

Necessary But Not Sufficient: Funding Equity Measures and Adequacy Across and Within

Districts in Washington State

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Abstract

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This thesis examines school funding equity measures currently used to assess inter-district equity and explores options for assessing intra-district equity. This type of analysis may prove to be very useful for school district administrators and Washington State policymakers as new legislation is implemented to address the inadequacy of school funding in response to the Washington State Supreme Court decision *McCleary v. Washington*. A discussion of current equity measures is presented, followed by a discussion of theories of funding adequacy and recent developments in Washington State. Funding data from the 2009-2010 school year is analyzed and discussed using established equity measures. The results of this analysis show that state funding in Washington is fairly equitable on an inter-district level. However, averages used in state and district level data may mask inequities among schools. In light of the state's new focus on adequacy, which is based on school prototypes, the issue of intra-district equity will become more prominent. This paper seeks to establish a system of measurements on a district level that will allow districts to assess whether the new focus on adequacy is impacting equity among schools.

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Introduction

School funding has been assessed in terms of fairness through horizontal and vertical equity, efficiency, and more recently adequacy. These characteristics are often evaluated separately rather than in relation to one another, and frequently at the inter-district level. Particularly in Washington State, funding adequacy has become a prominent consideration in policy, with a recent court decision ruling the previous funding model unconstitutional, insufficient, and ineffective. The court mandated that the State fully fund education without local levies, which cause inequities, but also emphasized the need for adequate funds. At the same time, the legislature has developed a new funding formula that is based on a prototypical school model meant to correspond to student performance in an attempt to determine adequate funding levels. Previous funding policy had focused on equality across districts in the state, but the new system focuses on adequacy. The new funding formula and adequacy model has potential implications for inter-district equity, and raises new concerns about intra-district equity. Because the adequacy model determines funding based on school-level characteristics, the assessment of funding equity at a school-level will be more appropriate than the district level assessments previously used in research. The monitoring of both inter- and intra-district equity will be an important component of assessing the success and effectiveness of the new adequacy model. Inter-district equity measures are already established in the literature, but less attention has been paid to intra-district equity and means of measurement.

This thesis provides a description of equity and adequacy theory, developments in Washington State school funding policy, and lays out a potential structure for assessing intra-district equity as the State moves to a prototypical school funding model.

Equity Measures

Measures of school funding equity assess the monetary inputs, typically in terms of per-pupil revenue, distributed within a K-12 system. Historically, such measures have been employed to compare spending across districts within a state. All of the measures are relative in that they compare districts to each other, rather than to a single standard.

There are two types of equity that are examined: horizontal equity and vertical equity. Horizontal equity is defined as the equal treatment of equals (Berne & Stiefel, 1984), and measures of it assess how equal distributions of revenue are across districts; the more even the per-pupil revenue, the more equitable the funding system. It is often measured by examining basic education funding, excluding categorical funding, such as special education, and assumes that the amount of revenue needed in districts for basic education is the same.

Vertical equity is often defined as the unequal treatment of unequals (Berne & Stiefel, 1984). Vertical equity measures assess how well revenue is distributed to account for cost differences in educating students with differing needs or in differing geographic areas. Vertical equity attempts to account for the variable costs of education and assumes that the needed revenue to provide the same opportunities differs across districts and groups. These measures are necessarily more complicated, since a vertically equitable distribution of revenue will most likely be unequal and considerations of student characteristics and categorical funding must be included. For example, a vertically equitable funding system would provide additional funds for students that are English language learners (ELL), resulting in a higher per-pupil allocation for ELL students than for

mainstream students. This creates an unequal, or horizontally inequitable, system, but is vertically equitable because it accounts for the difference in resource needs of ELL students to attain the same access to opportunity for achievement as mainstream students.

Over time, scholars have attempted to add more nuances to the equity measures, including concepts such as “effort” (Baker, et al. 2010) or extractive capacity (Garms, 1986), and progressivity (Baker, et al. 2010). A selection of commonly used measures and recent additions are described below, using per-pupil revenue as the value to be examined. The same calculations may also be used to assess per-pupil expenditures.

Horizontal Equity Measures

High-Low Ratio

The high-low ratio compares the district with the highest per-pupil revenue to the district with the lowest. This measure is useful in establishing a range of revenue across a given state; the smaller the ratio, the smaller the range of revenue, which indicates an even spread of per-pupil revenue across districts.

Federal Range Ratio

The federal range ratio is a comparison of the districts between the 5th and 95th percentile of the funding distribution. The ratio is calculated by subtracting the per-pupil revenue of the district at the 5th percentile from that of the 95th percentile and then dividing this difference by the per-pupil revenue of the 5th percentile district. This measure attempts to mitigate the effect of outliers and, like the high-low ratio, provides a range of per-pupil revenue. The resulting value represents the magnitude of the difference between per-pupil revenues at the 5th and 95th percentiles. For example, in Washington State for academic year 2009-2010, the federal range ratio for total per-pupil revenue (state and

local combined), was 2.17. This means that in 2009-2010, the 95th percentile district had 2.17 times, or 217%, the per-pupil revenue of the 5th percentile district.

Coefficient of Variation

The coefficient of variation examines the variation of per-pupil revenue from the mean, rather than merely looking at the ends of the range like the high-low and federal range ratios. The coefficient of variation is calculated by dividing the standard deviation of per pupil revenue by the mean of per-pupil revenues, resulting in an average variation. The closer the variation from the mean to zero, the more equal the per-pupil revenue. For example, in 2009-2010 in Washington State, the coefficient of variation for total per-pupil revenue (state and local) was 0.53, meaning that, on average, per-pupil revenue in districts varied 53% from the mean, either positively or negatively.

McLoone Index

The McLoone Index compares the districts below the median in per-pupil revenue to the median district's per-pupil revenue. It is calculated by determining the mean per-pupil revenue of the districts below the median and dividing that mean by the median per-pupil revenue. The McLoone Index calculation results in a value between zero and one. The closer the value is to one, the less disparity there is between districts below the median and the median. This is arguably a more useful measure than those that compare the highest per-pupil revenue districts with the lowest because it establishes the median as a realistic revenue level. If the districts below the median do not differ much from the median, then the system is fairly equitable, with most districts clustered around the middle.

Vertical Equity and Other Measures

Funding Distribution

In *Is School Funding Fair?: A National Report Card* (2010), Baker, et al. explore a measure of progressivity in school funding that examines the funding distribution in a state as it relates to the poverty level of students. States that distribute more money to districts with high concentrations of students in poverty than is distributed to districts with fewer students in poverty are deemed progressive. Baker, et al. use U.S. Census data to determine poverty levels among school districts. This measure attempts to account for the need for more resources to educate students in high poverty areas and the need to treat different populations differently. Baker, et al. (2010) found that Washington has an almost flat, though slightly regressive funding structure. It was calculated that school districts with 30% of students in poverty would get slightly less money than those districts with 0% of students in poverty; districts with 30% received, on average only 96% of the funding that districts with 0% did.

Effort or Extractive Capacity

Baker, et al. (2010) also examine the effort that states put forward in funding education. The authors approach this by comparing the gross domestic product (GDP) of a state per pupil to the amount of state and local revenue for school funding per pupil. The resulting ratio represents the percent of potential revenue that is actually put towards education. Baker, et al. (2010) calculated Washington's "Effort Index" (p. 27) to be 0.031, resulting in an F grade.

The concept behind this measure of how much effort a state is putting towards funding an education system is an interesting nuance in equity measures, highlighting that

not all states, and by extension districts, will be able to fund education at the same level, even if exerting great effort. However, the use of a state GDP is problematic, as the amount of GDP that can be extracted for use in education depends upon each state's tax structure. Instead, examining extractive capacity based upon existing tax structures may be a more useful way to assess effort. Particularly when examining districts' ability to generate revenue from local levies, extractive capacity gives a sense of how much revenue may be generated by the maximum amount of effort. Factors such as property values, population, in terms of numbers and demographics, and political will all impact the ability of districts to extract revenue from the local tax base, (Burbidge, 2002 & Garms, 1986). Duncombe and Yinger (2000) also cite other community characteristics, such as the percentage of adults with a college degree and the number of owner-occupied households that can impact voters' willingness to tax themselves.

Measures of effort do not fall neatly into a horizontal or vertical equity category, as they measure a concept related, but perhaps tangential to previous notions of equity. However, such measures are more related to the concept of vertical equity because of their assessment of differential characteristics than to horizontal equity. Measuring effort allows for more nuance in analyzing the reasons for horizontal and vertical inequities, by considering factors that impact the generation of revenue, rather than just the distribution of revenue.

Equity Measures in Washington State for the 2009-2010 Academic Year

Traditionally, horizontal equity calculations have been used in determining the equity of funding systems. The four horizontal measures are shown for Washington State for the 2009-2010 academic year. The calculations were performed to assess state-only, local-only, and total combined revenue.

Methodology

Per-pupil revenue data was retrieved for the 2009-2010 academic year from the Washington State Office of the Superintendent of Public Instruction website. State basic education (excluding categorical) and local per-pupil contributions were used to conduct horizontal equity analysis using the high-low ratio, federal range ratio, coefficient of variation, and McLoone Index. The results are provided below in Table 1.

Discussion of Results

Table 1: Funding Equity Measures Across Washington Districts

2009-2010	State Only	Local Only	Total (State & Local)
High/Low Ratio	10.38	N/A*	11.13
Federal Range Ratio	2.29	26.90	2.17
Coefficient of Variation	0.59	0.63	0.53
McLoone Index	0.94	0.60	0.93

*Because some districts have \$0 of local funding, a high/low ratio cannot be calculated with a denominator of 0

Source: Data OSPI, author's own calculations

High-Low Ratio

The high-low ratio of 11.13 for total per pupil revenue in 2009-2010 (see Table 1) indicates a fairly moderate range in per-pupil revenue across districts in Washington. This

is compared to a ratio of 240.2 in 1974-75 and 17.44 in 1994-1995 (Plecki, 2000). While no local high-low ratio can be calculated because some districts do not have any local dollars, the effects of local funding can be seen in the total high-low ratio. Local funding pushes the ratio higher than state funding alone, indicating that local funding makes total funding slightly less equitable.

Federal Range Ratio

The federal range ratio for 2009-2010 (see Table 1) shows that when outliers are eliminated, the range of state-only funding is relatively small, at 2.29. However, even when outliers are eliminated, the range of local dollars is still quite large, at 26.9. This supports the notion that local funding is inherently inequitable (*McCleary v. Washington*, 2012). When the two funding sources are combined, for a total amount, the federal range ratio is even smaller than that for state funding only, at 2.17. It first appears that local dollars have an equalizing effect on total dollars, which runs counter to what is found in the high-low ratio. However, when the funding sources are combined, the districts that are excluded from the analysis in the 5th and 95th percentiles change, so a direct comparison between the two ratios may not be possible.

Coefficient of Variation

The coefficient of variation shows a moderate deviation from the mean for per-pupil revenue. In 1974-1975, the coefficient of variation was 1.08, and in 1994-1995 it was .45 (Plecki, 2000). The 2009-2010 coefficient of .59 for state-only revenue shows a decrease in equity from 1994-1995. The coefficient of variation of local per-pupil revenues is slightly higher than state-only, at .63. As with the federal range ratio, the addition of local funds to the state funds appears to make the distribution of per-pupil revenue more equitable,

shifting the coefficient of variation down to .53. This may be explained by these measures' mitigation of outlier effects. The use of the standard deviation from the mean in the coefficient calculation helps to lessen the impact that the highest and lowest revenue districts have on the measure. Local dollars may have an equalizing effect on per-pupil revenue in the middle of the distribution when combined with state revenue, though local dollars alone are seen to be highly inequitable.

McLoone Index

The McLoone Index for 2009-2010 state-only revenue is a promising .94, indicating that there is a minimal difference between the per-pupil revenues of districts below the median and the median amount. Not surprisingly, the McLoone Index for local-only dollars of .60 shows a large disparity between the average below median and median amount. In 2009-2010 there were 10 school districts with no local funding. The Index for state and local combined shows a slight decrease in equity from the state-only measure, .93 compared to .94.

Overall, when examining equity in Washington State, particularly using measures that focus on the middle of the distribution, Washington's funding seems horizontally equitable. Improvements could be made, but progress has been seen when compared to the 1970s (see coefficient of variation and high-low ratio). However, even horizontal equity has not prevented lawsuits and issues of funding inadequacy, indicating that more than equality of funds is needed to have an effective school funding system.

Research Trends in Adequacy

Adequacy Definitions

The recent national debate on education reform has focused on output measures, with federal legislation such as No Child Left Behind emphasizing standardized test scores, tying sanctions and other funding strategies to student achievement. Attempts have been made to link school funding reform to student outcomes at the state level and in scholarly research, building on past research regarding the resource needs of student groups and effective programming. This has led to a transition from a focus on the equity of funds to a focus on the adequacy of funds. The issue for policymakers then becomes determining and providing the necessary funding level for students to achieve particular outcomes, rather than how funding can be equalized across students. Odden (2000, 2003) argues that in the pursuit of adequacy, equity will also be realized; equity is the result of an adequately funded system that ensures all students achieve to high standards. For Odden, equalizing outcomes, not inputs, is the definition of equity in the context of adequacy. This equity of outputs stems from the notion of vertical equity, with student groups requiring different support and resources to achieve equal outcomes.

In order to implement a program of funding adequacy, educational strategies must be identified that result in the desired student outcomes. The costs of such strategies are calculated, and funding adequacy measured against how well those strategies are in fact funded. However, there are multiple ways to identify educational strategies. Odden (2000) identifies four main methods: professional judgment, successful district, cost function, and evidence-based. Professional judgment entails gathering a panel of professional experts,

including teachers and administrators, to determine a program that will produce equalized student achievement. The program elements are then assigned costs to arrive at a spending level. The successful district method examines districts that have high levels of student achievement and bases program costs on the districts' program costs. The cost function model employs economic regression to account for community characteristics in determining costs for programs. The evidence-based approach identifies programs that have been shown to enhance student achievement in research and then assigns costs to those programs.

Odden (2000) asserts that the successful district and cost-function model do not actually link student achievement to program elements and thus appropriate spending levels. He also notes that the successful district model is flawed because most successful districts identified are affluent and suburban, making the costs and programs inapplicable to urban or rural low-income settings. The professional judgment method relies on opinion and expertise for determining programs that result in student achievement and is not supported through research evidence, making it susceptible to scrutiny. Ultimately, Odden favors the evidence-based approach as it links spending and programs directly with student achievement and relies on proven methods, leaving less room for criticism.

Hanushek (2006) challenges Odden's assertion that the evidence-based approach is the best method for determining adequate funding levels, due to the lack of available research on successful programs. He maintains that there is not a sufficient amount of evidence to support the determination of successful programs, and that many studies have conflicting results. Hanushek (2006) argues that evidence-based and professional judgment models lead to increased program costs without increased student achievement.

He asserts that it is not a problem of the amount of money that is spent on education, but rather the manner in which it is spent. If money is spent on more effective programs and in more efficient ways, student achievement will improve without an increase in spending levels.

Measures of Adequacy

School funding adequacy is largely assessed by student outcomes such as test scores or graduation rates, (Evans, et al., 1999). These are also the outcomes commonly used in establishing prototypical models on which to base school finance decisions. Whether or not a funding level is delivering the student outcomes described in the prototypical school is the metric by which funding adequacy is assessed. Typically, states that undertake a funding model based on prototypical schools do not force districts to use the money to the exact specifications of the model; districts have flexibility in determining the programming of each school using the funds. This is found in states that undertake a professional judgment methodology (Minorini & Sugarman, 1999) and evidence-based methodology (Odden, 2000). This leads to a bit of a chicken and egg dilemma and the potential for an ever-growing increase in spending, like Hanushek's (2006) concerns (see above). If the funding levels do not produce the student outcomes of the prototypical school, it will be unclear if it is the funding level or the programming that needs to be adjusted. If the funding level is delivering the student outcomes expected, there is no way of determining if it is the result of the funding level or of the programming that the school employed, or both. This becomes particularly problematic when examining school districts that receive the same amount of funding under the prototypical model, but have different student outcomes in individual schools. The variables of programming, student characteristics, and school

and community characteristics make determining the cause of success or failure difficult. However, the same dilemmas and variables plague scholars and policy-makers today.

The Relationship Between Adequacy and Equity

Odden (2000, 2003) asserts that once an adequate funding system has been established, equity will follow. Minorini and Sugarman (1999) also point to a potential link between vertical equity and adequacy, stating, “because the adequacy notion aspires to ambitious educational outcomes across the board, inherent in it is the necessity that school finance arrangements take into account the special needs of some children, the high costs some schools face, and so on,” (p. 205). Such consideration would necessitate a ‘weighting’ of certain students and factors for district size and location in funding formulas based on school prototypes. This link between adequacy and vertical equity leads to a new consideration of equity in terms of outcomes: does the adequately funded system lead to equal outcomes across student groups, or are there still disparities? Adequacy has the potential to lead to equalized outcomes, if the funding formulas are constructed in a vertically equitable way, accounting for differential need; however, adequacy as a stand-alone goal may not lead to equity. In defining an adequate system, the population for whom the system is adequate must be considered. Is the system adequately resourced for most students to achieve, or is it adequately resourced for all students to achieve? While an ‘adequate for most’ system may result in a horizontally equitable funding system, with equal revenue distribution, it will not achieve equal student outcomes. Differing student needs, or vertical equity must be considered in order to achieve an ‘adequate for all’ system, resulting in equalized student outcomes. An adequate system should achieve horizontal equity of student outcomes, or outputs, by providing vertically equitable inputs.

Courts and scholars alike have been careful to specify that the equality of outcomes associated with adequacy is an equality of opportunity for certain outcomes, not a guarantee of outcomes. (*McCleary v. Washington*, 2012; Minorini & Sugarman, 1999) An adequate system should remove barriers to student achievement, but it is still the individual student taking advantage of opportunities that determines the outcome.

Washington School Reform Since 2000 – A Move Towards Adequacy

Over the past decade in Washington State, voters, policy-makers, and the courts have changed the focus on school funding from horizontal equity of inputs to adequacy. This has come in concert with, and perhaps as a result of, a shift from an input-based education system to a performance-based, or output-based, one.

Voter Initiatives

Initiative 728

In the November 2000 election, Washington State voters approved Initiative 728, which authorizes the raising of funds to be used in the reduction of K-12 class sizes. The initiative also allows for the funds to be used for extended learning opportunities for K-12 students, pre-kindergarten for low-income children, and capital improvements that may be necessary as a result of the reduced class sizes (Washington State Senate, 2011).

Initiative 732

Voters also approved Initiative 732 in November 2000, which mandated a cost of living increase for teacher salaries. All K-12 teachers and community and technical college faculty and staff are eligible for the cost of living increase. However, there have been several budget biennia in which the cost of living increases were not provided due to inadequate state funds, (Washington State Senate, 2011).

Legislative Studies

Washington Learns

In 2005, Washington State embarked upon a project to reform its education system, including early learning and higher education, called Washington Learns. The State commissioned Lawrence O. Picus and Associates, to assist in the determination of an ideal education system and the associated costs. The authorizing legislation created a steering committee that was tasked with examining the funding system and giving recommendations on how to provide stable funding for education in the state and new goals for K-12 education, in addition to examining and giving recommendations regarding early learning programs, and conducting analysis of higher education programs and the extent to which they meet workforce needs.

The final Washington Learns report was released in 2006 and conceives of the education system in Washington as a P-20 system, one in which lifelong learning is provided for all of Washington's students. There is an emphasis on early learning, and the study resulted in the creation of a Department of Early Learning and later legislation that phases in all-day kindergarten in Washington districts. The report also recommends higher math and science standards than were currently in place. These subjects are emphasized because of their importance in the technology and global health sectors that are vital to Washington's economy (Washington Learns, 2006). Also stemming from the state's economic needs are recommendations about the importance of workforce training options in high school and higher education.

The final Washington Learns report is based on "An Evidence Based Approach to School Finance Adequacy Washington" (2006) by Lawrence O. Picus and Associates. The

report provides detailed analysis of the funding levels that would be necessary for students to meet the proposed increases in the Essential Academic Learning Requirements (EALRs), Washington Assessment of Student Learning (WASL), and No Child Left Behind standards. The study employs the evidence-based model of determining adequacy, basing findings on previous research and programs that resulted in outcomes similar to those desired by Washington State. In order to meet the State's goal of having all students ready for college, working in the global economy, and citizenship in a democratic society, Picus et al. (2006) recommend that all students take a college preparation curriculum in high school, including increased English, History, Math, and Science requirements.

The Washington Learns Minority Report argues that the steering committee did not meet its legislatively mandated obligation to address ways to determine current system efficiencies and how current structures and resources could be shifted to be more effective. The final report also does not include a stable funding strategy, a major impetus for the project. The Minority Report also argues that the project did not link finance to student performance outcomes.

Core 24

In response to the call to redefine education for the new economy, the State Board of Education (SBE) established new graduation requirements to better prepare students for careers and college. The new requirements increase the number of credits necessary to graduate from 17 to 24 and establish a more rigorous curriculum. The proposed program also allows for some flexibility in student choices of classes in order to meet their career or college goals.

Basic Education Finance Task Force

In 2007, the Washington State Legislature also undertook an examination of the State's basic education system, building upon the work of Washington Learns. The Basic Education Finance Task Force sought to define basic education for the 21st century, develop a funding structure aligned with a new definition of basic education, and develop a means of measuring whether or not the State is fully funding that basic education. The Task Force ultimately determined that the definition of basic education should include: a rigorous high school curriculum (as proposed by SBE in Core 24 standards), pre-school for low-income families, bilingual and special education, extra instructional time for struggling students, and the means and funding structure to achieve those education goals. The report recommends that funding and funding formulas be linked to specific education goals to ensure that the state amply provides a sufficient education for every child in the state (Basic Education Finance Task Force, 2009).

The report also addresses funding using local levies and proposes a cap on local contributions based on per student local support rather than the current property value based system to help in equalizing resources across districts. The Basic Education Finance Task Force report utilizes the prototypical school concept from "An Evidence Based Approach to School Finance Adequacy Washington" (2006) and outlines the model schools upon which funding allocations should be based, including class size, instructional time and programs, and staffing. The report also suggests a new salary schedule for teachers based on skills and knowledge, as well as experience and contributions to training other teachers through a new career ladder concept. Cost estimates for the proposed changes are provided for increases over the next three biennia, ranging from a 48% to 85% funding

increase, depending on if separate funds for existing non-basic education programs are folded into the current spending estimates.

Reform Legislation

The Washington Learns and Basic Education Finance Task Force reports resulted in legislative action with the passage of Engrossed Substitute House Bill (ESHB) 2261 in 2009. The legislation redefines basic education as outlined by the Task Force, excluding the provision of pre-school for low-income families. The bill incorporates the use of model or prototypical schools in determining adequate funding, as used in both the Picus evidence-based and Basic Education Finance Task Force reports, and authorizes study to develop model schools for Washington State. The legislation also created the Quality Education Council (QEC) to support and make recommendations for the implementation of the new definition of basic education. ESHB 2261 also alters the teacher certification process and creates a category of Master Teacher, which is consistent with National Board Certification standards.

Funding Formula Changes

During the 2010 legislative session, the legislature passed Substitute House Bill (SHB) 2776, which details the new funding formula based on prototypical schools and recommendations from the QEC. It enumerates the prototypical class sizes; number of building staff for each type of school; maintenance, supplies, and operating cost (MSOC) allocations; and a new transportation funding formula. This legislation also incorporates the I-728 class size reductions and the phasing in of all-day kindergarten in every district.

The Office of the Superintendent of Public Instruction altered the funding allocation formula for K-12 operations to reflect the legislative changes laid out in ESHB 2261 and

SHB 2776. The changes are effective for the 2011-2013 biennium and allocate funds based on the new definition of basic education and the prototypical school models. The legislation also stipulates that the new funding model should be fully implemented by 2018, but little progress has been made to date on the basic education allocations.

Court Involvement

The McCleary Case

In January of 2012 the Washington State Supreme Court issued a ruling in *McCleary, Venema, and NEWS v. Washington State*, a case concerning whether or not the State was fulfilling its constitutional duty to amply fund basic education. The court upheld the King County Superior Court decision in the case, asserting that the state was failing to meet its constitutional obligation to Washington's students. The ruling draws upon the previous *Seattle School District v. Washington State* (1977) ruling, citing that funding reliant on local levies is unconstitutional because they are not dependable and regular—levies are subject to the will of the voters and expire after set terms. They are also found to be inherently inequitable because of variations in property values, and thus a district's ability to raise funds. Evidence presented during the *McCleary* case showed that districts were using local levies to fund basic education functions. These levies were used to make up for state funding shortfalls. The court found that over time, the burden of funding basic education has shifted towards local districts and away from the state, thus violating the state constitution. The court, therefore, ruled again in *McCleary* that basic education must be funded through dependable state sources.

The ruling notes that when the State transitioned to a performance-based education system, the funding formula was not altered. Funding was still allocated based upon the

number of students and ratios for staffing and non-education related costs (NERCs) established decades ago. The funding formula remained based on system inputs, while the rest of the K-12 system shifted to a focus on outputs. This inconsistency ultimately led to an underfunding that forced districts to become dependent on local levies to fill in gaps in basic education funding, (*McCleary v. Washington*, 2012).

The ruling also establishes as the legislature's duty review of standards and requirements over time, as the skills needed by students to achieve the stated goals of the education system will change. These changes will also bring changes in resource requirements or allocations. It is also implied that the state will need to review funding formulas over time, as the costs of basic education change. This would prevent the use of outdated ratios, such as the most recent funding formula that used ratios from the 1970s, resulting in underfunding of the system.

The court is careful to emphasize that outcomes are not guaranteed or protected under the state constitution, but rather that the opportunity to achieve those outcomes is guaranteed. The court recognizes the individual student as a variable in achievement. The State should mitigate factors preventing the individual from meeting standards, but ultimately the individual student's effort and decisions will determine if she is successful.

Recent reform efforts, such as ESHB 2261, which implements most of the Basic Education Finance Task Force's recommendations, are recognized in the ruling. The court acknowledges that the legislature has attempted to begin linking the school finance system with student outcomes. However, the court maintains that the state has yet to amply fund the legislation and reforms, and points to budget cuts in the 2011-2013 biennium, despite legislation and recommendations demanding funding increases. The court, therefore

asserts that it still has a role to play in ensuring that the program of basic education established by the legislature gets fully funded through state dollars. The court ruling requires the legislature to make measurable progress towards fully implementing and funding the reforms laid out in ESHB 2261.

Reevaluating the Relationship Between Equity and Adequacy in Washington State

After developments in Washington State, it can be argued that adequacy and equity cannot be pursued or measured separately, but rather must be considered together. Horizontal equity of per-pupil revenue between districts alone is not enough to guarantee equal student outcomes, as seen when evaluating funding equity in 2009-2010 and the *McCleary* decision. An inadequate amount of money may be divided equally, but still will not result in the desired results for students if the dollars are insufficient. Conversely, a funding model based on adequacy will fall short of its goals if the different needs of varying student populations and school districts are not taken into account and a vertically equitable funding formula constructed. As Washington moves towards a performance-based school system and an adequacy based funding formula, questions of horizontal and vertical equity will still need to be addressed.

Intra-District Equity in Washington

Previous research into equity in Washington State has focused on inter-district equity. This was appropriate given the funding structure of the state: dollars were distributed to school districts based on district full-time equivalent (FTE) students and characteristics. With the shift to a new funding model based on school characteristics and FTEs compared to prototypical school models, questions about equity should be assessed at the school level. This shift from inter- to intra-district equity comes with a concurrent shift from equality of inputs to an equality of outputs. However, this equality of outputs is couched in terms of opportunity for achieving outcomes, not equality of outcomes itself. This then leads to a question of what can be measured as an output in terms of opportunity.

It could be argued that the resources that are purchased with the newly distributed dollars construct opportunity for student outcomes. These resources will also vary across schools within a district, as each district and each school chooses to spend the dollars on different resources and programming.

To assess intra-district equity, schools will be compared to one another, rather than to the school prototype established by the state. The purpose of the prototype is to establish funding levels, it is not intended to dictate the programming and structure of a school. The prototypes also do not provide detail of elements such as years of teacher experience, which can impact the cost of a teacher to a school district; the prototype merely provides staffing ratios.

The issue of intra-district equity has always existed, with some schools having better or more plentiful resources than others. This is not only a function of how the district chooses to distribute state and local funds, but also the socioeconomic demographics of the students' families, school specific grants, school specific foundations, and parent teacher associations (PTAs). These and other contributing factors to intra-district inequalities are detailed below.

Factors to Consider in Examining Intra-District Equity

When examining and attempting to measure intra-district equity, it is important to assess non-monetary as well as monetary resources by school. Individual schools may receive funds from the PTA, private grants, or the federal government, based on special needs programming, in addition to state and local levy funding. However, non-monetary resources are equally as important when addressing equity on the school level, including teacher quality, facilities, student population characteristics, and overall school environment. The following list and descriptions are not intended to be exhaustive, but to give a sense of potential factors.

Non-Monetary Resources

Non-monetary resources are inputs into a school that rely on funding distribution and impact student achievement, but are not dollars. These resources may also be thought of as the opportunity provided by monetary inputs.

School Characteristics

Teachers

Teacher quality, as well as the number of pupils per teacher, impact student achievement. (Koski & Horng, 2007; Babcock & Betts, 2009). While there is no agreed upon measure of teacher quality, proxies, such as years of experience or level of education, are used by researchers in assessing the distribution of teachers as a resource. Baker (2012) cites two studies that find schools with larger low-income student populations have a greater number of teachers per pupil, but those teachers have lower levels of education and

are paid lower salaries than their counterparts in more affluent schools in districts in Ohio, New York, and Tennessee.

Iatarola and Stiefel (2003) also examine the distribution of teachers across schools in relation to high need populations. They also find that for most student subgroups that are more expensive to educate (special education, ELL status, high-poverty) the student to teacher ratio is lower, but indicators of quality are also lower. The authors considered teacher salary, teacher certification, and years of experience as indicators for teacher quality.

Facilities

The facilities of a school can impact student achievement and a school's ability to assist students in meeting all learning requirements. For example, with the implementation of Core 24 in Washington, additional lab sciences will be required to graduate, but not all schools have the science lab facilities to accommodate the number of students and the number of classes that will be required. There are also facility implications of instituting all-day kindergarten programs, as the number of kindergarten classrooms needed will double for schools currently offering only half-day kindergarten.

There is also research that shows that the quality of facilities impacts students' and teachers' pride, commitment, and motivation in the school. If the facilities are inadequate or dilapidated, it can have a negative effect on students' and teachers' feelings of investment in the school environment, (Stevenson, 2001). Particularly in Washington, where school buildings are funded with local dollars, facilities can be seen as a physical manifestation of the community's ability and willingness to invest in schools.

Technology

Access to technology in the school building, as well as at home can impact a student's ability to succeed. Computers are being integrated into assignments and curricula, and becoming a component of basic education. The Washington Learns report (2005) also highlights the need for science and technology in schools to prepare students for jobs in Washington's technology dependent economy.

PTA Capacity and Parent Involvement

Parental involvement, particularly in the form of a PTA can impact the amount of revenue available to a school, as well as the school environment as a whole. Evans, et al. (1999) note the impact that the California Supreme Court case *Serrano v. Priest* (1971) had on the proliferation of school foundations. Parents and communities created ways in which they could provide extra funding to their students outside of the state and local tax structure. While Evans, et al. (1999) argue that the actual dollars did not have a large impact on per-pupil revenue at these schools, the capacity and involvement indicates that PTAs also may be able impact the amount of investment, in time and dollars, available to the school based on their own fundraising capacity.

Parent involvement in ways other than fundraising, such as volunteering in classrooms, can also impact the school environment and community. This is also seen to vary across socio-economic status of the school community, as parents that work typically have less time to participate in school activities, (Desforges, 2003). There may also be cultural reasons for a lack of parent participation, depending on the role of schools and appropriate participation in a student's family's country or culture of origin, (Sebring, et al., 2006).

Gifted Program Offerings

The availability of gifted programs varies between schools within a district. Districts will often provide gifted programs at a few select schools, and then allow students who need accelerated programming to transfer to those schools. However, this creates issues of access for students that do not have transportation or do not have the systems knowledge to access services to get the transfer. Rubinstein, et al. (2007) also note that parent advocacy impacts gifted program distribution, with more vocal and effective parent advocacy associated with programs being instituted in certain schools.

Leadership

Instructional leadership plays a significant role in the school environment by impacting the vision and direction of a school, teacher morale and motivation, and programming. Good leadership can galvanize faculty and staff, leading to higher student achievement, but poor leadership can lead to lower student achievement through a lack of cohesion and motivation, (Leithwood, 2007).

School Environment

School environment can be a culmination of the factors detailed above, as well as school culture. It includes non-tangible elements that effect how a student feels within the school, which can impact participation and motivation. The New York City Public Schools define school environment as consisting of, “academic expectation, communication, engagement, safety and respect, and attendance” (New York City Progress Report Educator Guide, p. 11-12).

Student Characteristics

Student Poverty

Socio-economic status has consistently been found to impact the cost of educating students in research since the 1960s, (Iatarola & Stiefel, 2003). The federal and state government provide categorical funding for low-income students in order to mitigate the impact of student poverty status on achievement. The federal government provides programs, such as the free and reduced price lunch program, while Washington State's funding formula is weighted to account for the percent of low-income students in a district. However, high concentrations of low-income students in a single school can compound the effects that poverty has on a single student by impacting the school environment.

ELL and Immigrant Status

Another factor in increasing the cost of educating a student can be English language learner (ELL) status (Duncombe & Yinger, 2000). While categorical funding is made available for this group, it is generally acknowledged that these additional funds are not sufficient (*McCleary v. Washington*, 2012) and that these students are more expensive to educate in general education classes as well as the additional cost of the ELL services a district may provide, (Jimenez-Castellano & Rodriguez, 2009).

Immigrant status can also impact a student, in addition to potential ELL status implications. Iatarola and Stiefel (2003) assert that students who immigrated in the past three years are a more expensive group to educate. Such status can impact a student's achievement depending on past education in her country of origin and the cultural capital of the student and her family. Cultural capital in particular will impact how a student

interacts with the school environment, community support systems, and her family's ability access services, (Sebring, et al., 2006).

Special Education

Special education students are consistently highlighted as a group that is more expensive to educate and categorical funding has been allocated to districts for these students from the federal and state government. Like low-income and ELL status students, special education students are given weight in state funding formulas and get additional funding from the federal government. These students are considered more expensive to educate, and like ELL status students, may be underfunded even with the categorical funds.

School Specific Monetary Resources

Federal Funding

Schools with high populations of students in poverty and special education get additional federal funds, as noted above. There are also other federal funds that districts may be eligible for that can impact the amount of funding available for each school. These include teacher improvement programs under No Child Left Behind (NCLB) and Race to the Top (RTTT).

Private Grants

Private entities may also invest in particular schools, providing monetary grants, technology, or business partnerships. These grants may come from corporations or non-profit entities.

PTA Fundraising

As mentioned above, the funds provided by the PTA can impact the amount of funds available for additional programming in individual schools. In some districts, schools will vary dramatically in terms of PTA fundraising both in capacity and in actual community donation amounts.

Measuring Intra-District Equity

When assessing intra-district equity, only examining school specific dollars via the established equity measures does not give a complete assessment of the factors that lead to intra-district inequities. School and student characteristics play a significant role in determining the inputs needed to achieve equal outcomes. However, these characteristics are not easily measured in monetary terms, making addressing these inequities difficult as well. One option is to create a report-card type of assessment of each school in a district, as was undertaken by the New York City Public Schools. This report card examines measures of student achievement, such as test scores, student progress, and graduation rates for each school. It also rates the schools on an index of factors, such as school environment, and compares the schools to peer schools in the district and the district as a whole (New York City Progress Report Educator Guide, 2011). In addition to representing the quantitative measures of each school, the report card also employs parent, student, and staff surveys to assess school environment and community perceptions.

While the New York City Public Schools Progress Reports are intended to assess schools and inform the public about school progress, they could also be a tool to compare schools within a district and assess intra-district equity. District administrators could use the report cards as a means of comparing school resources and assessing gaps or inequalities within a district. Such a report card would require additional information about each school, compared to the New York Progress Reports. In addition to student test scores, graduation rates, and other performance indicators, a report card in Washington State districts could include descriptive elements, such as: student characteristics, which

would help determine peer schools for comparisons; an inventory of teachers, including years of experience, certification, and evaluation levels, based on the new Teacher and Principal Evaluation Pilot (TPEP); leadership evaluation levels, based on TPEP; an inventory of facility needs; an inventory of existing technology; and a description of special program offerings, such as gifted or Advanced Placement. The data for these elements are already available for each school, aside from the new TPEP evaluation levels, which are currently being phased in across the state.

Information for school environment factors, such as engagement and safety was collected via survey in New York City Public Schools. Such factors are important in assessing individual schools overall, but would require extra data collection on the part of districts. This may be a factor that should be phased into a report card process at the district level. Other school environment factors, such as attendance, have data readily available and could be included in the initial report card.

The report card should also examine the funds available to each school. In addition to an examination of the state and local funds distributed to each school, PTA funds, private grants, and federal funding should be included. Including the funding for each school on the report card allows the public and the district to observe the relationships between student body characteristics, non-monetary resources, monetary resources, and student achievement. Rubenstein, et al. (2007) and Iatarola and Stiefel (2003) observed that while schools with higher populations of low-income, special education, or ELL status students may receive more funding, these extra funds often go towards smaller class sizes with less experienced and lower quality teachers, thus lessening the funds' impact on student

achievement. Having information that would demonstrate those correlations would help show if the adequate funds are leading to equal outcomes.

In addition to a report card for each individual school, the district should also examine funding across the district. The total amount of funds available to each school, as well as the individual categories of funding, such as local, state, federal, and PTA, should be evaluated in terms of equity. The coefficient of variation and McLoone Index would be useful indicators of horizontal equity, as they provide information on the distribution and variation of funds, rather than a range. For vertical equity, Baker, et al.'s (2010) funding distribution may be a useful tool to determine if the district is funding higher-need schools in a progressive manner. This district-wide equity assessment should also be made available on the report card.

Conclusion

Developments in Washington State have implications for other states considering implementing an adequacy-based funding model. In order to determine success, adequate funding levels, student achievement, inter-district equity, and intra-district equity must all be assessed. Schools and districts will always differ on programming offered, student populations, and school and district cultures that will impact the effectiveness of funds, even if they are deemed adequate under the prototypical model funding formula. It is important to monitor the impact that the new funding formula will have on equity as Washington State moves towards fully funding the new model. More research is needed to evaluate the relationship between adequacy and equity and the hypotheses that one may lead to the other. Washington State's new policy and funding landscape may provide an excellent case study to observe this relationship, with a tool such as the intra-district report card described above.

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