to raise concerns that while the proposal is viewed as a step in the right direction, more needs to be done. The report explains, "While Governor Brown's plan distributes money to school districts with larger numbers of disadvantaged students, it does not do enough to ensure that the money gets to these students' schools or to the students themselves" (p. 1). It continues:

> This is worrying since studies of staff-based budget allocation and within-district inequities show that money already devoted to disadvantaged kids is often not reaching their individual schools, even when specific funding streams like Title I are designated for disadvantaged students (p. 1-2).

Based on these two concerns, the report proposes reforms in four areas:

- Have the Money Follow California Students to Schools
- Institute School-Level Autonomy and Accountability
- Implement a Modern School-Level Financial Reporting System
- Consider Elements of Colorado's School Finance Reform Plan

Regarding the first recommendation, the report argues that local public school districts should be required to have the various formula weights (and the money that comes with the weights) "follow the child" to whatever school he or she attends. Consistent with previous work by the Reason author,[3] she also suggests that this targeted funding be coupled with authorizing school principals to spend funds as they see fit. These recommendations are, to an extent, based on or buttressed by a recent law in Colorado that will result in finance reforms if voters later adopt an initiative containing an income tax increase.[4]

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

The Reason report works from the premise that within-district equity remains a persistent problem. It bases this conclusion on a handful of sources characterizing inequities in California districts, and it also cites some analyses of recent national data. To the extent that within-district equity is a persistent problem, and to the extent that state aid formulas alone are only a partial fix, it is reasonable that states should consider strategies to require local school districts to equitably distribute funding.

The work's assertions are grounded in a discussion of work by Marguerite Roza and Karen Hawley Miles (p. 5), explaining that "most districts" allocate resources to schools based on a common staffing allocation formula that necessarily leads to inequitable between-school distributions of resources if we consider children's actual needs. The report also provides hypothetical illustrations, such as how one school might receive an entire additional vice principal as a function of exceeding an arbitrary enrollment tipping point, resulting in resource inequities across schools.

These examples are the basis for suggesting that switching from monolithic, uniformly inequitable and arbitrary staffing allocation formulas to weighted student funding formulas necessarily improves within-district equity. As boldly stated in the new report, "When the money does follow the child through weighted student funding to the school level, within-district equity improves"(p. 7).Thus, the report offers its primary recommendation that the state can and should effectively mandate local district adoption of weighted student funding. Other recommendations are also set forth, but the report provides only minimal rationales for those.

IV. The Report's Use of Research Literature

This report makes significant use of credible and relevant research, some of which specifically pertains to district adoption of weighted student funding in California. Unfortunately, the brief often comingles reasonably sound and credible sources with more questionable sources. Further, while many useful sources are cited in the report, these sources are selectively mined for findings that support the central contention—that within-

district equity is a major problem and that weighted student funding is a consistently effective fix. A more balanced presentation of evidence would raise serious doubts about these contentions. The relevant literature is summarized by topic below.

The problem of within-district inequity

The report draws on reasonable resources to assert the importance of the problem of within-district inequity. For example, it cites a 2011 U.S. Department of Education report, based on a 2007-08 special data collection of school site spending data from selected states.[5] This report found that in many cases, Title I schools (higher poverty schools) spent less on average than non-Title I schools in the same district. But that USDOE report is methodologically limited. It compares only the average spending of Title I and non-Title I schools within districts, without consideration of other factors that frequently serve as strong predictors of differences in school site spending (primarily, concentrations of children with disabilities and district choices to locate specific programs in specific schools). Poverty is one factor—and a very important one—but it's also important to look across the full range of poverty concentration across schools in a district, rather than just splitting schools into Title I and non-Title I.

The report also cites a recent Education Trust West report, advocating for Governor Brown's proposals, which concludes that there exist "large gaps between district revenues per student and reported expenditures per student at the school level" as well as "teacher salary gaps between the highest- and lowest-poverty schools in almost all of California's 20 largest school districts" (p. 6). Drawing on the USDOE school site data, a report from the Center for American Progress (CAP) is also cited that finds significant within-district disparities. But the CAP report also fails to address important factors that might explain those disparities—most notably, variations in shares of children with disabilities.[6]

Finally, the report cites recent work by Chambers and colleagues concerning the school district in Los Angeles. There is no question that the Chambers *et al.* report raises legitimate concerns:

> The American Institutes for Research completed a district fiscal analysis that found that schools with the highest percentage of low-income students had lower amounts of unrestricted funding from the general fund and had less experienced and lower paid teachers, with more teachers teaching out of field (p. 6).

These sources, some methodologically stronger than others, do paint a relatively convincing story of persistent within-district inequity in California. In particular, these studies provide a more compelling argument than do citations to the work of Roza and Hawley Miles.

The solution of weighted student funding (WSF)

While the review of literature regarding within-district inequities is reasonably sound, the conclusion that weighted student funding is a potential solution to these inequities is

selectively filtered. To illustrate, I consider here the same sources cited in the report—and cast a different light on the interpretations.

Citing a comprehensive study of weighted student funding adoption in Oakland and San Francisco—*A Tale of Two Districts*—by Chambers and his American Institutes for Research colleagues, the new report states:

> analysis of the San Francisco Unified weighted student funding implementation found that high-poverty middle and high schools in San Francisco benefitted significantly from the implementation of the WSF policy. Focusing on the overall per-pupil spending, they found that San Francisco increased the proportion of total resources allocated to high-poverty relative to low-poverty middle and high schools after they implemented a funding model based on student allocations rather than staffing (p. 7).

What the new report does neglect to note is that the largest number of schools in both Oakland and San Francisco—elementary schools—did not see equity improvements. Chambers and colleagues explain:

> In San Francisco, our analysis revealed that a positive relationship between overall expenditures and student poverty existed for elementary schools . . . This positive relationship appears to be driven by the way San Francisco allocated restricted (i.e., categorical) funds, and *it did not change significantly with implementation of the WSF policy*[7] [emphasis added].

And in Oakland: "There did not appear to be a significant difference in this relationship between per pupil expenditure and student poverty before and after RBB [results-based budgeting] implementation."[8]

Further, a central tenet of the weighted student funding proposal is that it can help to remedy uneven distributions of teacher qualifications across schools and children by need. Yet in the eventual peer-reviewed journal article on Oakland and San Francisco, Chambers and colleagues report:

> Interestingly, neither district exhibited any significant change in the distribution of teacher experience after implementation of their SBF [site-based funding] models; schools serving the highest proportion of students from low-income families continued to employ teachers with the least experience after implementation of the SBF models.[9]

Similarly, the Reason report refers to a 2013 report by the New York City Independent Budget Office (IBO) evaluating the progress made since 2007 toward distributing school site budgets in accordance with student needs. The Reason report summarizes the IBO report as follows: "despite budget constraints that have prevented the majority of schools from receiving their full weighted allocations, the weighted student funding mechanism has moved the distribution of funding to more closely correspond to student needs" (p. 7).

While this is a reasonable summary of recent progress, the IBO report places that progress within a larger context:

> For the first four years, most of the weights related to student achievement and need were not found to have a statistically significant effect on the allocations. By 2011-2012, however, all but one of the academic weights played a significant role in the allocations."[10]

Even in 2011-12, progress has been relatively modest.[11]

Aside from the selective citation of these sources, the Reason report cites other sources that apply less credible methods for determining the effectiveness of weighted student funding at improving equity, and it ignores a substantial body of literature producing mixed findings. The report cites work by Hawley Miles and Roza from 2006 arguing that "a study of Houston and Cincinnati's weighted student funding significantly improved equity between schools within the district" (p. 7). But the Hawley Miles and Roza study suffers serious methodological flaws, as explained by Baker and Welner:

> A significant shortcoming of the WSI [weighted student index] approach, however, is that it fails to measure differences in resources with respect to student population variation across schools. It instead measures whether a child in poverty in one school receives the same level of resources as a child in poverty in another school (even if that level is $0, or 0% more than the non-poor child).[12]

The new report also cites comparably flawed work by Frank and colleagues from an organization called Educational Resource Strategies (ERS). The ERS study suggests substantial improvements to equity in Baltimore resulting from WSF adoption, specifically finding that 80% of schools fall within 10% of median spending. But this finding is arrived at by making adjustments for student needs using the weights within the formula itself.[13] That is, the study merely asks *to what extent does spending deviate from the adopted formula*. It does not question whether the adopted formula itself introduces inequities.

The dominant and generally most appropriate method for determining whether school site allocations are sufficiently responsive to differences in student needs and other school site cost factors is to use a regression model where school site spending is a function of the various cost and student-need factors. For example, Chambers and colleagues, [14] the New York City Independent Budget Office,[15] and an increasing number of peer-reviewed studies take this approach.[16] Among the results are two studies, focused on cities in Ohio and Texas, that show those adopting weighted funding formulas display no greater predictability of resources with respect to student needs than those using "other" budgeting and resource allocation strategies.[17] Notably, the report overlooks many such key peer-reviewed studies that give reason to be substantially more skeptical of the successes of weighted student funding and the potential of this approach to address within-district inequities.

The preference for school site autonomy

The report suggests that superintendents appreciate the autonomy they've been provided over categorical funds (pp. 7-8).[18] It further asserts that "[p]rincipals report the same kind of benefits from autonomy and flexibility as school superintendents when they have discretion over resources." But little research supporting school-site discretion over spending is provided.

The author cites Chambers *et al.* in Oakland for the proposition "that even though this style of budgeting created more work for school administrators and district staff, school communities strongly preferred it to traditional budgeting processes" (p. 8). This characterization is only partly true, however. Chambers and colleagues explain first that there was actually little shift in the level of school-site discretion achieved:

> One of the main goals of a student-based funding policy is clearly an increased level of school-level discretion over planning and budgeting. We observed no consistent increase in the proportion of funding provided to schools in either San Francisco or Oakland after the adoption of their SBF policies.[19]

Further, Chambers *et al.* point out that impressions of all involved were not uniformly positive:

> Our respondents provided very mixed impressions of school-level discretion, which could, in part, be affected by other external factors that affect the level of discretion in a school, including declining revenue and collective bargaining agreements. We found that more Oakland respondents than San Francisco respondents felt that schools had a significant amount of discretion over decision making.[20]

The Reason report also ignores the broader issues regarding the efficacy of site-based management, an issue which is addressed in a previous critique of a Reason Foundation report on weighted student funding:

> In a comprehensive review of literature on school-site management (SSM) and budgeting, Plank and Smith (2008) in the *Handbook of Education Finance and Policy* present mixed findings at best, pointing out that while SSM may lead to a greater sense of involvement and efficacy, it seems to result in "little direct impact on teaching behaviors or student outcomes."[21]

Finally, in a substantial summative leap, the report suggests strongly that weighted student funding reforms in California districts have led to substantive improvements in student outcomes. The report explains:

> California already has successful examples of weighted student funding at the district level. San Francisco and Oakland have both improved equity and school performance with student-based budgeting programs where principals have autonomy to spend resources on the needs of their students (p. 8).

The report then indicates that Oakland has made "remarkable improvement on the California Academic Performance Index (API)" (p. 8), [22] attributing this progress to adoption of weighted student funding and decentralized governance. The evidence linking weighted student funding to these specific outcome improvements is tenuous at best.

VI. Review of the Validity of the Findings and Conclusions

The report's major conclusions and recommendations arise out of its summary of Governor Brown's proposed reforms. It characterizes those reforms as an improvement over current conditions, but it provides no data or evidence to validate this assertion. That said, it is generally agreed by scholars of school finance that California's system has in recent years been among the most dysfunctional, cumbersome, inefficient, inequitable and inadequate in the nation. Researchers William Duncombe and John Yinger, in a recent peer-reviewed article, explain that ". . . school district efficiency is undermined by the state's current emphasis on categorical instead of unrestricted aid; and that, overall, the education finance system is not well designed to meet the state's educational objectives."[23]

A series of studies presented in 2007, under the umbrella title, *Getting Down to Facts,* characterized many of the flaws of the current system.[24] As study author and California school finance expert Jennifer Imazeki explained in a recent blog post:

> From my perspective, the two biggest problems with California's current system of school finance are 1) the revenue allocations are inequitable and have no connection to cost or need, and 2) having categorical restrictions on such a large share of the funding creates inefficiencies that prevent districts from achieving the best outcomes for their students. Brown's proposal is the only one on the table that addresses both of these problems head on.[25]

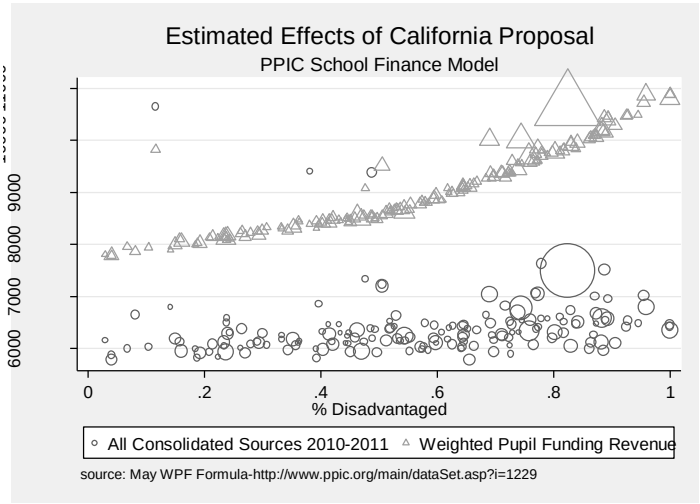

Figure 1.

Heather Rose, John Sonstelie and Margaret Weston of the Public Policy Institute of California have constructed web-accessible simulations of the Brown proposals.[26] Using those simulations, Figure 1 graphs the current revenue distribution (circles) versus the May updated version of Brown's proposed weighted funding for California school districts (enrolling over 5,000 students), by percentages of children who are disadvantaged. [27] Circle or triangle size indicates enrollment size, where the largest

circle & triangle are Los Angeles Unified School District (LAUSD). Existing (2010-11) revenues are relatively flat, or random between $6,000 and $8,000 per pupil, with no systematic upward tilt (progressiveness) with respect to student need. By contrast, the Brown proposal would appear to a) significantly raise funding for all districts, and b) provide for a systematic upward tilt with respect to poverty.

While the report fails to validate the contention that the reforms are better than the status quo in terms of between district equity (and adequacy), this claim seems easy to validate. That is, setting aside the report's additional contentions and proposals with regard to

> *Extreme caution is warranted in drawing conclusions regarding how these types of reforms may or may not relate to improving fairness in other school finance contexts.*

school-site autonomy, the contentions regarding the basic Brown proposal are on solid ground. Nonetheless, one should be aware that while it might be hard to do worse than current California school funding, projections that Governor Brown's proposal will necessarily do better are merely projections at this stage—wishful simulations.[28]

Whether a state requirement that money follow the child via weighted student formulas leads to systemic improvements to *within*-district equity remains an open question, one that is not validated to any degree of certainty in the literature presented in the Reason report or in the broader literature. The report's assertion that Colorado's recent legislation proves that this can be done is comparably tenuous. The author proclaims:

> Colorado's legislation demonstrates that it is politically feasible to design legislation that attaches funding to children and requires school districts to pass that revenue directly to school principals, while also mandating that all school districts report actual school expenditures in real dollars for maximum transparency and accountability (p. 10).

While Colorado may have proven that legislatures can pass such policies, it is far too early to determine whether this requirement can actually yield more rational distributions of resources across schools.

Other recommendations, such as implementing a modern school-level financial reporting system, are logical but often easier said than done. Some states have been more effective in this regard and might provide useful lessons for California (or Colorado).[29]

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

The Reason report provides little useful guidance for policymakers. It begins with the well-understood fact that California's school finance system is dysfunctional, inefficient and

inequitable and that current proposals are at the very least a marginal improvement. It also identifies a generally acknowledged fact that within-district inequities remain a problem that might be addressed through state policy. The report is on solid ground with regard to those foundational conclusions. But the report then overstates the potential for weighted student funding and school-based autonomy to remedy California's problems. Similarly, it should be noted that the recent report from the Center for American Progress on school finance reform in Colorado, which also focuses on WSF, lacks data-based validation of any gains in financial equity.[30]

Extreme caution is warranted in drawing conclusions regarding how these types of reforms may or may not relate to improving fairness in other school finance contexts. For instance, the Reason report does not explicitly address the Brown proposal's impact on charter school funding, such as fundamental and unaddressed concerns regarding the accurate parsing of expenditure responsibilities of host districts and charter schools. It would make little sense for districts to be required to pass along 100% of the weighted student allocation to charter schools if the district retains responsibility for some programs and services (transportation, food service, special education services) for students attending charters.[31] Online and virtual schooling presents similar thorny issues, where the scope of services actually provided by the virtual school may be limited primarily if not exclusively to required academic curriculum at the middle or secondary level, and where participants may have access to district-provided activities and other resources. Thus, subsidizing these alternatives at the full rate of weighted pupil funding as adopted in the Colorado legislation is plainly illogical.[32]

More generally, any assertion that either the California or the recent Colorado reforms are especially innovative, progressive, or novel, or that they present a path forward in school finance policy, is devoid of an understanding of the history of state school finance policies and district weighted student funding formulas. Surely, California is in need of substantive school finance reform. But in reality Brown's reforms are a throwback to the early 1990s (or as far back as the 1970s in some cases), when many states adopted (or reformed) foundation aid formulas including various multipliers to accommodate differences in student needs and district characteristics. During that period, as in these recent reforms, the major drivers and weighting decisions were and are political determinations tied to budget constraints. That is, the decisions in states like Colorado and California have consistently had little basis in the actual costs of providing equal educational opportunity.[33] By contrast, while achieving varied degrees of success, several aid formulas adopted in the interim (1995 to 2008) in states such as New Jersey, Wyoming, Pennsylvania and Kansas made more substantive attempts to guide formula design with analyses of the costs of meeting desired outcome standards across varied settings and children.[34] More recent reforms, whether those touted in Colorado or Rhode Island,[35] or those on the table in California, are modest and hardly innovative except for their attention to simultaneously addressing within-district inequities. Unfortunately, the efficacy of the proposed solutions to within-district inequities remains much more questionable than a reader of this Reason report would be led to believe.

Notes and References

1 Snell, L. (2013). *Weighted student funding for California.* Los Angeles: Reason Foundation. Retrieved June 13, 2013, from http://reason.org/news/show/weighted-student-funding-for-califo/.

Note that the reforms in the Colorado bill would not take effect unless voters pass a separate initiative that includes additional income taxes.

2 Imazeki, J. (2013, April 16). *Governor's funding formula is a more equitable, efficient system* (blog post). Stanford, CA: Policy Analysis for California Education, Stanford University. Retrieved June 17, 2013, from http://www.edpolicyinca.org/blog/governors-funding-formula-more-equitable-efficient-system/.

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9 Chambers, J. G., Levin, J. D., & Shambaugh, L. (2010). Exploring weighted student formulas as a policy for improving equity for distributing resources to schools: A case study of two California school districts. *Economics of Education Review*, *29*(2), 283-300.

10 Subramanian, S. (2013, April). *Is it getting fairer? Examining five years of school allocations under fair student funding*. New York: New York City Independent Budget Office, 1. Retrieved June 17, 2013, from http://www.ibo.nyc.ny.us/iboreports/fsf2013.pdf/.

11 Regression estimates of distribution changes in New York City, prepared as part of *Is it getting fairer?*, are found at http://www.ibo.nyc.ny.us/iboreports/fsf2013webtables.pdf/;

Subramanian, S. (2013, April). *Is it getting fairer? Examining five years of school allocations under fair student funding*. New York: New York City Independent Budget Office. Retrieved June 17, 2013, from http://www.ibo.nyc.ny.us/iboreports/fsf2013.pdf/.

12 Roza and her colleagues also test whether variations in their WSI are a function of four different factors: (a) school grade level, (b) percent white in the school, (c) teacher experience, and (d) the academic rank of the school in the state. The authors suggest that this analysis is undertaken with the goal of determining whether observed resource variation (as measured by the WSI) is a function of "intentional" and "unintentional" factors. It is difficult to interpret, however, how this *ad hoc* mix of outcome measures, organizational features and racial composition relates to more common sets of "cost" factors, or factors outside the control of local school officials that influence the costs of achieving any given level of outcomes (see Duncombe and Yinger, 2008). The dependent variable (WSI) measures resource variation in terms of differences across schools between student subgroups, rather than aggregate resource differences across schools with respect to population differences across schools. A more straightforward interpretation (at least with respect to whether resource variation is a function of uncontrollable cost factors) would be possible from an analysis that used per pupil expenditures as the dependent variable and identified standard cost factors as independent variables in an expenditure function framework.

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Baker, B.D. & Welner, K.G. (2010) Premature celebrations: The persistence of inter-district funding disparities. *Education Policy Analysis Archives*. Retrieved June 17, 2013, from http://epaa.asu.edu/ojs/article/viewFile/718/831/;

Duncombe, W. & Yinger, J. (2008). Measurement of cost differentials. *Handbook of Research in Education Finance and Policy*, 238-256.

13 "ERS measures school-to-school equity by comparing per-pupil funding after adjusting for student needs (in Baltimore, by using the student weights from the district's formula) and then calculating the percent of schools that are within 10% of the median dollar per pupil" (Frank, 2012, p. 8). See:

Frank, S. (2012, October 22). *Fair Student Funding in Baltimore: A Lever for Transformation*. Watertown, MA: Education Resource Strategies. Retrieved June 17, 2013, from http://www.erstrategies.org/library/fsf_in_baltimore_city/.

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Chambers, J.G., Shambaugh, L., Levin, J., Muraki, M., & Poland, L. (2008) *A tale of two districts: A comparative study of student-based funding and school-based decision making in San Francisco and Oakland Unified School Districts*. Palo Alto, CA: American Institutes for Research. Retrieved June 17, 2013, from http://www.air.org/files/A_Tale_of_Two_Districts_Final.pdf/.

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20 Chambers, J.G., Shambaugh, L., Levin, J., Muraki, M., & Poland, L. (2008) *A tale of two districts: A comparative study of student-based funding and school-based decision making in San Francisco and Oakland Unified School Districts*. Palo Alto, CA: American Institutes for Research, viii. Retrieved June 17, 2013, from http://www.air.org/files/A_Tale_of_Two_Districts_Final.pdf/.

21 Baker, B. (2009). *Review of "Weighted Student Formula Yearbook 2009."* Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. Retrieved June 13, 2013, from http://nepc.colorado.edu/thinktank/review-Weighted-Student-Formula-Yearbook/;

Plank, D. & Smith, B. (2008). Autonomous schools: Theory, evidence and policy. In H.F. Ladd and E.B Fiske (eds), *Handbook of Research in Education Finance and Policy*, 402-424. New York: Routledge, 407.

22 Great Oakland Public Schools Leadership Center (2013, Spring). *Oakland Achieves: A Public Education Progress Report*. Oakland, CA: Author. Retrieved June 17, 2013, from http://www.goleadershipcenter.org/Oakland%20Achieves%20-%20A%20Public%20Education%20Progress%20Report%20v2.pdf

23 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.

24 Various authors (2007). *Getting Down to Facts: A research project examining California's school governance and finance systems*. Stanford, CA: Institute for Research on Education Policy & Practice, Stanford University. Retrieved June 17, 2013, from http://irepp.stanford.edu/projects/cafinance-studies.htm/.

25 Imazeki goes on to note:

> Let me be clear: When I say that these are the two biggest problems with the system, I am NOT saying that the system does not have any other problems—for example, there are plenty of people (researchers and politicos alike) who would say the biggest problem is that funding levels are too low.

Imazeki, J. (2013, April 16). *Governor's funding formula is a more equitable, efficient system* (blog post). Stanford, CA: Policy Analysis for California Education, Stanford University. Retrieved June 17, 2013, from http://www.edpolicyinca.org/blog/governors-funding-formula-more-equitable-efficient-system/.

26 Rose, H., Sonstelie, J., & Weston, M. (2012, May). *Funding formulas for California schools III: An analysis of Governor Brown's weighted pupil funding formula*. San Francisco: Public Policy Institute of California. Retrieved June 17, 2013, from http://www.ppic.org/main/publication.asp?i=1013/.

27 On June 14, 2013, the California Legislature passed a budget that included a compromise on Governor Brown's school funding proposal, which Brown is expected to sign. To some extent, the compromise undermines the improvements to equity shown in this simulation, by moving more of the available funding to schools with relatively strong funding. The compromise apparently did not incorporate the Reason proposal to give school principals greater autonomy over spending. See:

Watanabe, T. (2012, June 17). Schools with fewer needy students decry California funding change. *Los Angeles Times*. Retrieved June 17, 2013, from http://www.latimes.com/news/local/la-me-school-finance-20130617,0,7095145.story/.

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

Baker, B. D., Sciarra, D. G., & Farrie, D. (2010). *Is School Funding Fair?: A National Report Card*. Education Law Center.

29 For discussions and comparisons of Texas and Ohio data, consistencies and irregularities, see:

Baker, B.D., Libby, K., & Wiley, K. (2012). *Spending by the Major Charter Management Organizations: Comparing charter school and local public district financial resources in New York, Ohio, and Texas*. Boulder, CO: National Education Policy Center. Retrieved June 13, 2013, from http://nepc.colorado.edu/publication/spending-major-charter.

30 Herman, J. (2013). *School finance reform: Inspiration and progress in Colorado*. Washington, DC: Center for American Progress. Retrieved June 13, 2013, from http://www.americanprogress.org/issues/education/report/2013/06/03/64996/school-finance-reform-inspiration-and-progress-in-colorado/

31 See extensive discussion in footnote #22 here:

Baker, B.D., Libby, K., & Wiley, K. (2012). *Spending by the Major Charter Management Organizations: Comparing charter school and local public district financial resources in New York, Ohio, and Texas*. Boulder, CO: National Education Policy Center. Retrieved June 13, 2013, from http://nepc.colorado.edu/publication/spending-major-charter/.

32 We will examine these concerns in far greater detail in a forthcoming policy brief.

33 Duncombe, W. & Yinger, J. (2008). Measurement of cost differentials. *Handbook of Research in Education Finance and Policy*, 238-256.

34 Baker, B.D.& Green, P.C. (2009) Conceptions, measurement and application of educational adequacy standards. In D.N. Plank (ed) *AERA Handbook on Education Policy*. New York: Routledge;

Baker, B.D. & Green, P.C. (2008) Politics, empirical evidence and policy design: The case of school finance and the costs of educational adequacy. In B.S. Cooper, L. Fusarelli, J. Cibulka (eds), *Handbook of Education Politics and Policy*. New York: Routledge, 311-337.

35 Wong, K.K. (2011, August 3). *The design of the Rhode Island school funding formula.* Washington, DC: Center for American Progress. Retrieved June 17, 2013, from http://www.americanprogress.org/issues/education/report/2011/08/03/10123/the-design-of-the-rhode-island-school-funding-formula/.

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