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Forgotten Equity: The Promise and Subsequent Dismantling of Education Finance Reform in New York State

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Abstract: This study examines the impact of court-ordered finance reform in New York State resulting from *Campaign for Fiscal Equity v. State of New York* on equity of inputs using synthetic controls. The findings herein indicate court mandated education finance reform in New York had little to no impact on equity of educational inputs despite an overhauled education finance system intending to distribute more state funding based on student need. In the period during and following the Great Recession, the State of New York chose to cut districts' foundation aid, a form of aid designed to be distributed progressively, halting any improvement in equity. Had funding been distributed to districts according to the foundation formula that was specified by the education finance reform legislation passed in 2007, high poverty districts would have received more funding and disparities in funding across districts with similar characteristics would have been reduced. I also show that other forms of aid, which are regressively distributed, could have been cut instead of foundation aid, allowing for more funding to flow to high poverty districts in a time of fiscal constraint.

Keywords: equity; adequacy; education finance; finance reform

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La equidad olvidada: La promesa y el posterior dismantelamiento de la reforma financiera de la educación en el estado de Nueva York

Resumen: Este estudio examina el impacto de la reforma financiera ordenada por la corte en el estado de Nueva York como resultado de la *Campaign for Fiscal Equity v. State of New York* sobre la equidad de los insumos que utilizan controles sintéticos. Los hallazgos en este documento indican que la reforma del financiamiento de la educación ordenada por el tribunal en Nueva York tuvo poco o ningún impacto en la equidad de los aportes educativos a pesar de un sistema revisado de financiamiento de la educación con la intención de distribuir más fondos estatales en función de las necesidades de los estudiantes. En el período durante y después de la Gran Recesión, el Estado de Nueva York decidió recortar la ayuda de la fundación de los distritos, una forma de ayuda diseñada para distribuirse progresivamente, deteniendo cualquier mejora en la equidad. Si los fondos se hubieran distribuido a los distritos de acuerdo con la fórmula básica especificada por la legislación de reforma del financiamiento de la educación aprobada en 2007, los distritos de alta pobreza habrían recibido más fondos y las disparidades en los fondos entre los distritos con características similares se habrían reducido. También muestro que otras formas de ayuda, que se distribuyen de forma regresiva, podrían haberse reducido en lugar de la ayuda de la fundación, permitiendo que más fondos fluyan a los distritos de alta pobreza en un momento de restricción fiscal.

Palabras-clave: equidad; financiación de la educación; reforma financiera

Equidade esquecida: A promessa e subsequente dismantelamento da reforma do financiamento da educação no Estado de Nova York

Resumo: Este estudo examina o impacto da reforma financeira ordenada por tribunais no Estado de Nova York resultante da *Campaign for Fiscal Equity v. State of New York* na equidade de insumos usando controles sintéticos. As descobertas aqui indicadas indicam que a reforma do financiamento educacional ordenada por tribunais em Nova York teve pouco ou nenhum impacto na equidade dos insumos educacionais, apesar de um sistema financeiro reformulado pretender distribuir mais fundos estatais com base nas necessidades dos alunos. No período durante e após a Grande Recessão, o Estado de Nova York optou por cortar a ajuda básica dos distritos, uma forma de ajuda projetada para ser distribuída progressivamente, interrompendo qualquer melhoria no patrimônio. Se o financiamento fosse distribuído aos distritos de acordo com a fórmula da fundação especificada pela legislação de reforma do financiamento da educação aprovada em 2007, os distritos de alta pobreza teriam recebido mais recursos e as disparidades de financiamento entre os distritos com características semelhantes teriam sido reduzidas. Também mostro que outras formas de ajuda, que são distribuídas regressivamente, poderiam ter sido cortadas em vez da ajuda básica, permitindo que mais fundos fluíssem para os distritos de alta pobreza em um momento de restrição fiscal.

Palavras-chave: equidade; financiamento da educação; reforma financeira

Introduction

In 2003, and again in 2006, the court system of New York, in the cases making up *Campaign for Fiscal Equity v. The State of New York* (CFE v. State of New York), found the state was not fulfilling its obligation of providing a “sound basic education.”¹ As a result, the court directed the State of New York to fix an education funding system that was not sufficiently addressing the needs of students, particularly in New York City Public Schools. This study examines the impact of the two CFE v. New York court cases and the subsequent school finance reform on the distribution of spending and revenue across districts in the State of New York.

School finance reform is one of the primary tools used by policy makers to improve educational equity and is often the result of state court system rulings that find state funding policies to be unconstitutional. As of 2018, 22 states have had plaintiff victories in the respective state’s highest court indicating an unconstitutional system of funding schools and five states have had mixed results meaning they have had both plaintiff and state victories (SchoolFunding.Info, 2018). However, not all court cases that overturn the state system of school funding lead to meaningful changes in the education finance system. Baker (2018, p. 81) states, “we must closely scrutinize whether substantive reform actually happened by measuring and tracking sufficiently precise indicators of the reforms.”

Early court cases involving school funding generally focused on equal protection, and therefore focused on eliminating disparities in funding across districts. In recent cases, including CFE v. New York, systems of education funding have usually been found to violate state constitutional clauses guaranteeing some minimum level of quality or fairness in the state education system (Koski & Hahnel, 2015; Rebell, 2009).² Every state constitution guarantees the right to receive an education with variations regarding whether there is also some guarantee regarding the quality of the education states are expected to provide. For example, New York’s constitution only requires the state to maintain “free common schools” while the language in the constitutions of states like Florida and Illinois require high quality schools (Hanushek & Lindseth, 2009). State constitutional requirements to provide education create the opportunity to challenge within state courts perceived and actual unfairness in education funding practices placing certain individuals or groups at an educational disadvantage.

The shift since the late 1980s away from equity-based challenges of state education systems toward adequacy-based ones has transpired for several reasons. First, adequacy-based challenges of state education funding are more palatable to a wider range of constituents. In equity decisions the goal is to reduce variation in spending among districts. As a result, in instances where educational funds are not increased, there are districts who are winners and ones who are losers. Additionally, the restricting of local revenue can reduce commitment to local public schools and diminish the

1 The phrase “sound basic education” is not the language used in the New York constitution, but is instead the interpretation of the state's constitutional obligation based on an earlier state court case, *Levittown Union Free School District v. Nyquist* in 1982 (Williams, 2007).

2 Education finance litigation has largely been described as occurring in three waves. Under the first wave, cases focused on equity under the federal constitution's Equal Protection Clause. However, this strategy was invalidated by the U.S. Supreme Court in *San Antonio Independent School District v. Rodriguez* in 1973. The second wave continued to focus on equity but relied on state constitutions. These cases were largely unsuccessful with plaintiffs prevailing in only 7 of 22 second wave cases (Koski & Hahnel, 2015). Collectively, cases in the first two waves were “equity” cases. The third wave continued to use state constitutions but focused on educational quality rather than equality of funding. These cases focused on educational quality are known as “adequacy” cases (Conley, 2003; Koski & Hahnel, 2015; Koski & Reich, 2006).

willingness of residents to raise taxes (Hanushek & Lindseth, 2009). In contrast, adequacy-based decisions do not necessarily have winners and losers as it does not call for reduced variation in funding at the expense of high spending districts. Instead adequacy rulings call for increased investment in education, particularly for low-spending high-poverty districts, often with no penalty for spending more than what is deemed adequate. As such, adequacy-based decisions are seen as less of an infringement on local control compared to equity-based decisions (Heise, 1995). A second reason for increased prevalence of adequacy rulings is the increased use of standards and assessment to test the achievement of students starting in the early 1990s (Clune, 1994; Rebell, 2009). With the advent of standards and assessments, goals were set for what students should know and be able to do, and students were tested to determine whether they achieved the set proficiency targets. Setting standards and testing students annually generated new evidence demonstrating the inadequacy of education received by students, particularly those from disadvantaged populations (Koski & Hahnel, 2015).

The issue in these “adequacy” cases is the poor quality of education provided to certain students, particularly those in persistently low performing districts and schools, rather than the degree to which disparities in funding exist between districts. The districts that are the focus of these court cases often serve poor and otherwise disadvantaged students and lack resources to appropriately serve their student population. In contrast, higher performing districts are often well funded and enroll students from families with higher incomes. Adequacy is typically measured in terms of whether levels of funding are sufficient for students to achieve states’ outcome goals (Baker & Green, 2015). Therefore, although the goal under adequacy cases is a higher quality education, calls for more money and resources have often been the prescribed remedy (Hanushek & Lindseth, 2009; Williams, 2007). The idea of adequacy allowed reformers to more clearly tie student outcomes to the amount of funding and resources received by students within state education systems.

While equity may not be the primary consideration in adequacy cases, Chambers & Levin (2009) argue adequacy of educational resources cannot be achieved without an equitable distribution of resources. Additionally, Baker (2018) describes a progressive view of adequacy as providing funding at a sufficient level and provided in a way to ensure students regardless of background have the supports they need to achieve state mandated outcomes. In other words, students with higher needs require more resources. Over time the framing of equity has shifted from a focus on equality of inputs to a focus on outcomes (Baker & Green, 2015; Koski & Hahnel, 2015). It is broadly accepted that in order to provide students equal opportunity to achieve a set of outcomes, differentiation of inputs is required (Baker, 2018). This differentiation of inputs, where students with more needs receive more resources, is a signal of a progressive or vertically equitable system of education funding (Berne & Stiefel, 1984).

Prior Studies of the Impact of Education Finance Reform

Several studies have examined the impact of school finance reform nationally and have found finance reform to significantly increase equity of inputs and, in particular, boost spending in previously low spending and high poverty districts (Candelaria & Shores, 2019; Card & Payne, 2002; Corcoran & Evans, 2008, 2015; Jackson, 2018; Jackson, Johnson & Persico, 2016; Lafortune, Rothstein & Schanzenbach, 2018). Additionally, Jackson et al. (2016) found different responses to equity and adequacy-based rulings with equity cases leading to improved levels of equity of inputs without increasing overall levels of spending, and adequacy cases increasing spending particularly in previously lower spending and higher poverty school districts, thereby improving equity. However, these national studies only describe the average impact on equity from school finance reform. The impact of finance reform varies significantly by state often based on the level of cooperation

between the courts ordering the change in funding and the state legislature ultimately responsible for passing legislation to enact the change in funding (Yinger, 2004).

While generally, research has shown school finance reform to improve equity of inputs, one of the criticisms of school finance reform—particularly those involving significant increases in spending—is the opaque link between spending levels and educational outcomes. Hanushek & Lindseth (2009) argue the increases in spending resulting from adequacy rulings have generally not resulted in significant achievement gains. However, several studies have shown school finance reform does impact outcomes. In national studies, Jackson et al. (2016) found increases in spending from school finance reform resulted in more years of school completed, increased adult earnings, and reduced adult poverty rates; Lafortune et al. (2018) found a decrease in the relationship between poverty levels and student performance between districts after finance reform; Card & Payne (2002) found equalization of spending following education finance reform resulted in a narrowing of the achievement gap on the SAT between children of highly educated and uneducated parents by about 5% in addition to increasing the incidence rate of taking the SAT among students from more disadvantaged family backgrounds; and Candelaria & Shores (2019) found that high-poverty districts in states undergoing education finance reform improved graduation rates relative to states that did not undergo finance reform.

While there is growing evidence that education finance reform has the ability to impact both equity of educational inputs and outcomes, it is essential to continue to evaluate the effectiveness of education finance reform, and in particular court-ordered education finance reform, as a tool to improve educational equity. Court-ordered education finance reform is unique to legislative action or ballot initiatives, in that the court system does not have the power to pass laws or set state budgets; therefore, while courts can decide that the state education system is deficient, it does not have the ability to act directly to address the deficiencies. The courts instead task the legislative bodies to come up with a solution to satisfy the states' educational obligations. Therefore, court-ordered finance reform is a two-step process, with the first step being the court ruling, and the second step being corrective legislative action. Often, the assumption is that legal action will necessarily lead to legislative action.

The Current Study

In this study, I examine the impact of a specific series of court cases—the two *CFE v. State of New York* rulings in 2003 and 2006—on the equity of resource distribution across districts. Although these court cases were ruled on the basis of adequacy, prior adequacy-based court cases have been shown to meaningfully improve the equity of resource distribution across districts (Candelaria & Shores, 2019; Lafortune et al., 2018). Using a comparative case study methodology known as synthetic controls, this study provides an example where the court-ordered reform ultimately did not result in meaningful action to improve equity of educational resources. While the proposed legislative solution was slow to come, the legislated changes to the funding formula would have generated substantial improvements to the equity of funding in New York had they been implemented as intended. The resulting finance reform in New York intended to ramp up funding based on student needs over the course of several years. However, the great recession led to a halt on increases in state funding. The freezes and cuts put in place meant that equity of education inputs in New York changed little, if at all, as a result of the *CFE v. New York* court cases. The state chose to place freezes and cuts on foundation aid, a form of state aid distributed progressively according to student need. The state could have chosen instead to make cuts to a regressive form of funding, which provides property tax relief to districts. In the years subsequent to the freezes on state aid, school districts increased their rates of local effort and the state most heavily subsidized increases to

local revenue for districts with the smallest shares of students in poverty through its system of property tax relief. The resulting effect was a system of school funding which remained regressive and maintained large funding discrepancies between districts. The lessons learned from this case study provide the State of New York actionable steps to improve its fairness of funding education and serve as an example to other states of the consequences of failing to prioritize equity, particularly in times of fiscal constraint.

The Court Case and the State Response

In 1993, the Campaign for Fiscal Equity challenged New York State's system of school funding. In particular, the challenge alleged that New York City's schools were underfunded, and therefore, the state was not upholding its obligation to provide a sound basic education to the students of New York City (Rebell, 2011). The resulting court case, *Campaign for Fiscal Equity v. The State of New York* (CFE I), was decided a decade later in June, 2003. The case found for the plaintiffs and overturned the education finance system in New York on the basis that it was not providing all students an adequate education. The ruling required the state to conduct an analysis to determine the cost of providing students in New York City a basic education. The court rejected the former notion that a sound basic education meant achieving an eighth-grade level, with the understanding that a high school education is a minimum requirement for success in today's society (Rebell, 2011). The Court of Appeals, the highest court in New York, set a deadline of July 30, 2004, to implement reforms that would ensure the adequacy of schools in New York City (CFE v. State of New York, 2003).

In response, a commission was created by Governor George Pataki and chaired by Frank G. Zarb, known as the Zarb Commission, to determine how much additional funding New York City schools would require to attain the level of adequacy specified by the courts. The Zarb Commission hired Standard and Poor's (S&P) School Evaluation Services to conduct an adequacy study (CFE v. State of New York, 2006). The Zarb Commission used a "successful schools" approach to determine the cost of a good education by identifying the set of schools considered to be high achieving, discarding the top half of those schools based on per-pupil expenditures, and determining how much on average the bottom half of successful schools spent on education. Based on a review of literature, the Commission determined weights for students in various categories of disadvantage, applying a weight of 2.1 for students with disabilities, 1.35 for economically disadvantaged students, and 1.2 for English language learners. In addition, two different ways of adjusting for geographic cost differences were factored in and were compared (CFE v. State of New York, 2006). Using these methods, the Zarb Commission indicated New York City should spend a minimum of \$1.93 billion more than what they had been spending per school year for operating expenses. The commission also indicated a statewide spending deficit of at least \$2.45 billion dollars.

Following the findings of the Zarb commission, several proposals that endorsed the recommendations and even exceeded the minimum recommended increase in funding were put before the state legislature. The proposed legislation was ultimately not enacted and instead a bill was passed in August, 2004 providing only \$300 million in aid to New York City schools (CFE v. State of New York, 2006).

Following the July 30, 2004 deadline imposed by the New York Court of Appeals in the 2003 decision, the court began its evaluation of whether the State of New York had fulfilled its constitutional obligations. A panel was created to conduct hearings and make recommendations regarding whether the state had met those obligations. Based on the information given to the panel, which included the findings of the Zarb Commission as well as several other cost analysis studies,

the panel concluded that the initial recommendation of \$1.93 billion increase in aid was insufficient. The panel concluded that the appropriate weight for economically disadvantaged students was 1.5 rather than 1.35; they accepted the “successful schools” approach but rejected the use of only successful schools in the bottom half of spending; and the panel applied an up-to-date geographic cost index. Based on these modifications, the panel determined the appropriate increase in funding for New York City to be \$5.63 billion dollars. Furthermore, because that figure only represented operational expenditures and not those for capital improvements, the panel made an additional recommendation to appropriate \$9 billion for school facilities improvement over a five-year period. The New York Court of Appeals accepted these recommendations, which the state then appealed (Rebell, 2011).

As a result of the appeal the case ended up back in the New York Court of Appeals, and was decided in November, 2006. In the 2006 decision (CFE II) the Court of Appeals found that the court had erred in 2004 when it commissioned its own study of the appropriate amount of funding owed to New York City, and therefore should not have rejected the proposed increase in funding of \$1.93 billion for New York City schools. However, regardless of whether the increase in funding should have been \$1.93 or \$5.63 billion, the state had not met its obligation in meeting the necessary increase in aid. Furthermore, while not requiring a statewide solution to funding, the court encouraged a more comprehensive statewide approach to addressing education funding within the state (CFE v. State of New York, 2006).

In response, the state legislature and executive passed a comprehensive set of education finance reforms in 2007 that changed how state aid was calculated by consolidating many separate funding programs into a single formula for calculating foundation aid, applying more appropriate weights to the calculated foundation aid to account for different categories of student need, and providing \$5.5 billion in additional state aid to be phased in over a four-year period (Rebell, 2011; Yinger, 2013). Because of these reforms, by 2011 the highest need districts were supposed to have received more than \$9,500 per student in state aid compared to less than \$2,700 in the lowest need districts (Baker, 2014).

During the first two years after enactment of the new foundation formula, state aid increased by \$2.1 billion of the total \$5.5 billion increase (Rebell, 2011). However, during the school years ending in 2010 and 2011 the state legislature froze increases in state foundation aid funding and made additional cuts to state aid in the 2010–11 school year due to the Great Recession (Rebell, 2011; Yinger, 2013). State aid remained largely unchanged once again during the school years ending in 2012 and 2013. Yinger (2013) indicated the freezes and cuts in state aid had a much larger impact on the districts serving the most disadvantaged students due to stronger reliance on state aid compared to wealthier districts. In addition, Chakrabarti, Livingston & Roy (2014) found that high wealth districts increased property tax rates to a greater extent as a response to state cuts in aid compared to low wealth districts, further exacerbating the inequities generated by cuts in state aid.

How Schools Are Funded in the State of New York

Prior to the 2007–08 school year, the funding system of New York contained numerous individual grants with some effort to equalize amounts based on student needs and district wealth. Jackson, Johnson & Persico (2014) categorized the funding system during this time as a flat grant system with equalization plans. Several grants were used to provide state aid to districts for their operating expenditures including formula operating aid, flex aid, and sound basic education aid, as well as a number of supplemental funding streams for students in poverty, English learners, providing prekindergarten education, in addition to a number of other categorical funding streams

(New York State Education Department, 2006b). Under this formula, state aid was designed to be distributed more strongly to low-wealth districts who generate less local revenue per student. During the 2003–04 school year the lowest wealth districts received close to six times more state aid per student than the highest wealth districts. However, this attempt at equalization through state aid was not enough to offset differences in local revenue where high wealth districts generated more than nine times the local revenue compared to low wealth districts while often imposing lower tax rates (New York State Education Department, 2006a).

While the narrative of the response to court-ordered finance reform makes it seem like little was done to address inequity until 2007 when there were major changes to the state funding system, from 2004–05 to 2006–07 the state budget for general public school support increased from \$15.3 billion (New York State Education Department, 2004) to \$17.7 billion (New York State Education Department, 2006a), an increase of more than 15%. However, during this time revenue from local funding sources increased at an even greater rate resulting in a decreased share of funding from state aid.

In 2007, as part of the State Budget and Reform Act of 2007, a new education funding formula was enacted to calculate school districts' general operating aid (Rebell, 2011). The new formula, which went into effect beginning with the 2007–08 school year, was a foundation formula in which the state was to determine the minimum expense per pupil for each school district called the adjusted foundation amount, specify the minimum local contribution per pupil, and pay the remaining balance (New York State Education Department, 2007). The adjusted foundation amount was intended to vary by school district according to a regional cost index and a pupil need index that accounts for student poverty, students receiving services for limited English proficiency, and district sparsity. The minimum local contribution varied with district wealth with those with higher property wealth paying more than those with lower property wealth. The formula also included weights for students with disabilities. Under the new foundation formula, the numerous grants supporting operational expenditures under the former funding system were combined into the foundation aid amount. In addition, as mentioned above, state aid was intended to increase \$5.5 billion over a four-year period. State aid increased by \$1.7 billion for the 2007–08 school year and by an additional \$1.7 billion for the 2008–09 school year including additional amounts to the foundation aid. In the 2009–10 school year state aid increased by \$405 million and a freeze was placed on foundation aid. For school years ending in 2011 and 2012 significant cuts were made to state aid, which were termed the gap elimination adjustment, to balance the state budget (New York State Education Department, 2013). By the 2011–12 school year state aid constituted less than 40% of the state education budget, down from almost 47% in the 2008–09 school year (New York State Education Department, 2009, 2012). Yinger (2013) indicated the cuts undid much of the improvements the reforms made to the education funding system since 2007.

The foundation formula—the largest piece of state aid in New York—does not make up the entirety of state spending on education. One of the additional categories of state revenue is School Tax Relief (STAR), which is a homestead tax exemption program that allocates state revenue to school districts to offset lower property tax rates. STAR was first implemented during the 1998–99 school year (New York State Education Department, 2006b) and was fully implemented in the 2001–02 school year (Yinger, 2013). Under STAR all home owners receive some property tax relief. Unlike other forms of state aid, STAR is not equalized by district wealth. In many of the neediest districts the residents are more often renters rather than home-owners. Because STAR only applies to owner-occupied primary residences, high-need school districts with large proportions of renters do not receive the benefits of the STAR program to the same degree as wealthier school districts (Eom, Duncombe, Nguyen-Hoang & Yinger, 2014; Eom & Killeen, 2007). In the 2009–10 school

year, the wealthiest districts received more than \$1,500 per pupil in STAR, while the poorest districts received less than \$1,000 on average (Baker & Corcoran, 2012). Furthermore, according to Chakrabarti et al. (2014) the cuts in state aid at the time of the Great Recession disproportionately impacted low wealth districts in part because the STAR system of property tax relief enabled the high wealth districts, which received more tax relief, to increase property tax rates to a greater degree than districts with lower wealth residents. Increased local tax rates combined with higher property wealth allowed wealthier districts to leverage STAR to increase local revenue more than lower-wealth districts post-recession.

Research Question and Purpose

The research question in this study is: *Has court-ordered finance reform in New York impacted equity of educational inputs?* In this study I examine two aspects of equity. First, I evaluate the progressiveness of funding, defined as the distribution of funding according to poverty. Second, I assess the dispersion in funding levels across districts with similar student needs and structural characteristics. I measured dispersion as the average distance between observed and expected levels of funding.

I address the research question in two ways. First, I examine changes of equity over time in New York compared to other similar states to see if patterns in equity levels changed substantially after the CFE v. New York court cases. To conduct this analysis, I used other states that did not have education finance reform in the same period to construct a control case to serve as a plausible counterfactual for what would have happened in New York had court-mandated education finance reform not occurred. The control case serves as a baseline for understanding the magnitude of changes seen in New York. Second, I attempt to better understand the patterns of change over time within the context of fiscal constraints and underfunding of the proposed education finance reform policies imposed by the Great Recession. To do so, I conducted simulations to understand how equity might have changed in the absence of freezes and cuts to state aid that occurred during the Great Recession. By addressing the research question in this way, I show whether equity of inputs improved over time, whether any changes in equity can reasonably be attributed to education finance reform resulting from the CFE v. New York case, and how choices to freeze and subsequently make cuts to foundation aid during the Great Recession affected equity in the period subsequent to the Great Recession.

Methods and Data

This study builds upon previous analyses of New York's education finance system through three separate tasks. First, I measured equity in New York over time in several different ways—namely the progressiveness and amount of dispersion in spending and revenue across districts—to observe whether there were significant changes pre- to post-reform. Second, I determined whether changes in levels of equity seen in New York after the court-ordered education finance reform were substantial and meaningful. To do so, I compared equity levels in New York to control cases made up from other states that did not have education finance reform during the same period. Third, I examined the impacts of the freezes and cuts in state aid and to model what could have happened under alternative scenarios if the state chose not to freeze or cut state aid in the manner that it did.

Measuring Equity of Inputs

To examine equity of inputs, I used measures of both progressiveness and dispersion of funding. Progressiveness measures the relationship between poverty and levels of spending or revenue. For the purpose of this study, I used total current expenditures as the spending measure,

which does not include capital spending or debt service. For revenue, I used only state and local revenue because federal revenue is largely categorical in nature and intended to supplement rather than supplant state and local revenue. To measure dispersion of funding, I used the difference in funding between observed and predicted levels of funding based on student needs and district characteristics.

To measure progressiveness, I used regression to identify the relationship between poverty and funding levels while controlling for other factors known to influence revenue and spending. The regression used a continuous quadratic measure of child poverty in addition to controlling for the proportion of special education students in a district, districts size, the population density in the geographic area of the district, and interaction between district size and population density, and an index measuring geographic differences in the cost of labor. This model is similar to a model used by Baker, Farrie, Johnson, Luhm & Sciarra (2017) in their yearly publication of the fairness of school funding. The progressiveness model is as follows:

$$(1) \text{Funding}_{dt} = \beta_0 + \beta_1 \text{Pov}_{dt} + \beta_2 \text{Pov}_{2dt} + \beta_3 \text{SpEd}_{dt} + \beta_4 \text{SpEd}_{2dt} + \beta_5 \text{DistSize}_{dt} + \beta_6 \text{PopDensity}_{dt} + \beta_7 \text{PopDensity}_{2dt} + \beta_8 \text{DistSize}_{dt} \times \text{PopDensity}_{dt} + \beta_9 \text{LaborCost}_{dt} + \varepsilon$$

where Funding_{dt} is the natural log of either per-pupil total current expenditures or combined state and local revenue for a given district in a given year; Pov_{dt} is the child poverty rate; SpEd_{dt} is the proportion of student receiving special education services; DistSize_{dt} is a set of dummy variables indicating whether a district has less than 500, 500–2,000, 2,000–4,000, or more than 4,000 students; PopDensity_{dt} is the natural log of the population density in the area where the school district is located; LaborCost_{dt} is an index indicating the relative cost of labor for districts known as the Comparable Wage Index (CWI); and ε is the residual error term. All continuous variables were mean centered by state and year, which means the coefficient for poverty, β_1 , indicates how funding changes with respect to increases in poverty for districts with average child poverty rates. The coefficient for poverty squared, β_2 , indicates the amount of curvature in the relationship between poverty and funding. All regressions used were weighted by enrollment. Therefore, the coefficients can be interpreted as “for the average student.” Because the outcome variables were log transformed, regression coefficients can be interpreted as percentage, rather than dollar, changes or differences.

To measure dispersion, I calculated the average of the absolute values of the residuals from the regression model indicated in equation 1. This calculation indicates the average distance between the actual levels of spending or revenue and the predicted values. Because the outcome variables are measured in log terms, this measure of dispersion can be thought of as a percentage difference. By accounting for the factors that influence revenue or spending contained in equation 1, this is a measure of the unexplained variation in resource levels across districts. In other words, this measure indicates how far (above or below) actual resource levels are from expected levels given the needs of their students and structural factors related to size and geographic location. Higher values indicate more dispersion, or larger average differences from expected resource levels. Another way to think about this measure of dispersion is as a measure of the predictability of resource distribution. Lower differences between observed and expected revenue levels mean that revenue is being distributed in a more predictable way based on the factors included in the regression model. However, it should be noted that the distribution of resources could be very predictable and distributed in a strongly

3 Cutoffs for district size were based on the finding from Andrews, Duncombe & Yinger (2002) that districts with less than 500 students would realize cost savings by moving to a district with 2,000 to 4,000 students.

regressive fashion. Therefore, it is important to look at measures of both progressiveness and dispersion in tandem.⁴

Conducting a Comparative Case Study Using Synthetic Controls

In order to strengthen causal claims of the impact of the court cases on equity of inputs, I used a comparative quantitative case study approach to compare changes over time observed in New York to other states most suited to serve as a control case. In a comparative case study, the case that receives treatment is compared to a control case or set of control cases that do not receive treatment. Because there are potentially other factors that change over time, such as demographics or political attitudes, any change in outcome over time might not be attributable to the treatment. The use of a valid control case to serve as a counterfactual strengthens the argument that any observed differences in the posttreatment period between the treatment and control are due to the treatment. If the treatment and control case are a good match, we can assume that any change over time in the control case is what would have happened in the treatment case in the absence of treatment. Therefore, to conclude that the treatment had an impact, we would need to observe substantial divergence between the treatment and control case trends in the posttreatment period. However, the strength of causal inference depends on the selection of a valid control case that closely approximates what would have happened in the treatment group in the absence of treatment.

One approach to comparative case studies is to select a control case that is theoretically similar to the treatment case. For example, Card & Krueger (1994) examined the impact of raising the minimum wage on employment in New Jersey using the neighboring state of Pennsylvania, which did not raise the minimum wage. However, in the absence of a strong theoretical comparison case, this approach could result in a poor choice of a comparison and is arguably based on the whims of the researcher. Instead of using a single state as the control case, I employed a “synthetic controls” approach as described in Abadie, Diamond & Hainmueller (2010) and Abadie, Diamond & Hainmueller (2015) for selecting multiple states and averaging the characteristics from these states using weights to construct a single control case. The synthetic controls approach is a way to systematically determine which unit or units from a set of possible control units should be used to construct an appropriate comparison case. By using a computational approach to identify which units make up the comparison unit, I am able to objectively select the units making up the control case. The control units are selected and weighted to create a “synthetic” version of the unit of interest such that chosen pretreatment characteristics are as similar as possible to that of the treatment case. In the posttreatment period the “synthetic control” and treatment unit are allowed to vary and any differences in trends over time between the treatment and control unit in the posttreatment period are arguably caused by the treatment.⁵

In this instance, the treatment unit was the State of New York, the treatment was the initial court ruling in 2003 overturning the education funding system in New York, and the possible control units were all other states not having education finance reform in the same period. Table 1 shows the states excluded from the set of possible control units and the reasoning. The two possible

⁴ Equation 1 represents the basic regression used in this study to measure equity within a single state and in a single year. To understand whether court-ordered finance reform had an impact on equity, I used the regression equation to estimate levels of equity in each year. Furthermore, to strengthen the study design, I compared changes in equity observed in New York to other states. This is further described in subsequent subsections. To make such comparisons I applied the regression specified in Equation 1 to data from each state in each year.

⁵ To conduct the synthetic controls approach, I used the “synth” Stata package found at the following website: <https://web.stanford.edu/~jhain/synthpage.html>

reasons for excluding states were (a) if the state had a significant funding formula change or court-case overturning the education funding system between 2000 and 2010, and (b) if the state had less than 20 school districts for any given year making the equity measures for the state less stable. Information on court-cases and legislated funding changes comes from Jackson et al. (2016) and National Education Access Network (2015). The court decision, which was handed down in 2003, allowed the state until June, 2004 to comply with the initial ruling; therefore, the treatment period begins with the 2004–05 school year.

Synthetic controls allows users to specify pretreatment control variables and time periods. The outcomes for which I compared New York to “synthetic New York” are measures of progressiveness and dispersion, representing equity of inputs. Therefore, it was essential to control for those equity variables in the pretreatment time period. The equity variable being used as the independent variable was used as a control for the following years: 1995, 1998, 2001, 2002, 2003, and 2004. By skipping some years in the earlier part of the time period and using the four years closest to when treatment occurred, I placed greater emphasis on years closer to treatment to ensure a close match between treatment and control in the period immediately prior to the initiation of the treatment. In addition to the equity variables, I also controlled for other factors likely to influence the degree of equity in states, such as student demographics, poverty rates, the proportion of districts in urban areas, and the proportion of revenue from local sources. For child poverty, proportion of Black and Hispanic students, proportion of students in urban districts, and percentage of revenue from local sources, I controlled for the average over the entire period as 2004 specifically to ensure that the synthetic control unit for 2004—the year immediately preceding treatment—was as similar as possible to the treatment unit. Table 2 displays the weights assigned to states making up “synthetic New York” for each outcome variable.⁶ In order to ensure “synthetic New York” was as similar as possible to actual New York for each outcome variable, I chose to estimate different weights for the synthetic control unit for each outcome variable. Therefore, the mixture and weighting of states differs for each outcome variable.

⁶ Only states included in the calculation of the synthetic control for at least one of the four outcome variables are included in the table.

Table 1

List of States Excluded from the Pool of Potential Comparison States

State	Small N	Funding change	Year of change	Cause of change
Arizona	No	Yes	2007	Court-ordered
Arkansas	No	Yes	2002, 2005	Court-ordered
Delaware	Yes	No		
Hawaii	Yes	No		
Idaho	No	Yes	2005	Court-ordered
Kansas	No	Yes	2005	Court-ordered
Maine	No	Yes	2004	Legislative
Maryland	Yes	Yes	2005	Court-ordered
Montana	No	Yes	2005, 2008	Court-ordered
Nevada	Yes	No		
New Hampshire	No	Yes	2002, 2006	Court-ordered
North Carolina	No	Yes	2004	Court-ordered
North Dakota	No	Yes	2007	Legislative
Ohio	No	Yes	2002	Court-ordered
Oregon	No	Yes	2009	Court-ordered
Pennsylvania	No	Yes	2008	Legislative
South Carolina	No	Yes	2005	Court-ordered
Tennessee	No	Yes	2002	Court-ordered
Texas	No	Yes	2004	Court-ordered
Vermont	No	Yes	2003	Legislative
Washington	No	Yes	2007	Court-ordered
Wyoming	No	Yes	2001	Court-ordered

Although the approach to funding schools and level of equity varies in the individual states included in the calculation of the synthetic control, when combined according to the specified weights, the resulting synthetic control for New York closely approximates levels of equity in New York in the decade preceding treatment. The lack of theoretical similarity for some of the states chosen to be part of the control is in many ways expected, since the synthetic controls approach selects and weights states from the set of possible control units empirically rather than theoretically. Despite potential theoretical qualms regarding the inclusion of certain states, the close match

between New York and its synthetic counterpart over the entirety of the pretreatment period strengthens the assumption that the synthetic control represents an appropriate counterfactual for what would have happened in New York during the posttreatment period.⁷

Table 2

Weights for States Making Up Synthetic New York for Measures of Progressiveness and Dispersion

	Progressiveness Weights		Dispersion Weights	
	Spending	Revenue	Spending	Revenue
AK	0.015	0.008	-	-
CA	-	0.233	0.014	0.009
CO	-	-	-	0.089
CT	0.111	0.039	-	-
FL	-	-	0.304	0.070
IL	0.223	0.267	0.198	0.078
LA	0.119	-	-	-
MA	-	0.148	-	-
MS	-	0.193	-	0.234
MO	-	-	-	0.077
NE	-	-	0.033	-
NJ	0.050	-	-	-
NM	0.217	-	0.094	0.246
RI	-	0.084	0.095	-
SD	-	0.029	-	0.107
VA	0.237	-	0.262	0.065
WV	0.029	-	-	0.025

Because the synthetic controls method only compares one treatment unit to one control unit standard errors cannot be computed to determine statistical significance. To better understand the magnitude of the differences between New York and “synthetic New York,” I performed a series of

⁷ While the strong match in the pretreatment period increases confidence in the method, there is no way to determine whether the posttreatment trends of the synthetic control are an accurate representation of what would have happened in New York in the absence of finance reform. Therefore, I also examined how equity would have changed using simulations of alternative implementation scenarios, described subsequently. Together, these two approaches make for compelling causal evidence of the impact of finance reform in New York.

placebo tests. For these placebo tests I generated a synthetic version for every state that was in the pool of possible control states. Because states identified to serve as a possible control case for New York did not have education finance reform between 2000 and 2010, large differences between those states and their synthetic version are not expected. If changes in New York relative to its control are indeed remarkable, they should be as large or larger than 95% of the placebo tests. To examine whether the differences seen over time between New York and “synthetic New York” were larger than those seen between other states and their synthetic counterpart, I graphed the differences between actual and synthetic for all states including New York.⁸ If New York diverges more than other states from the synthetic control after the treatment time period, that is a good indicator the differences in New York are not random and are due to policy changes after treatment.

Measuring the Impact of Freezes and Cuts to State Aid

To examine how progressiveness and dispersion of funding would have changed over time had the freezes and cuts to state aid not occurred, I calculated expected values of combined state and local revenue had the following scenarios taken place rather than what was observed: (a) no freezes to foundation aid occurred, but additional cuts known as the gap elimination adjustments still happened as observed; (b) neither freezes to foundation aid nor additional cuts to state aid occurred; and (c) neither freezes to foundation aid nor other state aid cuts occurred and local effort rates remained constant after 2009 at levels observed in school years ending in 2008 and 2009.

As previously described, due to the Great Recession, the legislated increases to state aid were placed on hold beginning in the 2009–10 school year and additional cuts, known as the Gap Elimination Adjustment occurred in the following school year. The New York State Education Department generates publicly available information on how much each district was intended to receive under the foundation aid formula and how much they were actually allotted in foundation aid. To estimate the amount of combined state and local revenue districts would have received had the formula been enacted as planned without freezes or additional cuts, I calculated the difference in proposed foundation aid and the actual amount received and added this difference to each district's observed levels of combined state and local revenue. Between 100 and 200 of New York's districts received more in foundation aid than the formula indicated in any given year, due to hold harmless provisions not allowing state aid to decrease. For these districts, I did not add or subtract anything from their state and local revenue. In other words, I left the hold harmless provision in place. Because these districts tended to have relatively small enrollment, the choice to not deduct excess revenue did not appreciably change the results.

Adding the state revenue districts would have received in the absence of freezes or cuts should result in improved progressiveness and reduced dispersion of the distribution of revenue. However, any improvements are likely to be conservative compared to what would have happened had the formula been enacted as proposed and had cuts not occurred. This is because districts responded to cuts in state aid by increasing local revenue. Chakrabarti et al. (2014) indicates wealthier districts were able to increase local revenue more than poorer districts during this time, exacerbating inequity. To account for the possibility that districts differentially responded to cuts in state aid by increasing locally raised revenue, I calculated the amount of local revenue districts would have received had their local effort remained at levels observed prior to the 2009–10 school year and substituted this amount of local revenue for the observed amount. The local effort rate is defined as

⁸ One placebo state, Alaska, had sufficiently poor fit with its synthetic control that I chose to not include it in the graphs presented in the results section.

local revenue divided by district property values. In the previously described calculation, I used the average local effort rate of the 2007–08 and 2008–09 school years as the pre-freeze rate.

Measuring Changes in Equity When Using STAR Revenue to Offset Foundation Aid Freezes

The decision to freeze foundation aid was a political choice. One possible alternative to freezing foundation aid could have been to not pay out STAR, the state's property tax relief. To better understand how this alternative could have impacted equity levels, I calculated the amount of state and local revenue districts would have received under different scenarios after 2009 when freezes and cuts occurred. The three scenarios used were: (a) if there was no STAR revenue and freezes and cuts to foundation aid still occurred; (b) if 50% of STAR revenue was redistributed according to the foundation aid deficit while 50% of STAR remained distributed the same manner as existing STAR allocations; and (c) if 100% of STAR revenue was redistributed according to the foundation deficit.

To calculate the amount of state and local revenue districts would have received in the absence of STAR, I simply subtracted the amount of STAR revenue from the observed combined state and local revenue total for each district. To simulate the redistribution of STAR revenue according to the foundation deficit, I calculated the share of the overall foundation aid deficit borne by each district and multiplied the total amount of STAR revenue to be redistributed by each district's share of the foundation aid deficit. For the scenario where 50% of STAR was redistributed, I removed half of each district's existing STAR revenue allotment, totaled the STAR revenue recouped from districts, and redistributed that amount according to district shares of the foundation aid deficit. For the scenario where 100% of STAR was redistributed, the entire allotment of STAR was deducted from each district, totaled, and doled out according to districts' foundation aid deficit share. Following the calculation of state and local revenue under these scenarios, I calculated progressiveness and dispersion measures as previously described.

Data

For national data on district-level expenditures and district-level student demographics I used the National Center for Education Statistics' (NCES) Common Core of Data (CCD) database. I supplemented the CCD data on spending and revenue with more detailed data on revenue from the New York State Education Department. I also received additional data from the State Aid Office at the New York State Education Department. The data from the New York State Education Department included district-level variables on the amount of foundation aid paid to districts, the amount of foundation aid districts should have received under the foundation formula, the amount of funding cut through the gap elimination adjustment, the amount of revenue distributed through the STAR program, and the local effort rate.

To account for differences in regional costs for providing education, I used the Comparable Wage Index (CWI) originally published by NCES and updated by Lori Taylor of Texas A&M University. Lastly, I adjusted dollar figures for inflation using the Bureau of Labor Statistics' Consumer Price Index (CPI).

Results

In this section I present the result from the synthetic controls approach to comparative case studies as well as simulations showing what could have happened under alternative scenarios. The use of the synthetic control provides a baseline or anchor by which to compare the changes observed in New York over time. In order to say that education finance reform resulting from the

two court cases has caused changes in levels of equity of inputs, any observed changes in New York must be exceptional compared to states not having similar education finance reform. Following the presentation of the synthetic controls results I present results from a series of simulations examining how equity could have changed had freezes and cuts to state aid not occurred or were made to STAR rather than foundation aid. By showing how equity would have changed in these alternative scenarios, I am better able to pinpoint the freezes and cuts to state aid as a main contributor to the observed patterns of change in equity over time in New York.

Changes in Progressiveness

Figure 1 compares the relationship between poverty and funding in New York to its synthetic version for each year included in the study. In this subsection, the relationship between poverty and spending or revenue is the measure of progressiveness and can be interpreted as the percent change in spending or revenue for a one percentage point change in poverty. For example, in the left panel of Figure 1, the relationship of -0.2 in 1995 indicates that a one percentage point increase in poverty across districts results in a 0.2% decrease in spending. In each graph the two vertical lines represent the earliest point that CFE I and then CFE II and the resulting funding reform (the Act) could have had an impact on equity of resource distribution.

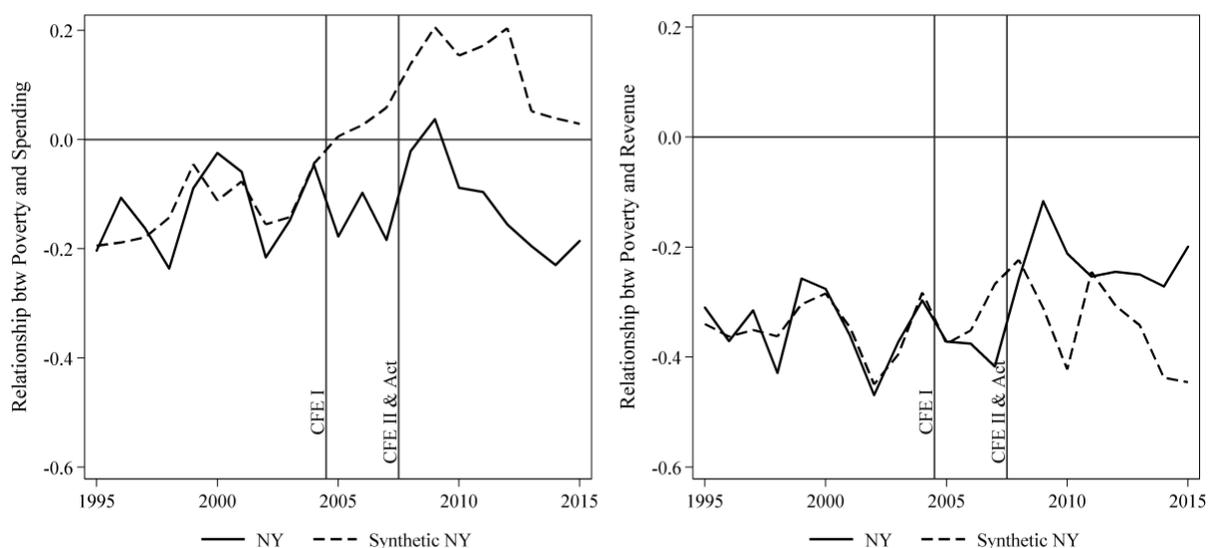


Figure 1. Progressiveness of the distribution of spending and revenue over time in New York and synthetic New York.

From 1995 to 2007 progressiveness of funding appears to have changed little over time, hovering at -0.2 for spending and -0.4 for state and local revenue. In 2008 and 2009, there appeared to be some marked improvement in progressiveness. In fact, progressiveness measured by spending briefly entered positive territory in 2009. The brief period of improvement aligns with the timing of the legislation passed creating a new foundation formula-based funding system and the phasing in of foundation aid increases in the 2007–08 and 2008–09 school years, prior to the imposition of freezes and cuts starting in the 2009–10 school year. The improvements in progressiveness were halted with the great recession and the subsequent freezes and cuts. By 2013, measures of progressiveness using spending were back at pre-legislation levels. Progressiveness measured using revenue also showed a backslide from the peak levels observed in 2009.

When comparing levels of progressiveness in New York to other states represented by “synthetic New York,” the differences during the pretreatment period—prior to 2004—are quite small, indicating good fit between New York and synthetic New York. In the posttreatment period, there is some divergence between New York and synthetic New York. For progressiveness measured using spending, it appears synthetic New York was consistently more equitable than New York in the posttreatment period. The differences in progressiveness emerge beginning in 2005 and 2006—prior to the finance legislation New York ultimately passed in 2007—and persisted through the remaining years. Notably, even though equity in New York improved in 2008 and 2009 following the passage of the finance legislation, the gap between New York and its synthetic control was not eliminated. For progressiveness using state and local revenue, New York appears to have higher levels of equity in the posttreatment period compared to the synthetic version. These differences emerged after New York's legislative finance reform, potentially indicating improvement resulting from this effort.

As an additional test to better understand the magnitude of differences between New York and its synthetic counterpart, I conducted placebo tests by creating a synthetic version for all the states used in the pool of potential controls for New York. Figure 2 shows the results of these placebo tests for progressiveness. In each of the graphs, the black line shows the difference between New York and its synthetic control and each lighter gray line depicts the difference between one of the states in the pool of controls for New York and its synthetic version. Differences were calculated by simply subtracting measures of progressiveness for the actual state from the synthetic version of that state. As designed, prior to the treatment period the differences between the actual and synthetic versions of the states generally hover close to zero other than a few cases of poor pretreatment fit. After the treatment period the differences start to wander away from zero in many placebo states, with differences in some states drifting further from zero than others. Because there are no identified reasons for these placebo states to diverge from their synthetic version the differences are assumed to be random. Therefore, to confidently say that differences seen between New York and its synthetic version are not due to randomness, the divergence in New York should be, at minimum, toward the outer extremities of differences seen in the placebo states, and ideally larger than the largest placebo difference.

For progressiveness measured using both spending and revenue, the differences seen in New York fall firmly within the range of outcomes seen in the placebo states. In the left-hand panel of figure 2, the difference between New York and its synthetic counterpart is consistently negative in the post-CFE-I period; however, a substantial number of placebo states had negative differences of larger magnitude than that seen in New York. This indicates that any observed differences observed between New York and its synthetic control could have been due to random chance rather than impacts from the policy changes in New York. Likewise, when using revenue to measure progressiveness (the righthand panel of figure 2), the difference between New York and synthetic New York is not exceptional. These results provide no evidence that progressiveness of funding in New York substantially changed as a result of the CFE v. New York court cases.

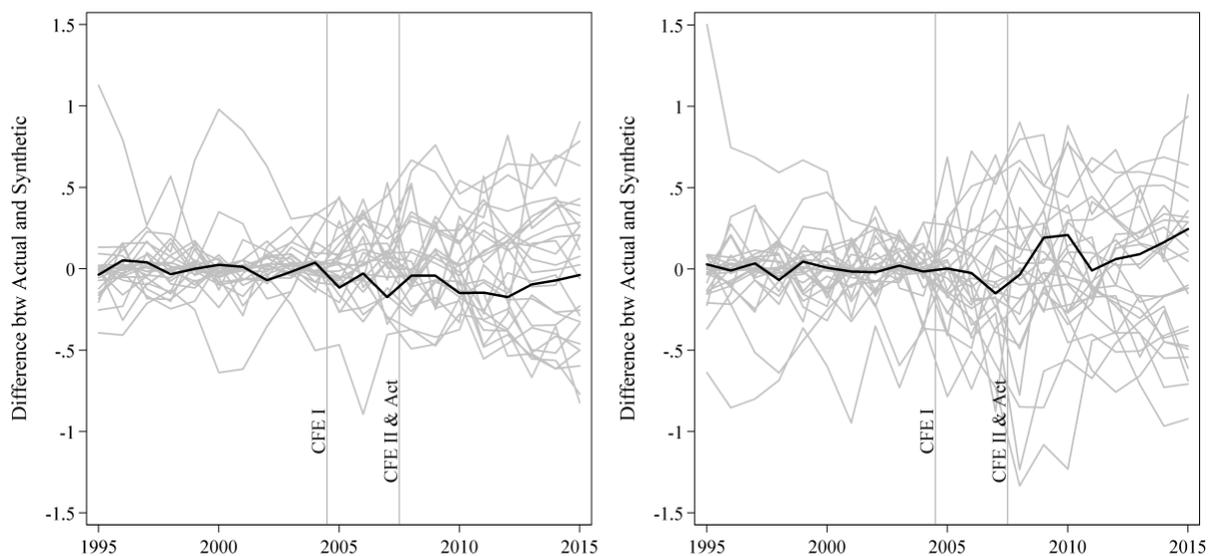


Figure 2. Comparison of progressiveness in New York and synthetic New York with placebo tests for other states.

Changes in Dispersion

Figure 3 shows graphs of dispersion—represented by the average difference in absolute terms between observed and expected levels of spending or revenue—for both New York and its synthetic version using spending and revenue. Smaller differences signal less (better) dispersion. Using both spending and revenue, dispersion improved in the pretreatment period from 1996 to the early 2000s. Beginning in the early to mid-2000s, prior to CFE I, dispersion began to increase (worsen), and then flattened out after CFE II and the legislated funding reform.

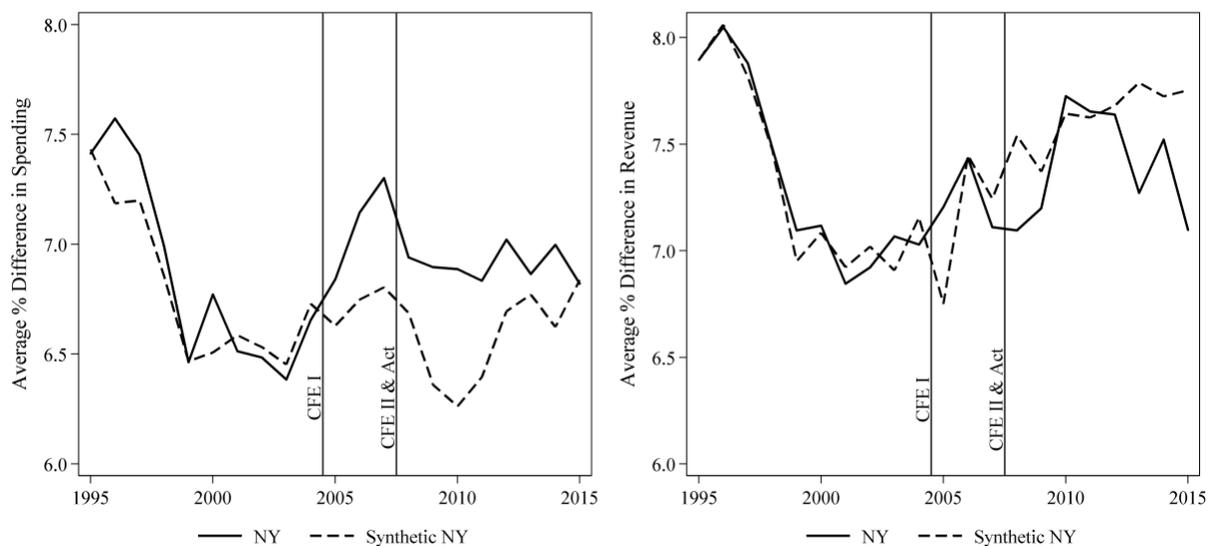


Figure 3. Dispersion of the distribution spending and revenue in New York and synthetic New York

Comparing New York to its synthetic control, there appear to be few sustained differences in the posttreatment period. Figure 4 shows the graphs of placebo tests similar to those performed for measures of progressiveness. As described earlier, to argue the differences seen between New York and its synthetic case are not due to randomness they should be larger than those seen in the placebo tests. For both spending and revenue, the differences seen between New York and its synthetic version fall well within the range of differences shown in the placebo tests, indicating that any changes to dispersion of funding in New York relative to the synthetic case could be due to randomness rather than changes to fiscal policy. These results provide no indication that levels of dispersion systemically improved in New York as a result of the *CFE v. New York* court cases and the subsequent education finance reforms.

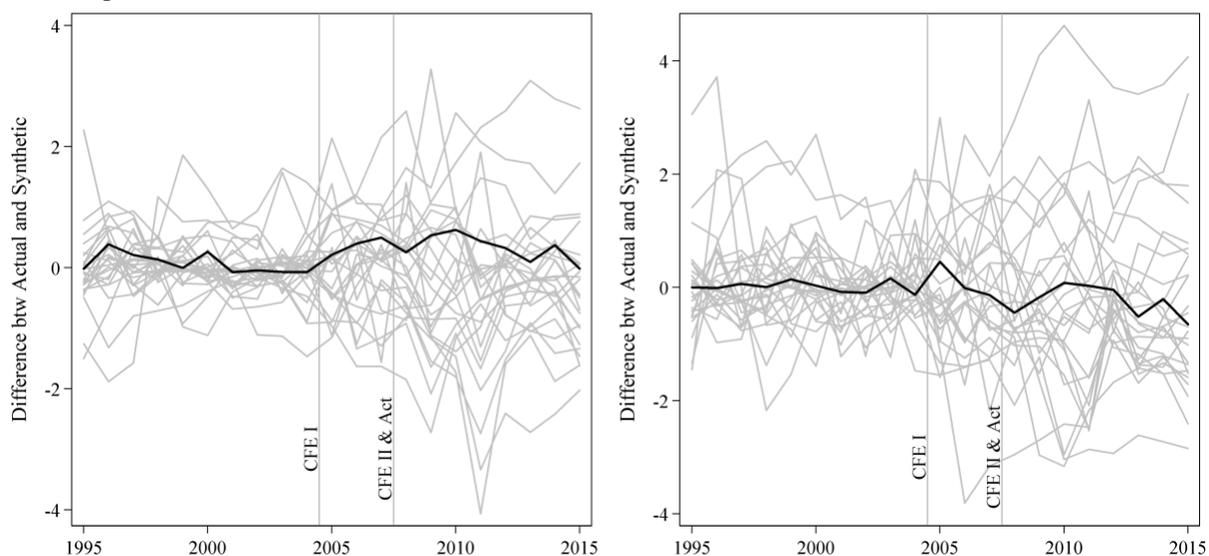


Figure 4. Comparison of dispersion in New York and synthetic New York with placebo tests for other states.

The Impact of Freezes and Cuts to State Aid

Freezes and cuts to state aid had two potential consequences to the amount of revenue districts received. First, and most directly, districts received less in the form of state aid through the foundation aid formula which adjusts for student needs. These foundation aid freezes and cuts disproportionately impacted high poverty districts. As shown in the top left panel of figure 5, the foundation aid deficit—the amount by which school districts were underfunded on the basis of foundation aid freezes—was strongly related to district poverty rates for each school year ending in 2010 to 2014. For instance, in 2014 the lowest poverty districts had foundation aid deficits well under \$1,000 per student while the deficits in the highest poverty districts approached \$4,000 per student.

The second possible impact of freezes and cuts to state aid was that school districts increased their rates of local taxation to make up for lost state revenue (Chakrabarti et al., 2014). The top right panel of figure 5 shows that between 2009 and 2015 local effort rates increased from around 15% for a district with average poverty levels to 20%. While there does not appear to be a strong relationship between child poverty rates and local effort of districts, in 2013 and 2015 lower poverty districts generally had higher rates of local effort than higher poverty districts. Across the

range of poverty levels, districts on average increased their rates of local taxation from 2009 to 2015. Even if low and high poverty districts increased their local effort equivalently, low poverty districts would raise more local revenue per student because of higher property wealth. Therefore, the increased reliance on revenue from local sources resulting from cuts to state revenue potentially exacerbated inequity of inputs.

The bottom left panel of figure 5 shows that the freezes to foundation aid had substantial impacts on levels of progressiveness. Observed levels of progressiveness measured using revenue in New York declined slightly after 2009. In contrast, in the absence of foundation aid freezes progressiveness of the distribution of funding continued to improve. By 2015 the difference between the observed relationship and the measured relationship in the scenario with no foundation aid freezes was approximately 0.4, meaning that a one percentage point increase in district poverty rates resulted in 0.4 percentage points more revenue in the scenario with no freezes compared to what was observed. The scenario with no freezes and no cuts does not result in measures of progressiveness that are meaningfully different from the scenario with only no freezes, meaning that the additional cuts to state aid above the foundation aid freezes did not differentially impact districts on the basis of poverty rates.

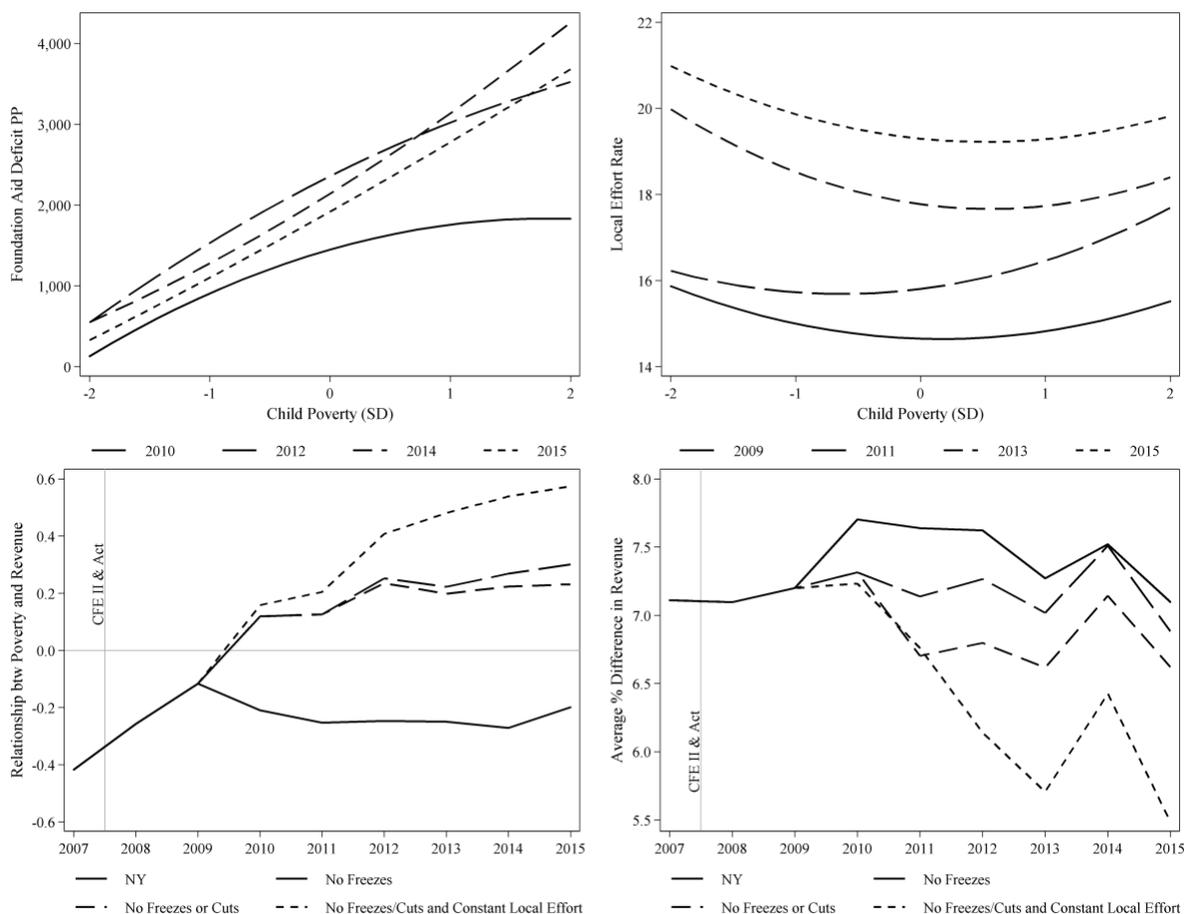


Figure 5. Impact of foundation aid freezes and other state aid cuts on equity of combined state and local revenue.

The results for the third scenario, which calculates revenue levels had freezes and cuts not occurred and local effort remained at levels observed prior to the freezes and cuts, show dramatic increases in progressiveness. The increased reliance on local revenue, potentially resulting from state aid cuts, also impacted levels of progressiveness. The difference in progressiveness between this scenario and observed measures by 2015 was approximately 0.8, meaning a one percentage point increase in poverty rates across districts would have resulted in a 0.8 percentage point increase in spending relative to what was observed. The results of the scenario where freezes and cuts did not occur, and local effort remained the same indicates that by 2015 districts with higher poverty rates would have received substantially more revenue than those with lower poverty rates. A district with a one percentage point higher poverty rate would have received 0.6% more revenue in 2015. In contrast, the observed relationship between poverty and revenue indicates that one percentage point increases in poverty across districts resulted in 0.2% less revenue.

The results of spending cuts and freezes on dispersion of funding are equally striking, indicating that freezes, cuts, and increased reliance on local revenue all played a part in generating larger differences between observed and expected levels of revenue. As seen in the bottom right panel of figure 5, had freezes to foundation aid not occurred, average differences between observed and expected revenue levels would have been slightly smaller. Had the additional cuts, known as the Gap Elimination Adjustment, and freezes not occurred between 2011 and 2015, levels of dispersion would have been reduced by 0.5 to 1.0 percentage points depending on the year. And finally, the increased reliance on local property taxes resulting from freezes and cuts to state aid, severely impacted the potential reduction in the dispersion of funding. Had freezes and cuts not occurred, and levels of local effort remained constant, average differences between observed and expected revenue would have decreased by more than 1.5 percentage points by 2015. This means that unobserved variation in spending would have been reduced and revenue levels received by districts would have been more strongly dependent on student needs and district structural factors related to costs. Districts with similar characteristics would have received more similar amounts of revenue on average had the freezes and cuts not occurred at the time of the Great Recession.

These findings indicate that the design of the education finance reform in New York, had it been fully implemented, would have resulted in substantially improved progressiveness—as measured by the relationship between poverty and revenue—and dispersion—as measured by the average difference between observed and expected revenue levels.

Simulating the Use of STAR Revenue to Fund Foundation Aid Deficits

The decision to freeze foundation aid during the Great Recession was a political choice. To provide an example of what could have happened to equity had a different choice been made, I show how redistributing STAR revenue to at least partially cover the foundation aid deficit would have impacted equity. As described in Chakrabarti et al. (2014), STAR revenue is regressively distributed with respect to poverty. I find a similarly regressive distribution of STAR between 2000 and 2015. Since 2005, the lowest poverty districts received over \$2,000 of STAR revenue per student, whereas districts with the highest poverty rates received around \$500 per student, shown in the top left panel of figure 6. Since 2005, the relationship between poverty rates and STAR has remained quite constant over time.

Mirroring the relationship between STAR and poverty is the relationship between STAR and local revenue. Those districts able to generate the most local revenue also receive the most STAR. As shown in the top right panel of figure 6, districts raising only \$2,000 per student in local revenue received between \$500 and \$700 per student in STAR on average from 2005 to 2015, while those raising \$14,000 per student locally received between \$1,000 and \$1,500 per student in STAR in most

years. As one of the primary functions of state aid is usually to offset the inequitable distribution of local revenue, that STAR reinforces inequity across localities is particularly troublesome.

To examine how equity would have changed had STAR been cut rather than freezing foundation aid, I calculated the amount of combined state and local revenue districts would have received under the following three scenarios, and measured progressiveness and dispersion under each scenario: (a) STAR revenue was removed completely as if the STAR program did not exist; (b) STAR was funded at half of its level for each year and the revenue saved by decreasing STAR was distributed according to each district's share of the foundation aid deficit; and (c) STAR was not funded and the revenue savings were distributed according to the foundation aid deficit.

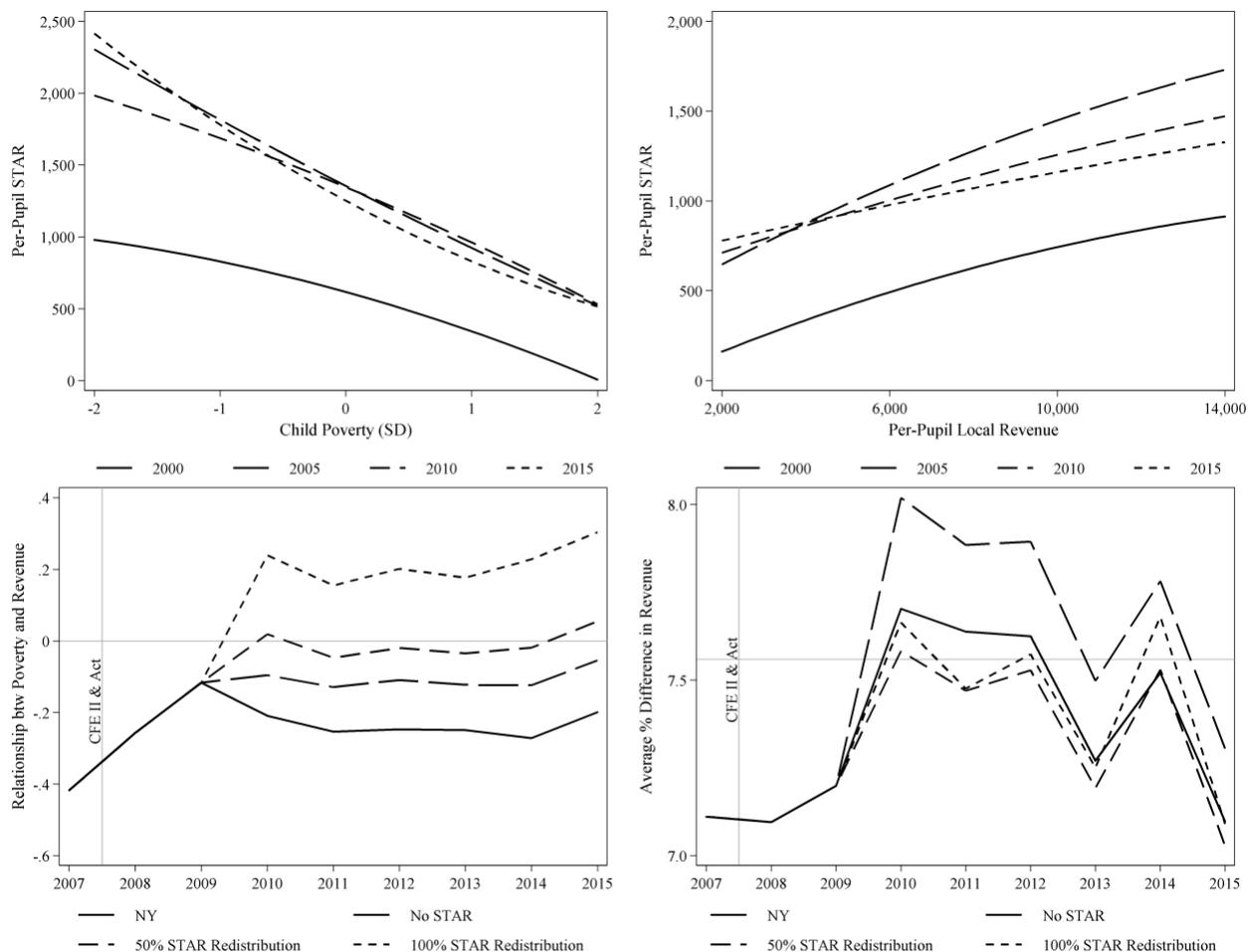


Figure 6. Impact of STAR on equity of combined state and local revenue.

The results of these simulations indicate progressiveness would have improved in the absence of STAR and would have improved further if the revenue used to fund STAR was used to fund the foundation aid deficit. In 2015, STAR revenue per student amounted to approximately \$1,300 statewide. The foundation aid deficit per student was just over \$1,900 per student statewide, meaning that STAR revenue could have funded two-thirds of the shortfall in foundation aid. The reallocation of STAR revenue to foundation aid improves equity through both getting rid of a regressively distributed revenue stream and increasing levels of funding devoted to foundation aid—a progressive funding stream. As shown in the bottom left panel of figure 6, if only half of STAR

was reallocated to fund foundation aid, the distribution of state and local revenue would have been neutral rather than regressive. Redistributing all of STAR revenue to fund foundation aid improved the relationship between poverty and revenue from -0.2 to 0.3 in 2015, an improvement of 0.5, indicating with a one percentage point increase in poverty across districts would have resulted in 0.5% more revenue than what was observed.

As an example of the impact of STAR on progressiveness of funding, in 2015 the observed relationship between poverty and revenue for New York was -0.2, meaning that for a district with average poverty rates, a one percentage point increase in the poverty rate would result in 0.2% less state and local revenue. Under the scenario where STAR revenue is removed completely or where half of STAR revenue is redistributed according to the distribution of non-STAR revenue, the relationship improved to be almost neutral. When all of STAR revenue is redistributed the relationship improved to be positive at 0.3. To give some context to these numbers, for a district of 5,000 students and assuming average state and local revenue per student of \$15,000, under the observed relationship, a one percentage point increase in the child poverty rate would result in \$150,000 less in spending on average, whereas in the scenario where all STAR revenue is redistributed the result would be \$225,000 more, a difference of \$375,000.

Redistributing STAR had much smaller impacts on dispersion of funding, as shown in the bottom right panel of figure 6. Measures of dispersion when withholding STAR revenue were slightly worse than observed values. This is likely due to the strong negative relationship between STAR and poverty. STAR is distributed in a very predictable way, meaning that districts get what they are expected to get; but it is predictable in a very regressive way. So, removing STAR revenue improves progressiveness of revenue distribution but increases dispersion. Redistributing STAR revenue to fund the foundation aid deficit had little impact on dispersion since a predictable regressive revenue source was replaced by a similarly predictable progressive distribution of funding.

Summary and Conclusion

The CFE v. New York court cases were intended to improve the adequacy and fairness of funding education in New York. The courts concluded that significant increases in revenue from the state were needed to address the insufficient provision of education, particularly in New York City, but in other parts of the state as well. Because of the court cases, comprehensive education finance reform legislation was enacted in 2007 and first implemented in the 2007–08 school year. Soon after, however, the Great Recession occurred resulting in freezes and cuts to state aid and increased reliance on local revenue.

Summary of Main Findings

The findings herein indicate that the court cases did not result in more equitable funding across districts as measured by progressiveness and dispersion of funding. Districts serving larger shares of poor students have continued to receive less revenue and spend less than those with higher income student populations. Additionally, reductions in the difference between observed and expected levels of resources did not occur. The trends in equity levels seen over time in the State of New York after the CFE v. New York court cases show no signs of diverging from equity trends seen in other comparable states that did not undergo similar finance reform. This indicates changes in levels of equity seen in New York were not exceptional, leading to the conclusion that CFE v. New York and the subsequently legislated funding reform had no substantive impact on the degree of equity within New York.

To examine whether the lack of impact was due to poor design or lack of implementation of the legislated finance reform, I conducted several simulations to estimate the effect of finance reform on equity levels had the reform been implemented as intended. These results show that both progressiveness and dispersion would have improved drastically if the reform was fully implemented, resulting in districts with high proportions of poor students receiving more funding than their less disadvantaged counterparts and resulting in more predictable funding based on the needs of students and the characteristics of the districts that serve them.

As a final exercise, I examined how equity would have changed had the state chosen to make cuts to STAR rather than freeze foundation aid. Under the STAR system, local property taxes are reduced, and state funding is used to make up for lost revenue to school districts. The system provides the least amount of revenue to the districts with the highest amounts of poverty. If the amount of revenue currently allocated to STAR was instead used to fund foundation aid to make up for the deficits caused by the freezes, progressiveness of the distribution of funding would have improved substantially. These results demonstrate that the state's lack of commitment to equity ultimately doomed the state's efforts to finance a more adequate and equitable education system. To maintain the equitable funding of schools in times of fiscal constraint, rather than underfund foundation aid, the state could have made cuts to other pieces of state aid that are less critical to maintaining and improving equity.

Implications and Future Research

The ultimate goal of improving the funding of schools is to create a system that provides equal opportunities for successful outcomes to all students. Education is the springboard for upward mobility that enables students from impoverished backgrounds to improve their future quality of life and ability to make contributions to society socially and economically. However, recent studies have shown that gaps in student outcomes and educational attainment are growing, or at least persisting, and upward mobility in the United States has stalled (Bailey & Dynarski, 2011; Hout, 2018; Reardon, 2011). It is also the case that studies have demonstrated that court-ordered or legislatively initiated education finance reform can have substantial impacts on improving equity of inputs and subsequently outcomes, particularly for students from disadvantaged situations (Jackson et al., 2016; Johnson & Tanner, 2018; Lafortune, Rothstein & Schanzenbach, 2016). This measured impact, however, depends upon the reforms having the intended proximal outcome of distributing more funding to districts and schools with the most need—namely those with large numbers of economically disadvantaged students. Given that there was little to no change in equity of inputs demonstrated in New York, the finance reform resulting from the *CFE v. New York* court cases likely had no impact on the goal of creating an adequate education system that provides all students an equal opportunity to learn. The good news for New York is that a complete overhaul to their system of education funding is unwarranted. The state simply needs to fully fund the existing foundation aid formula. Fully two-thirds of the dollars needed to fund the foundation aid formula could simply be reallocated from the state's system of property tax relief, a component of state aid that disproportionately benefits the advantaged.

In addition to providing some specific suggestions for how education finance in New York might be improved, the presented findings serve as an example for other states that are planning to reform their system of funding elementary and secondary education. A court case overturning an education finance system is not enough on its own to create a more equitable system. In the case of New York, legislating a new funding formula to more progressively distribute dollars was also not enough to create sustained progress toward a more equitable funding system. Legislation of education finance formulas are easily derailed through lack of appropriation, as in the case of New

York. It takes sustained commitment and the often politically difficult choice to prioritize equity to sustain funding reforms which ultimately lead to fairer distribution of education revenue and more equal student outcomes.

This study also highlights the challenges economic downturns pose to creating an equitable education funding system. Baker (2018) notes that the Great Recession had a negative impact on the progressiveness of funding in several states that are well known to have a relatively progressive system of funding, such as Massachusetts and New Jersey. This study makes the case that freezes and cuts to foundation aid and subsequent increases in local revenue are to blame for the lack of improvement in progressiveness in New York. Further examination of how and why the Great Recession impacted progressiveness of school finance in other states would further contribute to the body of knowledge surrounding the funding of schools in times of fiscal constraints and how states could make better choices to maintain a fair system of funding during and after economic downturns.

References

- Abadie, A., Diamond, A., & Hainmueller, J. (2010). Synthetic control methods for comparative case studies: Estimating the effect of California's tobacco control program. *Journal of the American Statistical Association*, 105(490), 493–505. <https://doi.org/10.1198/jasa.2009.ap08746>
- Abadie, A., Diamond, A., & Hainmueller, J. (2015). Comparative politics and the synthetic control method. *American Journal of Political Science*, 59(2), 495–510. <https://doi.org/10.1111/ajps.12116>
- Andrews, M., Duncombe, W., & Yinger, J. (2002). Revisiting economies of size in American education: Are we any closer to consensus? *Economics of Education Review*, 21, 245–262. [https://doi.org/10.1016/S0272-7757\(01\)00006-1](https://doi.org/10.1016/S0272-7757(01)00006-1)
- Bailey, M., & Dynarski, S. (2011). Inequality in postsecondary education. In G. Duncan & R. Murnane (Eds.), *Whither opportunity?* New York, NY: Russell Sage Foundation.
- Baker, B. (2014). *School funding fairness in New York State: An update for 2013-14*. New Brunswick, NJ: Rutgers University.
- Baker, B. (2018). *Educational inequality and school finance: Why money matters for America's students*. Cambridge, MA: Harvard Education Press.
- Baker, B., & Corcoran, S. (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., Farrie, D., Johnson, M., Luhm, T., & Sciarra, D. (2017). *Is school funding fair? A national report card* (6th ed.) Newark, NJ: Education Law Center.
- Baker, B. D., & Green, P. C. (2015). Conceptions of equity and adequacy in school finance. In H. F. Ladd & M. E. Goertz (Eds.), *Handbook of research in education finance and policy* (2nd ed.). New York, NY: Routledge.
- Berne, R. & Stiefel, L. (1984). *The measurement of equity in school finance: Conceptual, methodological, and empirical dimensions*. Baltimore, MD, & London: The Johns Hopkins University Press.
- Campaign for Fiscal Equity v. State of New York, 100 NY2d (2003).
- Campaign for Fiscal Equity v. State of New York, 8 NY3d (2006).
- Candelaria, C. A. & Shores, K. A. (2019). Court-ordered finance reforms in the adequacy era: Heterogeneous causal effects and sensitivity. *Education Finance and Policy*, 14(1), 61–87. https://doi.org/10.1162/edfp_a_00236

- Card, D. & Krueger, A. B. (1994). Minimum wages and employment: A case study of the fast-food industry in New Jersey and Pennsylvania. *The American Economic Review*, 84(4), 772–793. <https://doi.org/10.3386/w4509>
- Card, D. & Payne, A. (2002). School finance reform, the distribution of school spending, and the distribution of student test scores. *Journal of Public Economics*, 83, 49–82. [https://doi.org/10.1016/S0047-2727\(00\)00177-8](https://doi.org/10.1016/S0047-2727(00)00177-8)
- Chakrabarti, R., Livingston, M., & Roy, J. (2014). Did cuts in state aid during the Great Recession lead to changes in local property taxes? *Education Finance and Policy*, 9(4), 383–416. https://doi.org/10.1162/EDFP_a_00141
- Chambers, J. & Levin, J. (2009). *Determining the cost of providing an adequate education for all students*. Washington, DC: National Education Association.
- Clune, W. (1994). A shift from equity to adequacy in school finance. *Educational Policy*, 8(4), 376–394. <https://doi.org/10.1177/0895904894008004002>
- Conley, D. (2003). *Who governs our schools: Changing roles and responsibilities?* New York, NY: Teachers College Press.
- Corcoran, S. P. & Evans, W. N. (2008). Equity, adequacy, and the evolving state role in education finance. In H. Ladd & E. Fiske (Eds.), *Handbook of research in education finance and policy*. New York, NY: Routledge.
- Corcoran, S. P. & Evans, W. N. (2015). Equity, adequacy, and the evolving state role in education finance. In H. F. Ladd & M. E. Goertz (Eds.), *Handbook of research in education finance and policy* (2nd ed.). New York, NY: Routledge.
- Eom, T. H., Duncombe, W., Nguyen-Hoang, P., & Yinger, J. (2014). The unintended consequences of property tax relief: New York's STAR program. *Education Finance and Policy*, 9(4), 446–480. https://doi.org/10.1162/EDFP_a_00143
- Eom, T. H. & Killeen, K. M. (2007). Birthing a new STAR in New York State. *Education and Urban Society*, 40(1), 36–61. <https://doi.org/10.1177/0013124507304126>
- Hanushek, E. & Lindseth, A. (2009). *Schoolhouses, courthouses, and statehouses*. Princeton, NJ: Princeton University Press. <https://doi.org/10.1515/9781400830251>
- Heise, M. (1995). State constitutions, school finance litigation, and the “third wave”: From equity to adequacy. *Temple Law Review*, 68, 1151–1176.
- Hout, M. (2018). Americans' occupational status reflects the status of both of their parents. *Proceedings of the National Academy of Sciences*, 115(38), 9527–9532. <https://doi.org/10.1073/pnas.1802508115>
- Jackson, C. K. (2018). *Does school spending matter? The new literature on an old question*. Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w25368>
- Jackson, C. K., Johnson, R. C., & Persico, C. (2014). *The effect of school finance reforms on the distribution of spending, academic achievement, and adult outcomes*. Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w20118>
- Jackson, C. K., Johnson, R. C., & Persico, C. (2016). The effects of school spending on educational and economic outcomes: Evidence from school finance reforms. *The Quarterly Journal of Economics*, 131(1), 157–218. <https://doi.org/10.1093/qje/qjv036>
- Johnson, R. & Tanner, S. (2018). *Money and freedom: The impact of California's school finance reform on academic achievement and the composition of district spending*. Palo Alto, CA: Stanford University.
- Koski, W. S. & Hahnel, J. (2015). The past, present, and possible futures of educational finance reform litigation. In H. F. Ladd & M. E. Goertz (Eds.), *Handbook of research in education finance and policy* (2nd ed.). New York, NY: Routledge.

- Koski, W. S. & Reich, R. (2006). When “adequate” isn't: The retreat from equity in educational law and policy and why it matters. *Emory Law Journal*, 56(3), 545–617.
- Lafortune, J., Rothstein, J., & Schanzenbach, D. W. (2016). *School finance reform and the distribution of student achievement*. Cambridge, MA: National Bureau of Economic Research.
<https://doi.org/10.3386/w22011>
- Lafortune, J., Rothstein, J., & Schanzenbach, D. W. (2018). School finance reform and the distribution of student achievement. *American Economics Journal: Applied Economics*, 10(2), 1–26. <https://doi.org/10.1257/app.20160567>
- National Education Access Network (2015). *School funding cases in New Jersey*. New York, NY: National Education Access Network. Retrieved from <http://schoolfunding.info/legal-developments/>.
- New York State Education Department (2004). *State aid to schools: A primer*. Albany, NY: New York State Education Department.
- New York State Education Department (2006a). *State aid to schools: A primer*. Albany, NY: New York State Education Department.
- New York State Education Department (2006b). *State formula aids and entitlements for schools in New York State*. Albany, NY: New York State Education Department.
- New York State Education Department (2007). *State formula aids and entitlements for schools in New York State*. Albany, NY: New York State Education Department.
- New York State Education Department (2009). *State aid to schools: A primer*. Albany, NY: New York State Education Department.
- New York State Education Department (2012). *State aid to schools: A primer*. Albany, NY: New York State Education Department.
- New York State Education Department (2013). *State aid to schools: A primer*. Albany, NY: New York State Education Department.
- Reardon, S. (2011). The widening academic achievement gap between the rich and the poor: New evidence and possible explanations. In G. Duncan & R. Murnane (Eds.), *Whither opportunity?* New York, NY: Russell Sage Foundation.
- Rebell, M. (2009). *Courts & Kids*. Chicago, IL: The University of Chicago Press.
<https://doi.org/10.7208/chicago/9780226706184.001.0001>
- Rebell, M. (2011). CFE v. State of New York: Past, present, and future. *Government, Law and Policy Journal*, 13(1), 24–30.
- SchoolFunding.Info (2018). *SchoolFunding.Info: A Project of the Center for Educational Equity at Teachers College*. New York, NY: SchoolFunding.Info. Retrieved from schoolfunding.info.
- Williams, J. (2007). The non-implementation of New York's adequacy judgement. In M. R. West & P. E. Peterson (Eds.), *School money trials: The legal pursuit of educational adequacy*. Washington, D.C.: Brookings Institution Press.
- Yinger, J. (2004). State aid and the pursuit of educational equity: An overview. In J. Yinger (Ed.), *Helping children left behind: State aid and the pursuit of educational equity*. Cambridge, MA and London, England: The MIT Press.
- Yinger, J. (2013). *Reforming education finance in New York State: Testimony before the New York Education Reform Commission*. Syracuse, NY: Syracuse University.

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