Rocketship Education: An Exploratory Case Study

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Acknowledgments

My debts are many. It goes without saying that I am solely responsible for any errors or omission in this dissertation.

Abstract

This dissertation is an exploratory case study of the finances of the Rocketship charter school chain. Where appropriate, an educational public policy lens will be applied. Rocketship is a successful not-for-profit charter management organization and is one of the oldest in the United States. This study seeks to determine if Rocketship makes money for someone, despite it being a non-profit entity, and if it does, how and where does it do so. This study also compares Rocketship to other examples of privatization in the United States, especially of public education. In order to characterize fairly and completely Rocketship's profitability, this study analyzes publicly available documents in order to track money flowing in and out of Rocketship. Using initial and renewal charter petitions, annual budget documents, filings with the California Department of Education and with the federal government, plus data from publicly available datasets, this study derives an estimate of Rocketship's profitability. **[Result #1]** TBD. **[Result #2]** TBD. **[Discussion]** TBD. **[Conclusion]** TBD. These results, it is hoped, will inform local, state, and federal legislatures when they establish public policy for charter schools.

Keywords: Rocketship Education, charter management organization, privatization, charter finances, education public policy

Introduction

If, in Harold Lasswell's words, politics is about who gets what, when, and how (Lasswell, 1936), then education is surely one of the most consequential – and fascinating — of public policy issues. At stake is the future well-being of 56.4 million students on whose behalf federal, state, and local governments spend upwards of three quarters of a trillion dollars annually. The number of stakeholders is huge: every parent and every child is a stakeholder, as are teachers, administrators, legislators, employees of fifty state departments of education, the federal Department of Education, the President of the United States, the U.S. Supreme Court, and state and local courts. Stakeholders exist throughout the United States, in states, counties, cities, towns, villages, and in almost 100 thousand schools in thousands of school districts.

Education is the arena in which parents, legislators, unions, political parties, billionaires, technologists, scholars and educators clash, all vying for influence and reward. Education is where religion, politics, free market neoliberalism, and social justice — all of them beliefs — intersect. One topic in particular has, in the last fifty years, generated a disproportionate share of discord: the privatization of public education, i.e. school choice.

Formerly sleepy school board elections have attracted national interest, and with that interest, a flood of money. The 2020 Los Angeles school board election cost over $14M for just four seats and generated articles in the national media. Likewise, a statewide proposition in Massachusetts to limit charter school expansion was covered extensively by national newspapers with one advocacy group spending more than $15M (not including a $425,000 fine for violating campaign law). And Betsy DeVos, U.S. Secretary of Education under the twice impeached President Donald Trump, drew fierce criticism from the start of her tenure, criticism which was endlessly reported on. What caused these uproars? Why was so much money spent on these and other elections? The answer is charter schools.

About Charter Schools

Schools in the United States take three basic forms: the traditional public schools (TPSs), charter schools, and private schools. All but six states[1] allow some form of charter school; all have private schools and an extensive public school system. Properly speaking, school choice encompasses public, charter, private, and homeschooling. But, because charter schools have been the most controversial, the phrase "school choice" commonly refers to charter schools.

Schools, under this definition of school choice, take a number of forms: they can, like TPSs be in-person, but unlike TPSs, they can also be online (virtual), or even a blend of the two. How school choice is financed varies as well. School vouchers, education savings accounts, and tax-credit scholarships have all been used, usually augmented by tax dollars. The notion of school choice has also been extended to cover 529 savings accounts, student income loans, social impact bonds, and philanthrocapitalism.

Regardless of how school choice financed, school choice complicates what used to be a simple system of mostly public schools and a few private schools. This new kind of financing has raised the some fundamental questions: Who benefits from this new financing? Do the children for whom education is the difference between poverty and flourishing benefit? Is education is being turned into a low-risk, profitable investment for hedge funds, private equity firms, investment banks, and the 1%?

The various forms of school choice have waxed and waned, but charter schools were present at the creation of the privatization movement in education, and have continued to enroll more and more students, diverting more and more dollars out of the public school system (Lafer, 2018, p. 18)(Lafer et al., 2021, p. 9). School choice has spawned an entire industry devoted to marketing school choice: academic departments and institutions,

[1] Kentucky, Montana, Nebraska, North and South Dakota, and Vermont

educational associations, think tanks, astroturf[2] advocacy groups, and political action committees; all are examples of the marketing of the privatization movement in education.

According to the National Center of Education Statistics of the U.S. Department of Education, there were 7,427 elementary and secondary charter schools in the United States enrolling 3,290,149 students in 2018, the latest year for which there is data (Brey et al., 2021, Table 216.90, p.144). This represents 7.5% of the total number of schools and 6.5% of the total number of students in the United States. The state with the greatest charter school presence was California which had 1,358 schools (13.0% of the total) and 652,825 students (10.6%). Within California, in the 2019–20 school year, charter schools in Santa Clara County enrolled 31,584 students (13.6% out of 231,865) (California Department of Education, n.d.).

These are notable patterns, and the SARS-CoV-2 virus, which caused the COVID-19 pandemic, has accelerated the growth of charter schools, in contrast to recent years of slowing growth. This growth appears to be almost completely due to the expansion of virtual charter schools (Strauss, 2021). Despite continued growth, charter schools remain controversial and have generated heated debate. Reports and studies from charter school opponents have been answered by reports and studies from charter school advocates. Both sides claim their methodology to be superior and consider the other side's fatally flawed.[3]

What the research indicates is that *some* charter schools, under *some* circumstances, for *some* students, seem to do *somewhat* better than either public schools or independent charter schools. (Garcia, 2018, p.119) Charter schools are, on average, just average. If charter schools are on average not better than public schools, why are they so fervently touted as the answer to the perceived ills of American public education? Why are

[2]Wordnik definition: "The disguising of an orchestrated campaign as a "grass-roots" event – i.e., a spontaneous upwelling of public opinion."

[3]Jeffery Henig in *Spin Cycle: How Research is Used in Policy Debates: The Case of Charter Schools* (J. Henig, 2009) offers a fascinating look at the war of words that resulted from just one report and one newspaper article.

eye-popping sums (10× the usual amount) spent supporting public school board candidates who advocate for charter schools? Why are charter schools still growing in both enrollment and in numbers? My goal in this dissertation is to offer some answers to questions like these by looking closely at the finances of a single charter school chain, Rocketship Education, and analyzing how Rocketship spends its revenues.

I will use the term *charter school chains* to refer both to for-profit and to non-profit organizations that manage more than one charter school. Charter school chains are essentially franchise operations like McDonald's or Hertz, but in education instead of hamburgers or rental cars. For-profit charter school chains have traditionally been called *educational management organizations (EMOs)* and non-profit charter school chains *charter management organizations*, but since there is little difference between the two, I will use *charter school chains* when the distinction is unimportant.

The remainder of this chapter provides some context for why I conducted this study. The chapter "A Review of the Literature" discusses the voluminous literature on charter schools. The next chapter, "Research Design and Methodology", details what data was collected and how it was collected, and how it was analyzed. The chapter "Findings and Results" provides the results of analyzing that data in context of this study's research questions (section "Research Questions"). The last chapter "Discussion" considers the public policy implications of my study and its conclusions, and makes some suggestions for how current public policy should be changed to achieve some of the seven goals that the California Legislature set out in *The Charter School Act of 1992*.

What is the Purpose of this Study?

The goal of this case study is to analyze carefully and fully the finances of Rocketship Education and associated entities. I chose Rocketship Education[4] to study because its longevity indicates some measure of popularity, and because it shares key attributes with other charter schools and charter school chains. This popularity has led to core aspects of its model being adopted by other charter schools, for example, the Caliber Public Schools or the Navigator Schools in California.

Charter schools, Rocketship included, offer themselves as better alternatives to traditional public schools. Rocketship claims that its pedagogical model of blended learning

- is more efficient than that of traditional public schools,
- offers personalized learning[5] through computer-mediated instruction, and
- offers the human connectedness (at least part of the time) of traditional public schools.

These are substantial claims that studies other than this one should test. But those studies need to be carefully designed since one cannot eliminate confounding variables by randomly assigning students to a school; one has to work with whatever student population exists. Several choices of design are possible, and some researcher's choices have been criticized on methodological grounds.

Although many studies have looked at charter school outcomes, including one specifically on Rocketship's effect on Milwaukee's public schools if proposed legislation

[4] Rocketship Public Schools is the new name of Rocketship Education, but since it has been Rocketship Education for much longer than it has been as Rocketship Public Schools, I've chosen to retain the former name. Also, I'll use just Rocketship to mean either the charter management organization (CMO) or a generic Rocketship school, depending on context.

[5] Note that personalized learning is not the same differentiated instruction. All students follow the same path with personalized learning, albeit at different rates, instead of following different paths at different rates, as with properly implemented differentiated instruction.

were to have been passed, but Rocketship's finances have not been studied in detail, until now.

Several themes run through this study. The first is Rocketship's relationship to the privatization movement in education. The second is how Rocketship's finances drive its need to expand. The third is how Rocketship needs continued marketing and public relations to survive. These themes lead to the following research questions:

Research Questions

Research question #1 How are Rocketship finances similar to or different from other charter schools, charter school chains, or traditional public schools?

Research question #2 How are Rocketship's attributes and actions similar to other privatization efforts in the United States?

Research question #3 Has Rocketship structured itself to earn a return to investors, and if so, how?

More broadly, there are additional reasons for studying charter school finances. Are we (the states, the federal government) misallocating the money we spend of charter schools? Could we be spending our tax dollars more wisely? What did taxpayers get for their money?

The Importance of This Study

This case study is the first to examine in depth the finances of a single charter school chain. Up to now, there have been studies of the finances of independent charter schools or charter school chains, but only in aggregate (i.e. all known charter school chains in the United States,[6] or a selected group of charter school chains). Other studies have looked at the effects of charter schools on segregation or on academic achievement, but again, only in aggregate. None have studied the finances of just a single charter school chain.

[6] See Miron et al. (2021) for a list of currently known charter school chains.

It is hoped that the lessons learned from this case study will be used by policy makers to strengthen charter school law in California and elsewhere in order to increase desired outcomes and to minimize unwanted outcomes.

Theoretical and Conceptual Frameworks

According to Grant and Osanloo (2014), creating and understanding the theoretical framework for one's dissertation is "one of the most important aspects in the research process." (p.12) They liken the theoretical framework of a dissertation to the blueprints that define a house. That framework both defines the organization and the structure of a dissertation, as well as what counts as elements and their relationships. A theoretical framework articulates

> ...the researcher's understanding of how the research problem will best be explored, the specific direction the research will have to take, and the relationship between the different variables in the study.
>
> (Grant & Osanloo, 2014, pp. 16–17)

Further,

> the conceptual framework offers a logical structure of connected concepts that help provide a picture or visual display of how ideas in a study relate to one another within the theoretical framework.
>
> (Grant & Osanloo, 2014, pp. 16–17)

This dissertation uses a case study approach as its theoretical framework within a public policy framework, its conceptual framework.

A Case Study Approach as a Practical Framework

Broadly, social science research falls into one of two categories. The research may make many observations with a narrow focus, or may instead adopt a broader focus, but with a

correspondingly smaller number of observations. Gerring calls these "large C" or "small C" studies, respectively (Gerring, 2017, p. xvii). Of course, the boundary between large C and small C studies is not sharply defined.

Gerring calls small C studies *case studies*. In this dissertation I look at one entity, Rocketship Education, and at only one aspect of Rocketship, its finances. But I look at its finances broadly, examining as many different kinds of financial transactions as are publicly available for the subset of Rocketship schools that are in Santa Clara County. I discuss the elements of what makes a case study a good case study in section "Judging Case Studies" of the chapter "Discussion".

McCombes (2019) says that case studies are a "detailed study of a specific subject, such as a person, group, place, event, organization, or phenomenon". They are 'good for describing, comparing, evaluating and understanding different aspects of a research problem" and are "an appropriate research design when it allows you to explore the key characteristics, meanings, and implications of the case." Two papers go into detail about using the case study approach: Crowe et al. (2011) and Rashid et al. (2019). Robert Yin's textbook, *Case study research and applications*, provides a detailed methodology for doing case study research well.

A case study framework for public policy research is ideal because the theory and practice of case studies is well-known and has been used both for public policy research and in public policy analysis for years. A case study framework formalizes an in-depth examination of a single topic, in this case, Rocketship's finances.

Public Policy as a Theoretical Framework

A public policy framework provides a rich set of tools and techniques with which to analyze Rocketship's finances. Three factors justify using a public policy framework to guide understanding and evaluating Rocketship's finances. Firstly, charter school finance is

constrained primarily by public policies set by state legislatures, the creators of charter schools. These laws regulate taxes, grants, borrowing capacity, and reporting requirements of charter schools and charter school chains (Aguinaldo et al., 2020), and by definition, whatever falls within the purview of legislators is public policy. Secondly, Harry Brighouse et al., in *Educational goods*, provide a succinct definition of what public policy analysis is which matches the purpose of undertaking this case study. They use a values, evidence, and decision-making framework "to make judgments about how well specific policies are likely to realize valued outcomes" (Brighouse et al., 2018, p.1). Lastly, these three concerns — values, evidence, decision-making — are considered the key concerns by academics and researchers in the public policy field (Bueno de Mesquita, 2016; Clemons & McBeth, 2021; Fowler, 2013; Gupta, 2011). Using a public policy framework is appropriate when examining charter school finances.

The discipline of public policy sanctions a wide variety of tools and techniques when analyzing issues. Public policy has been studied for years (there are public policy departments in many universities) and it is a mature area of academic research. As in most academic fields, there are fierce debates about the merits and robustness of a particular approach compared to alternatives, but at a high level, what to do is generally agreed upon. Most identify the following five steps (or variants thereof) that are used when doing" public policy:

1. Define the issues and set the agenda.
2. Formulate one or more policies that address the issues identified.
3. Evaluate those policies using tools and techniques like cost-benefit analysis, value analysis, political feasibility, game theory, and economic analysis.
4. Implement those policies by passing legislation, changing practices, or by using the courts.
5. Evaluate the effectiveness of the policy changes.

Two keys to identifying alternatives during policy formation and later when evaluating

consequences is choosing or creating a model and forecasting. Models identify what is going to be studied and their relationships, and forecasting is a prediction of the future whose consequences are (hopefully) identified in a model. Scott Page lists 26 different models in *The model thinker* that have been used in science, business, and medicine.

This dissertation relies on two excellent guides to public policy: *Policy studies for educational leaders* by Francis C. Fowler which offers a broad and complete treatment of public policy specifically in the field of education, and *Public Policy Praxis* by Randy S. Clemons and Mark K. McBeth An additional comprehensive treatment of public policy can be found in Gupta (2011).

A Review of the Literature

American public education has – allegedly – been a failure, and hence, in desperate need of reform ever since the idea of free public education took hold in the early 1800's[7]. Since then, a succession of educators and reports have documented the abysmal [sic] state of American education. Prior to the Civil War, Horace Mann introduced reforms which were widely copied (Pulliam & Van Patten, 2007, p. 147). Later, John Dewey, a leader in the progressive era, preached reform, but it really wasn't until the publication of *Nation at Risk* in 1983 that the modern zeal for education reform rose to prominence. J.D. Pulliam and J.J. Van Patten list 29 major education reform reports from 1982 to 2005 (p.252). That American public education needed reform was repeated constantly, mainly by conservatives, despite underwhelming evidence of its veracity and substantial evidence to the contrary. Through repetition, the need for reform has become accepted wisdom. The answer to this need was to take the government's monopoly on education out of the hands of faceless bureaucrats and subject it to the rigors of free markets which would, it was asserted, with scant evidence, increase efficiency, choice, and quality. Thus vouchers and charter schools were legitimized.

No amount of research, it seems, can dispel the *idée fixe* that American education was in dire straits, and further, piecemeal changes were simply not enough to make substantive changes. No matter what J. R. Henig (1994) or D. C. Berliner and Biddle (1995) or Nichols et al. (2007) or Glass (2008) or D. Berliner and Glass (2014) wrote, the idea that American education needed fundamental, pervasive reform persisted.

To be clear, it is not the case that every American school is a model for the rest of the world. Roithmayr (2014) and Heitzeg (2009) provide many examples of schools which have been referred to as school-to-prison pipelines. But it is also clear that those schools have

[7]Wikipedia has an excellent summary article on *Education in the United States* `https://en.wikipedia.org/wiki/Education_in_the_United_States`

been systematically underfunded for decades; their dismal performance is more likely the result of the poverty of their neighborhoods and their lack of funding than it is the other way around. For example, the California School Boards Association's (CSBA) Education Legal Alliance Adequacy Committee found that there exists a "substantial gap in funding between what K-12 education [in California] receives and what K-12 education needs even to meet the standards prescribed by the state (Bray, 2015, *iii*). Bruce D. Baker et al. in their aptly titled report *The Real Shame of the Nation*, develop their *National Education Cost Model* (B. D. Baker et al., 2018, p. 5) which accounts for regional cost differences as well different funding levels to show that inadequate funding is pervasive throughout the United States. David R. Garcia says in *School Choice* that the "existence and importance of the issues that reformers believe plague public education are based as much on tradition and reputation as they are on tangible research evidence" (Garcia, 2018, p. 54). Finally, and tellingly, grossly inadequate funding is a characteristic of communities that are racially segregated and who are not white (Darling-Hammond, 2012; Rothstein, 2017).

What is astonishing is that Jeffrey R Henig's book, *Rethinking school choice*, which came out a mere three years after the passage of the nation's first state charter school law in Minnesota[8] and two years after the second in California[9] lays out a key argument against charter schools. Henig says, "[T]he real danger in the market-based choice proposals is not that they might allow some students to attend privately run schools at public expense, but that *they will erode the public forums in which decisions with societal consequences can democratically be resolved*." (emphasis added) (J. R. Henig, 1994, *xiii*). The belief that that American schools were in crisis is simply not supported by the evidence. But the idea that American schools are in crisis has been relentlessly promoted, and sheer repetition has turned fiction turned into fact; charter schools then become an idea whose time had come. But charter schools

[8] Laws of Minnesota 1991, chapter 265, article 9, section 3

[9] Education Code, Title 2, Division 4 Part 26.8, §47600 *et. seq*

didn't take off until "education reformers across party lines realized that charter school laws could be crafted in ways that made it possible to open nonunion public schools, or even allow public schools to be managed by for-profit companies" (Goldstein, 2015, p. 172).

This literature review will first look at charter schools, their origins and the early research, before examining the types of charters which exist. Then it looks at the various models of charter schools like virtual charter schools, charters which use blended learning, and charter management organizations before taking a close look charter schools in Santa Clara County and in Rocketship in particular. It ends with consideration of the finances of charter schools, especially virtual or blended charter schools.

A History of Charter Schools

Charter schools (privately run, but publicly financed schools) had an ugly origin in the post-*Brown v Board of Education* era as a method of evading the U.S. Supreme Court's mandate to educate both black and white Americans equally and not separately. Fifty years later, charter schools turned segregation academies into the preferred vehicle for privatizing public schools for profit while maintaining segregation.

The Origins of Charter Schools in Segregation

The first charter schools were not founded for educational or economic reasons. Charter schools had their origin in the aftermath of *Brown v. Board of Education, 347 U.S. 483 (1954)*. "[*Brown*] was the genesis of school choice as a public policy mechanism." (Garcia, 2018, p. 8) In the Deep South, academies sprung up as part of the massive resistance to the U.S. Supreme Court's unanimous 1954 ruling that:

> Segregation of children in public schools solely on the basis of race deprives children of the minority group of equal educational opportunities, even

> though the physical facilities and other "tangible" factors may be equal. Brown v. Board of Education, 347 U.S. 483 (1954) (USSC+)

In order to circumvent *Brown*, white parents in eleven states formed thousands of private schools, and until the early 1970's, these segregation academies received public funds (Rooks, 2017, p. 81). These origins of charter schools have been amply documented, in Frankenberg et al. (2010), Frankenberg et al. (2011), and especially in Suitts (2019) and Suitts (2020). Michelle Alexander in *The new Jim Crow* (Alexander, 2011, p. 223) quotes Rosenberg (1991, p. 52) "The statistics from the Southern states are truly amazing. For ten years, 1954–1964, virtually *nothing happened*." [emphasis in Alexander (2011)] She goes on to say,

> Not a single black child attended an integrated public grade school in South Carolina, Alabama, or Mississippi as of the 1962–1963 school year. Across the South as a whole, a mere 1 percent of black school children were attending school with whites in 1964—a full decade after *Brown* was decided.

In the years after *Brown*, some localities went further than merely forming segregation academies. Prince Edward County in Virginia closed all of its schools for five years rather than integrate. Others closed pools, parks, zoos, and recreational facilities instead of integrating. This deliberate evasion of racial equality continued until a 1968 Supreme Court ruling put a stop to the practice of closing public facilities to avoid integrating them (Brennan, 1968).

The irony is that charter schools started life as 100% white, and now, when they serve minority students, these minority students are intensely segregated. Frankenberg et al. (2019) noted that

> Nearly three out of four students in the typical black student's charter school are also black. This indicates extremely high levels of isolation, particularly given the fact that black students comprise less than one-third of charter

> students. Latino isolation is also high, but not as severe as for blacks or whites across all charter schools. (p. 47)

Unfortunately, these segregation academies still exist, but instead of excluding children of color the way segregation academies did, they only include children of color and they are no longer called segregation academies but are instead called charter schools.

Nikole Hannah-Jones, in her keynote speech at the Network for Public Education's Fourth Annual Conference, said that it has never been the case that a majority of African-Americans have attended majority white schools ("Nikole Hannah-Jones's keynote speech at the Network for Public Education, 4th Annual Conference," 2017). She then added ruefully, that this was quite a feat considering that African-Americans make up only 13% of the population of the United States. Orfield and Frankenberg (2014) note that the percent of African-Americans in majority white schools rose from 0% in 1954 to a peak of 43.5% in 1988 before steadily declining to 23.2% in 2011. (Table 3: Percent of Black Students in Majority White Schools, 1954–2011 Orfield & Frankenberg, 2014, p. 10). Hannah-Jones also commented that American public education doesn't even live up to the Separate but Equal doctrine espoused in *Plessy v Ferguson* and overturned by *Brown v Board of Education*: schools are still segregated schools and are still unequal.

Charter Schools, Free Markets and Privatization

Just a year after *Brown*, Milton Friedman published his article "The Role of Government in Education" in *Economics and the Public Interest* that reframed charter schools as an economic problem in education instead as a solution to evade or avoid court-ordered integration. That paper ensured that charter schools would no longer be morally tainted by their association with virulent racism, but rather charter schools would break the government's monopoly on education by creating a free market where parents could choose the best

alternative from an array of competing choices. Left unspecified was how the free market would ensure that the array of competing choices actually offered valued educational alternatives rather than merely alternatives in different locations.

In 1981, Ronald Reagan ran and became President of the United States based on a platform of less government is better government. This platform included eliminating the U.S. Department of Education ("The Republican Party platform of 1980," 1980). True, eliminating the Department of Education is not the same as shutting down an entire school district the way white parents did in 1964, but the thought is there. Ian Haney-López expertly dissects how it's possible to voice racist thoughts without actually using racial words, a practice perfected by President Ronald Reagan (Haney-López, 2014).

Now, only liberty and freedom matter, in education, as in other fields. It's school choice or bust; school choice is proffered not only as *the* panacea for all that ails America's schools, but it is touted as the morally right thing to do. With no trace of irony, the twice impeached President Donald Trump framed school choice as the "civil rights issue of our time" in a garbled statement at the signing of an executive order on Safe Policing for Safe Communities:

> School choice is the civil rights statement of the year, the decade and probably beyond. Because all children have to have access to quality education. A child's zip code in America should never determine their future.
>
> (as quoted in Lennox, 2020)

Education reformers have latched on to the notion that schools need to be privatized and freed from bureaucratic control for reasons of efficiency, increased flexibility, and accountability (Garcia, 2018, p. 63). This claim is made despite educational management organizations (EMOs) themselves being opaque bureaucracies.

In 2015, Bruce Baker and Gary Miron identified four major policy concerns with the privatization of public education:

1. A substantial share of public expenditure intended for the delivery of direct educational services to children is being extracted inadvertently or intentionally for personal or business financial gain, creating substantial inefficiencies;
2. Public assets are being unnecessarily transferred to private hands, at public expense, risking the future provision of "public" education;
3. Charter school operators are growing highly endogenous, self-serving private entities built on funds derived from lucrative management fees and rent extraction which further compromise the future provision of "public" education; and
4. Current disclosure requirements make it unlikely that any related legal violations, ethical concerns, or merely bad policies and practices are not realized until clever investigative reporting, whistleblowers or litigation brings them to light.

(B. Baker & Miron, 2015, p. 3)

In California at least, these policy concerns have not been addressed in the six years since Bruce Baker and Gary Miron wrote about them[10].

Charter schools are now just one of the many forms of *privatization*, when public functions are performed by private parties for profit. Privatization is a manifestation of the corporate takeover of the world. More than fifty years ago, G. William Domhoff published the first of seven editions of *Who rules America?* (Domhoff, 2014) in which he argues that corporations and the corporate elite really run the United States, and by extension, the world. Si Kahn and Elizabeth Minnich make much the same point in their book *The fox in the henhouse: How privatization threatens democracy* (Kahn & Minnich, 2005). They list "[s]chools, prisons, welfare, Social Security, water and sewer systems, buses, trains, subways, highways, waterways, sanitation systems" (p. 30) as examples of formerly

[10]Changes in policy to address some of these concerns have been strenuously opposed by charter school advocates. For example, the California Charter Schools Association opposed an accountability bill, *AB1316 School accountability: financial and performance audits: charter schools: contracts. (2021–2022)*, which merely sought to make charter school finances more transparent.

government run functions that are in whole or part privatized. They could have also listed postal mail, air traffic control, space travel, and now every facet of education, as being wholly or partly privatized. Donald Cohen and Allen Mikaelian lay out in depressing detail how privatization has infiltrated American life and the consequences of this takeover of public goods by private firms run for profit. (Cohen & Mikaelian, 2021).

Privatizers make money by turning goods or services that used to be publicly available into private goods and services that must be paid for before they can be used. The canonical example of privatization is the enclosure of the commons in Britain whereby land which used to be collectively owned by a village was now owned by an individual who charged villagers for the use of that land (Simon Fairlie, 2009). But that's not the only way to turn a profit. In addition, privatizers can:

- Obtain tax benefits
- Invest in other firms with public monies
- Invest in financial instruments with public monies
- Obtain a monopoly
- Engage in fraud, corruption, or outright theft
- Engage in self-dealing
- Obtain grants or loans on unusually favorable terms
- Sell what doesn't belong to them
- Avoid paying for externalities
- Pay below market rates for goods or services
- Skew public-private partnerships to create unearned profits
- Engage in pay-for-success contracts
- Offer social impact bonds

Charter school opearators have even more options. They can inflate enrollment, charge excessive management fees, mis-characterize expenses, omit or inaccurately report financial data, fail to open a school or close one soon after receiving a grant, and sell their facilities to investors and lease them back at inflated prices. Many charter schools have a long history of duplicitous or fraudulent actions (In the Public Interest, 2018; Burris &

Bryant, 2020; B. Baker & Miron, 2015).

School choice has been relentlessly marketed and promoted by billionaires who do not send their children to public schools.[11] The Walton family, Eli Broad, Bill Gates, the Koch brothers, the Zuckerbergs, and Laurene Jobs, are all on the list of the 500 richest people in the world. Their collective wealth exceeds half a trillion dollars, and they are busily engaged using that wealth to fix the very problems that their accumulation of wealth caused. Anand Giridharadas whose book, *Winners Take All*, has the subtitle *The Elite Charade of Changing the World*. It's a "Trying-to-Solve-the-Problem-with-the-Tools-That-Caused-It issue" he says. (Giridharadas, 2018, p. 142).

The impact of the billioniaires on education cannot be emphasized enough. Bill Gates made $2B in grants aimed at creating smaller schools (Gates, 2009, p. 11), despite a lack of evidence that they were educationally valuable. He eventually abandoned the effort for lack of results. Gates was also instrumental in funding the creation of the Common Core State Standards whose premise was that if we only had high enough academic standards, then student outcomes would improve.

Types of Charter Schools

Charter schools can broadly be classified along three axes:

authorizer/oversight What entity approved their charter and who will exercise oversight of their operations?

profit/non-profit Are they intended to generate a profit, or are they strictly non-profit?

in-person/blended/virtual Are their classes in-person, virtual, or a blend of the two?

[11] Diane Ravitch lumps these billionaires together, calling them the "Billionaires Boys Club", an epithet first used in *The Death and Life of the Great American School System*.

Charter School Authorizers and Oversight Charter schools in California are potentially subject to a three step process to gain authorization to operate. The first step is to submit a petition to the school district in which the charter wishes to reside. This petition must contain a number of required elements, all of which are specified in Education Code §47605(c)(5)(A–O), the so-called "15 Required Elements (A-O elements)" (Aguinaldo et al., 2021, p. 89). Besides some technical details, the petition must contain a description of the charter's annual goals which must align with state priorities, for all pupils and for various subgroups; how these outcomes are to be measured; how the charter is to achieve a racial and ethnic balance similar to its district, its governance structure, and its finances.

If the petition contains all the required elements, then the public school district may approve the petition, with or without additional stipulations. If the public school district denies the charter school's petition, the charter school may appeal that denial to County Board of Education (CBOE) of the county in which it resides, and if the CBOE denies the charter school's appeal, under certain circumstances, the charter school may appeal to the State Board of Education (SBE). A denial by the SBE terminates the process.

Public school districts (LEAs, local education agencies, in the parlance of the CDE) may authorize one several kinds of charter schools. A district may sponsor a charter school directly, in which case they exercise oversight. These dependent charter schools are authorized by the local public school board and are subject to the board's jurisdiction. It also is possible for all the schools in a district to convert to charter schools, and then the public school board becomes the charter school board.

Table 1 on the following page shows a summary of the attributes of the types of schools in California.

Profit-Making Status Until the 2019–20 school year, charter schools in California could be run directly or indirectly by a profit-making organization. California now prohibits

Table 1
Attributes of Private, Charter, and Public Schools in California

	Private	Charter	Public
Funding	parent tuition	tax dollars	tax dollars
Governance	self-appointed	self-appointed	elected board
Duration	unlimited	time-limited	unlimited
Ed. Code	no	no	yes
Taxation Powers	none	none	limited
Facilities Bonds	yes	yes	yes
Enrollment	limited	limited	unlimited
Unionized	rarely	perhaps	usually
Curriculum	completely flexible	flexible	mostly fixed
Standardized Testing	no	yes	yes
Accountable	no	authorizer	state & parents
Teacher Certification	sometimes	usually	often not
Teacher Pension	perhaps	perhaps	yes

profit-making organizations, either a single school or a charter management organization, from submitting an initial charter school petition or a renewal.

Even though profit-making charters are banned, there are many ways of getting around this restriction. Charter operators can contract with outside firms to provide services, and those firms may be profit-making firms. Charter operators are able to lease, buy, or sell their facilities, and those rental or sales or purchases can generate a profit. Charter operators can sell their facilities and lease them back from the buyer. This kind of financial transaction converts an illiquid asset (buildings) into a liquid asset, cash, and also generates a revenue stream from the rental income, all of which is ultimately paid for by taxpayers. Charter operators may also charge schools a management fee or an expansion fee. Charter operators are not restricted in the salaries they pay administrators.

However, charter school board members have recently become subject to the conflict-of-interest laws specified in Government Code (Gov. Code) §§1090–1099 and §§87100–87314. Generally, government officials are prohibited from benefiting financially

from their positions as public servants, but it remains to be seen if these conflict-of-interest laws will prevent profiting by school board members.[12]

Type of Instruction Charter schools, unlike almost all public schools, vary in their instructional format. In-person instruction is the same as traditional public schools. On the other hand, virtual charter schools have no face-to-face instruction; everything is mediated by some sort of technology, typically, computers running specialized software. Blended instruction is a mixture of in-person and virtual instruction.

Virtual charter schools have been studied extensively by Alex Molnar, Gary Miron and others and at the National Education Policy Center, University of Colorado, Boulder since 2013. (*Virtual Schools in the U.S. 2013*, 2013; Molnar, 2014, 2015; Miron & Gulosino, 2016; Molnar, 2017; Miron et al., 2018; Gary Miron et al., 2019) Their findings over the course of nine years are depressingly consistent: virtual school not run by a public school district significantly underperform public schools. Their conclusions are echoed by Woodworth et al. (2015) and Garcia (2018). Yet, despite being clearly academically inferior to public schools, the number of students attending virtual schools has risen year after year. Their pre-pandemic growth seems to be slowing, but their performance, compared to TSPs, has not measurably improved.[13] (Gary Miron et al., 2019, p. 11).

Pre-pandemic, charter schools were legally deemed virtual if students spend more than 80% of their time in front of a computer. Blended charter schools, on the other hand, offer some sort of face-to-face interaction with a teacher. But they too offer only marginally better educational outcomes than fully virtual charter schools (Gary Miron

[12]The law is necessarily complex. Two useful guides are Chaney et al. (2010) and Kevin Ennis et al. (2016) (which run to nearly 300 pages). A more general guide to local government ethics is "Understanding the Basics of Public Service Ethics" from California's Institute for Local Government.

[13]Although *Charter Schools in Perspective: A Guide to Research* is otherwise an excellent summary of the research on charter schools, they incorrectly state (p.117) that there is little research of online or virtual charter schools. The authors must not be aware of the NEPC series on virtual charter schools. However, according to Gary Miron et al. (2019, p. 117), there is only one study on blended charter schools.

et al., 2019, p. 52).

Charter Schools in the United States

Charter schools are one of several different kinds of school choice that are or have been available in the United States. Vouchers, private schools, home schooling, educational savings accounts, freedom-of-choice plans, magnet schools, and open enrollment are all forms of school choice. Home schooling accounts for less than 5% of all the students in United States. Private schools enroll about 12% of the total. Magnet school account for a few percent. Roughly, the various form of school choice account for a quarter of all American students.

The characteristic that home schooling and private schools share is that they are agnostic toward public schools. Not so for charter schools, voucher, and freedom-of-choice plans. Charter schools, which account for 6.5% of all students, vouchers, educational savings accounts, and freedom-of-choice plans explicitly want to supplant or replace public schools. (Garcia, 2018, pp. 5, 15, 35).

The first charter schools, other than segregation academies, were founded in Milwaukee, Wisconsin in 1991, followed by California starting in 1993. Conceptually, charter schools were based on an amalgam of ideas from Milton Friedman, Albert Shanker, and Ray Budde. Milton Friedman came at it from an ideological point of view couched in economic terms. Albert Shanker, in 1988, in a speech at the National Press Club, proposed that *teachers* in conjunction with *parents* be allowed to form a school *within* a school district. There was no mention of competition, or free markets, or even of charter schools. Shanker's speech emphasized curriculum, and learning, not governance or finance. Ray Budde first thought of charter schools in the early 1970s, but his proposal generated no interest and it wasn't until 1988 that he published his ideas (Budde, 1988).

Charter Schools in California

Charter schools, in California as elsewhere in the United States, enter into a contract (the charter) with a chartering authority that specifies what they are to do and how, and in return, are exempt from the entirety of California's Education Code (with the exception of five technical provisions). The California Legislature intended by enacting the *The Charter School Act of 1992*[14] (Ed. Code §47600) that the charter schools

a) Improve pupil learning.

b) Increase learning opportunities for all pupils, with special emphasis on expanded learning experiences for pupils who are identified as academically low achieving.

c) Encourage the use of different and innovative teaching methods.

d) Create new professional opportunities for teachers, including the opportunity to be responsible for the learning program at the schoolsite.

e) Provide parents and pupils with expanded choices in the types of educational opportunities that are available within the public school system.

f) Hold the schools established under this part accountable for meeting measurable pupil outcomes, and provide the schools with a method to change from rule-based to performance-based accountability systems.

g) Provide vigorous competition within the public school system to stimulate continual improvements in all public schools.[15]

It is important to keep these seven goals in mind because charter schools have contractually agreed to these goals in return for funding, independently of whatever other goals they explicitly specified in their charter. Note, in particular, that nothing has been

[14] Current California law can be accessed at `https://leginfo.legislature.ca.gov/faces/home.xhtml`. California Regulations are accessed at `https://ccr.oal.ca.gov`. California's Education Code (Ed.Code) is at `https://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=EDC&tocTitle=+Education+Code+-+EDC`

[15] This goal was added in 1998.

said about profitability, and in fact, California enacted a prohibition against for-profit charter schools (Ed. Code §47604 et seq.) in 2018.

The act has been amended many times in its nearly 30 years of existence, but its intent has remained the same.

Surveys of Charter School Research

It's been about 30 years since the first charter school law was past. In the last decade, researchers have published several surveys of the research on charter schools. The prior two decades were somewhat experimental and different enough that the research that came out of that period is less relevant than the research done more recently because so little was known. Chronologically, the first study is "Beyond ideological warfare: the maturation of research on charter schools" by Joanna Smith et al. which is a systematic review of charter school research as it existed in 2011. Smith et al. (2011) are interested, not so much in the conclusions, but how the research was performed, how was it structured, what facets of charter schools were looked at, and what was the subject of the research in order to "separate empirical evidence from politicized conjecture" (p. 460). Five years later, Dennis Epple et al. did much the same, but concentrated on the technical aspects of study design (Epple et al., 2016). One valuable observation Epple et al. make is to clarify exactly what research question was being answered by a particular study. Often the answer was much narrower or significantly different than the research question(s) that authors set out to answer or thought they were answering. Mark Berends in "Sociology and School Choice" chose as his focus the various theories that researchers used when looking at the social organization of charter schools. In addition to the previously mentioned *Charter Schools in Perspective: A Guide to Research*, the most recent survey (2019) is by Ron Zimmer et al. In *Nearly three decades into the charter school movement, what has research told us about charter*

schools? they look at who is served, racial segregation effects, both academic and non-academic outcomes, management structure, and financial effects. Garcia (2018), in Chapter 3 (pp. 91–146), contains much material on the research evidence which guides (or should guide) school choice policies. His goal is to present general trends that "reflect the weight of the evidence" (p. 93).

Research on Charter School Finances

Charter schools have been much studied, and the last decade has produced a number of reports based on carefully collected evidence. For example, in 2014, Gordon Lafer, now at In the Public Interest, published an analysis of proposed laws in Milwaukee, WI (Lafer, 2014) that were specifically tailored to benefit a to-be-opened Rocketship school. Lafer went on to author two other studies on charter schools, public policy, and finance: *Spending blind: the failure of policy planning in california charter school funding* and *Breaking point: The cost of charter schools for public school districts*. Carol Burris, Executive Director of the Network for Public Education, and several co-authors have produced three reports on charter schools: Burris and Pfleger (2020), Burris and Bryant (2020), and Burris and Cimarusti (2021). The National Education Policy Center is a loose organization of over 150 scholars and academics at different universities whose goal is "to produce and disseminate high-quality, peer-reviewed research to inform education policy discussions" ("About the National Education Policy Center," n.d.). The NEPC has produced hundreds of reviews of research, policy and legislative briefs, policy memos and research briefs, some of which are annual surveys of charter schools. The series on profiles of EMOs have been produced annually for fifteen years; the series on virtual charter schools, for ten years. Bruce Baker's contributions here are especially noteworthy: *The business of charter schooling: Understanding the policies that charter operators use for financial benefit.* B. Baker and Miron (2015), "NEPC Review: California Charter Schools: Costs, Benefits, and Impact on School Districts

(Center on Reinventing Public Education, May 2019)" B. D. Baker (2019), and the above mentioned *Profiles of For-Profit and Nonprofit Education Management Organizations: Fifteenth Edition* Miron et al. (2021).

Gordon Lafer's report, *Spending blind: the failure of policy planning in california charter school funding* is particularly scathing. He says, "Any time there is a low bar of entry for firms seeking to access government funds, one can expect to find corruption, and the charter industry is no exception." (p.18) But even absent corruption, there is ample opportunity to make lots of money. Lafer documents $2.5B of taxpayer money spent over fifteen years on charter school facilities, in many cases where there is no documented educational need and where the charter school is of lower quality that nearby public schools. Lafer says, "It's as if legislators turned on a faucet of money and then just walked away." (p.12) It is saddening that in the four years since Lafer's report came out, nothing has changed.

Rocketship

Rocketship is well-known in the charter school world. It even has been the subject of a "biography", *On the rocketship* (Whitmire, 2014). [16]. Rocketship's leaders and supporters routinely describe it as "high performing", "deserving of huge credit", "dynamic", and "nationally lauded". Rocketship schools, it is claimed, outperform some of the best public schools in the country. Rocketship "believe[s] that every student deserves the right to dream, to discover, and to develop their own unique talent".

Rocketship is one of the largest non-profit blended charter school management organization in the United States. They operate 21 schools in three states and Washington, D.C.; thirteen in California, three in both Nashville, TN and Washington, D.C., and two in Milwaukee, WI. In Santa Clara County, CA, they have eight TK-5 elementary schools

[16]Just two other charter schools share this distinction: Geoffrey Canada's Harlem Children's Zone (Tough, 2009) and the KIPP schools (Mathews, 2009; Horn, 2016)

authorized by the county that served 4,254 students in the 2019–20 school year plus 1240 students in two district authorized schools.

Founders and Supporters

Rocketship was founded by John Danner and three others in 2007. Danner, had significant teaching and charter school experience prior to Rocketship, as did Don Shalvey (Aspire Public Schools) and Jennifer Andaluz (Downtown College Prep). The fourth member of the founding group was Eric Resnick, a hedge fund manager who had a "a deep understanding of financial management and real estate transactions" (Danner, 2006, p. 13). The inclusion of Resnick, an expert in real estate transactions, at the very beginning of Rocketship, is interesting because one of the preferred ways for charter school funders and founders to make money is via real estate deals. John Danner eventually left Rocketship in 2013 to found Zeal, an online math tutoring tool, and was replaced by Preston Smith who became CEO.

Not mentioned in the first charter petition, nor in the Articles of Incorporation of Rocketship Education, the owners of the first Rocketship school, were Preston Smith, Matt Hammer, and Reed Hastings, CEO of Netflix. Smith became the first principal of the Rocketship's first school, Mateo Sheedy, and is listed as a Rocketship co-founder in the charter petition for Rocketship's second school. Hammer brought Danner and Smith together, and has relentlessly promoted charter schools through his advocacy non-profit, Innovate Public Schools.[17] Hastings proselytized Rocketship to the larger charter school community and when he promised Rocketship $250K for each of the first eight Rocketship schools they opened (Whitmire, 2014, p. 50), his donation caught the attention of philanthropic venture funds.

[17] https://innovateschools.org/

Table 2
Rocketship schools in Santa Clara County, California

School	Type	Opened	Renewed	Notes
Mateo Sheedy	District appeal	2007	2009,2015	Denied by SJUSD, approved by SCCOE
Sí Si Puede	District appeal	2009	2011, 2017	Denied by ARUSD, approved by SCCOE
Los Sueños	Countywide	2010	2015	SCCOE countywide
Discovery Prep	Countywide	2011	2016	SCCOE countywide charter
Mosaic	District	2011	2016	Approved by ARUSD
Brilliant Minds	Countywide	2012	2017	SCCOE countywide charter
Alma Academy	Countywide	2012	2017	SCCOE countywide charter
Spark Academy	District	2013	2018	Approved by FMSD
Alum Rock	District appeal	—		Denied by ARUSD, approved by SCCOE, withdrawn 2015
Fuerza	Countywide	2014	2018	SCCOE countywide charter
Rising Stars	District appeal	2016		Denied by FMSD, approved by SCCOE

Rocketship History

The first Rocketship school, Mateo Sheedy, opened in Santa Clara County in 2007. Rocketship's initial petition to the San José Unified School District was denied, so they appealed to the Santa Clara County Board of Education, which did grant their petition. Over the years, Rocketship opened ten schools in Santa Clara County. Of those ten, only two were authorized by a public school district. The remainder were either countywide charters or charter schools whose petitions were denied but subsequently approved by Santa Clara County.

Rocketship Finances

Charter schools have a number of financial needs. They need startup funds, operating funds, and many times, funds to expand. Rocketship is no exception. The *operations* of online and blended charter schools are funded by federal, state, and local governments, but funding *expansion* may or may not be funded with tax dollars, depending on the laws of a particular state. The difference between what's funded at taxpayer expense and what's not must somehow be funded with outside money. Regardless, startup money is needed for facilities, desks and chairs, administrator salaries, legal fees, curriculum materials, etc., all of this before even one student registers. But since state funding is tied to attendance, startup funding is necessary. The federal government provides grants, administered by the states, for this purpose.

One may ask why Rocketship has always intended to expand. Rocketship, like many other CMOs and EMOs, needs to expand in order to increase revenue enough to be worth the while of investors. A single school's profit is not enough to satisfy investors, but by using economies of scale, a "portfolio" of charter schools suffice. A portfolio of charter schools is a collection of schools – almost always charter schools – managed as a whole.

The idea of a portfolio of schools comes from finance where a carefully chosen portfolio of investments can have lower collective risk for a given level of return (or vice-versa) than a mere collection of individual investments. (See "Markowitz model," 2021, for an overview of the mathematics of modern portfolio theory). Hill et al. claim to have invented the term *portfolio school district* (Hill et al., 2009, p. 1) and with it a strategy to implement such a district. Just a year later, J. R. Henig et al. define portfolio strategy for schools as

> ...a loosely coupled conglomeration of ideas held together by the metaphor of a well-managed stock portfolio and its proponents' *unshakable belief* that the

> first step for successful reform must be to dismantle the bureaucratic and political institutions that have built up around the status quo. [emphasis added] (J. R. Henig et al., 2010)

At least Hill et al. acknowledge, in dry language, that overcoming the objections and criticisms of educators and scholars to their unshakable belief will be difficult: "It is hard to imagine that a portfolio strategy could be introduced into a major city without significant conflict."

Rocketship Expansion Funding

In California, startup charter school funding has waxed and waned, in part because federal funding has varied. Currently, he U.S. Department of Education provides startup funds to states under the Charter Schools Program State Educational Agency (SEA) grant program[18]. The federal charter school funding programs are listed in National Charter School Resource Center (2020). *The federal charter schools program: 2020 annual report* notes that

> At the core of the Charter Schools Program are the Grants to State Entities (SE Grants). The State Entity program offers competitive grants to states, which then make subgrants within their states to *open new charter schools and replicate or expand existing charter schools*. (emphasis added)
>
> (National Alliance for Public Charter Schools, 2020)

Funds like the New Schools Venture Fund[19] and the Charter School Growth Fund I & II[20] exist to fund the development and expansion of charter schools and charter management organizations. In 2007, when Rocketship Mateo Sheedy was started, Rocketship used lines of credit and loans to fund its beginning (Danner, 2006, p. 260). Now, charter schools have many more options for funding startup or operations.

[18] https://www2.ed.gov/about/offices/list/oii/csp/funding.html
[19] https://www.newschools.org/
[20] https://chartergrowthfund.org/

Rocketship Expansion Difficulties

In 2014, the Santa Clara County Office of Education and Rocketship were sued by four Santa Clara County public school districts: Alum Rock, Mount Pleasant, Franklin-McKinley and Evergreen. At issue was the SCCOE's bulk authorization of twenty countywide Rocketship charter schools. Sixteen months, 17,500 pages of evidence, and an estimated $435,000 later, Rocketship, the public school districts, and Santa Clara County settled (Noguchi, 2015). As part of the settlement, Rocketship agreed to withdraw 13 of the 20 countywide charters thus far authorized. Since one countywide charter has already been withdrawn, that left six potential charters still authorized but as of yet, unopened. So far, it appears that Rocketship has attempted to expand in locations other than beyond Santa Clara County: San Pablo[21] and Concord in California, Nashville in Tennessee, Milwaukee in Wisconsin, Washington, D.C. and Fort Worth in Texas.

Other Aspects of Charter School Finances

In California, all K–12 schools, including privately managed charter schools like Rocketship, must submit annual budgets, annual Comprehensive Annual Financial Reports (CAFR), and since 2014, Local Control and Accountability Plans (LCAP). LCAPs are three year plans updated in years two and three and which in detail how a school will use its funds

- to address state priorities, and
- to improve educational outcomes for foster youth, English learners, and low-income students

along with the metrics which will be used to show progress (Aguinaldo et al., 2021, pp. 66–84). These characteristics make LCAPs particularly interesting from a financial point of view in addition to the more common educational point of view. What's actually

[21] unsuccessfully

spent should match what was budgeted, and what was budgeted should match what is in the LCAP.

Rocketship and Privatization

Some contend that the purpose of charter schools, is merely to disguise a money-making operation (Saltman, 2018). Whitmire, who now sits on the board of Rocketship Education and who in 2014 published *On the rocketship*, makes note of the role that private venture funds played in Rocketship financing (Whitmire, 2014, pp. 25, 65), and it is instructive to remember that private, for-profit venture funds exist to make money. True, they often are "double bottom line" grantors (Clark et al., 2004). As Ball (cited by Tewksbury (2016, p. 75)) makes clear

> … particularly with the added case of Rocketship, a blended learning chain of charter schools, is that the NSVF [New Schools Venture Fund] is using its clout to further blur the lines between for-profit and nonprofit educational projects and organizations, thus smoothing the groves [grooves?] for marketizing educational policy and practices. Ball (2012) makes the connections and rationalities clear: "Symbolically, philanthropy provides an 'acceptable' alternative to the state in terms of its moral legitimacy. It has also provided a kind of rehabilitation for the form of capital hat were subject of 'ill repute' in the public imagination. Strategically, philanthropy has provided a "Trojan horse" for the modernizing move that opened the 'policy door' to new actor and new ideas and sensibilities." (Ball, 2012, p. 32)

Privatizers use investment banks, hedge funds, and private equity firms as their vehicle for investing (Stowell, 2018). These investment vehicles are called *alternative investments*, in contrast to *traditional investments* like stocks and bonds. These three are the most common in the charter school world. Investment banks provide the financial expertise that hedge funds and private equity firms need.

Charter CMOs and EMOs appear to be following the lead of prison and health care privatizers. Since charter schools have positioned themselves as being in competition with TPSs, they need to do at least as well as TPSs, or failing that, appear to do so. This calls for creative marketing, and so to that end, pro-charter advocacy organizations, some university-affiliated institutions and some think tanks have been harnessed to churn out pro-charter puff pieces which are regularly debunked.[22] Evidently creative marketing is not enough to prod the free market to supply the educational choice that charter school advocates feel is necessary, so they also lobby state representatives and fund pro-charter board candidates.

The techniques and vehicles used by philanthro-capitalists to extract a profit from public education are impressive. K.J. Saltman lists the following in *The swindle of innovative educational finance* (pp.*xii–xiii*):

- social impact bonds,
- higher education lending and student income loans,
- charter school real estate, tax credit, and municipal schemes, and
- philanthro-capitalist educational technology schemes.

Marachi and Carpenter (2020), Burris and Cimarusti (2021), Scott (2009), B. Baker and Miron (2015) all make the same point: education has been captured by big business, and a lot of people are making a lot of money out of it.

Forms of Privatization

If privatization is merely profit-making cloaked in charitable clothing, then examining the forms that privatization takes will allow us to look at charter school finances to see if they match what privatizers do. If there's a match it's highly likely that charter schools are

[22] The National Educational Policy Center (`https://nepc.colorado.edu`) in the School of Education at the University of Colorado (Boulder) currently has over 150 NEPC Fellows who aim "to produce and disseminate high-quality, peer-reviewed research to inform education policy discussion" on a wide variety of topics. They often review pro-charter school publications which have been presented as academic research even though those publications have not been peer-reviewed.

principally money-making operations and not educational institutions. This is so because it is unlikely that an educational institution would structure itself as money-making operations structure themselves; the incentives, benefits and disadvantages of each approach don't overlap.

Research Design and Methodology

This dissertation is an exploratory case study using a public policy lens to examine the finances of Rocketship Education. Case studies are an in-depth examination of single topic that is limited in space or time. Public policy is the set of rules, laws, regulations, and mores that affect the actions of an element of society. It is "the decisions, measures, programmes, strategies and courses of action adopted by the government or the legislative body" (Knill & Tosun, 2020, p. 3). Public policy mandates and constrains Rocketship Education's actions and how it structures its finances to meet its goals. Exploratory means that the precise data that will be collected and the precise methods used to analyze those data are not fully known in advance and will depend on the unfolding of findings as the inquiry evolves.

Explaining the finances of Rocketship Education is the heart of this dissertation. Where do Rocketship's revenues come from? Where are they spending that revenue? And, critically, if Rocketship takes in more money than it spends, does it thereby offer investors a return on their investments?

As an example of the latter, it is possile that Rocketship Education might use its revenue stream as collateral and issue bonds which are purchased by entities unrelated to education such as hedge funds or wealthy individuals. All bonds are risky to some extent, some much more than others, and the purchasers of those bonds are compensated for taking on that risk by being paid interest on the amount borrowed. An immediate question comes to mind: Is the interest rate appropriate for the risk being taken on? Answering that question entails comparing Rocketship Education to other, similar borrowers. If the interest rate is higher than expected, then Rocketship Education is effectively giving some of its revenue away. Another question one might ask is, "How is Rocketship Education spending its bond proceeds?" Are those expenses in line with what other charter school chains or public school districts are spending their bond proceeds on?

Answering questions like these accurately, completely, and rigorously requires

understanding not only Rocketship Education's finances, but also the finances of other schools or school districts in order to make valid comparisons. In addition, one must also dig deeply into how entities associated with Rocketship Education, might or might not benefit that association.

At a high level, the basic process followed by this dissertation is as follows:

- Gather financial data for the Rocketship schools being studied.
- Identify any gaps and anomalies in the data. This is where triangulation is useful. (See below.)
- Compare Rocketship's financial processes to other public schools, to other charter schools, and to other charter school chains, looking especially for differences.
- Analyze the flow of money in and out of Rocketship. Where does money come from? Where is money is being spent? What public policies (or lack of public policies) account for Rocketship's actions?

The existence of multiple sources of financial data would allow for *triangulation* to be used. While typically, triangulation refers to the mixed methods use of quantitative and qualitative methodologies, it may also be applied to the analysis of multiple forms of corroborating evidence in the form of financial and media documentation. For example, Bhandari (2022) notes that one of the forms of triangulation is "[u]sing data from different times, spaces and people" and also that "[t]riangulation in research means using multiple datasets, methods, theories and/or investigators to address a research question. It's a research strategy that can help you enhance the validity and credibility of your findings."[23]

The remainder of this chapter first looks at how charter and public schools are financed in California by looking at the normal, common financial disclosures made by all districts and schools, including charter schools. Looking at these should provide a high level sense of charter and public school financing in California. In fact, these disclosures should characterize the finances of Rocketship completely and accurately. The topic of

[23]Triangulation does not imply exactly three concepts or ideas; often, as is in this dissertation, more than three concepts, ideas, data are combined in the analysis.

Rocketship finances is quite broad because, in addition to all of the financial dealings of traditional public schools, almost all of which also apply to charter schools, charter schools have large and immediate needs for facilities that TPSs typically don't have. This brings into the picture bonds, loans, grants, leases, construction, and the purchase and sale of real estate.

The second section will attempt to discover gaps or anomalies in the financial data. This is where triangulation can be used to cross-check the validity of that data. Does everything add up? Are there important, missing documents? How much do these gaps or anomalies matter? Are the oddities long-standing or just fleeting?

At this point, this study will have as complete and as accurate picture of Rocketship's finances as possible using publicly available documents. The third section will shift from gathering data to comparing (financially) Rocketship to other demographically similar charter school chains and to public school districts? Assuming that there are few financial oddities, this section will compare Rocketship's finances to other demographically similar schools. Norms and context do matter if the goal is to make fair comparisons. For example, paying a superintendent an annual salary of half a million dollars may be the norm in a large urban district, but wildly inappropriate for a small rural district. Are Rocketship Education's schools (financially) like other charter schools or traditional public schools? If not, how are they different?

Lastly, the fourth section in this chapter will map the flows of money in and out of Rocketship. Previously, this study will have looked at amounts of money at points in time. Just as important are the flows of money. Where do they come from, and where do they go? For example, Rocketship lets contracts, just like any school or district. Are these contracts forms of self-dealing? Are they priced comparably to the market? Are there assets that are being sold at below market rates?

School Financing in California

Schools in California are financed with a combination of federal, state, and local monies. Since federal funds account for only 6.15% of total funding for California's elementary school children (Legislative Analyst's Office, 2021), the federal contribution will not be considered further. Note that federal facilities grants to charter schools are not part of this 6.15%.

Figure 1, *2021–22 K-12 Funding by Source*, on the next page shows at a very high level where funding for the enacted 2021–22 education budget comes from. This is money coming into the system from government sources. Other sources of inflow are grants, money raised by educational foundations, donations, or by the sale of bonds. By and large, inflows are fewer and more visible than outflows because they are public monies. Inflows are generally not under a charter school's control. (Charter school advocacy groups, of course, *influence* the size and timing of these flows, but don't control them.)

Outflows are more complex and are much more under the direct control of a charter school. For example, one of the sources of K–12 funding identified in Figure *2021–22 K-12 Funding by Source*, is called "Lottery" ($1.193 billion). This is the share (a mininum of 34%) of lottery proceeds established by Proposition 37 (1984) (and subsequently modified by Proposition 20 (2000)) State University system, and the Univeisty of California system by the California State Lottery. Local educational agencies (LEAs) have no say on how much money is distributed, how it is allocated, or when it is distributed. On the other hand, how LEAs spend this money (outflow) depends on local decisions made within a complex, constantly changing set of rules. Most of the lottery money is unrestricted (well mostly unrestricted; it must be spend on *instruction*), but some is restricted, i.e. it must be spent on certain programs.

Figure 1

2021–22 K-12 Funding by Source

K-12 Funding by Source

(Dollars in Millions Except Funding Per Student)

	2019-20 Final	2020-21 Revised	2021-22 Enacted	Change From 2 Amount
Proposition 98				
General Fund	$48,419	$58,500	$56,694	-$1,806
Local property tax	21,620	22,418	23,829	1,411
Subtotals	($70,039)	($80,918)	($80,523)	(-$395)
Other State				
Other General Fund[a]	$8,750	$7,906	$8,979[b]	$1,073
Lottery	1,193	1,262	1,260	-2
Special funds	182	155	167	12
Subtotals	($10,125)	($9,324)	($10,406)	($1,083)
Other Local				
Property taxes for local facility bonds	$5,049	$5,650	$5,650	—
Other taxes, fees, and reimbursements[c]	7,250	7,649	7,570	-$79
Subtotals	($12,299)	($13,299)	($13,220)	(-$79)
Federal Funds				
One-time aid[d]	$711	$23,596	$12,487	-$11,109
Other federal funds	7,866	8,437	7,648[e]	-789
Subtotals	($7,866)	($32,033)	($20,135)	(-$11,898)
Totals	**$101,041**	**$135,573**	**$124,285**	**-$11,288**
Students[f]	5,896,938	5,871,650	5,754,927	-116,723
Proposition 98 funding per student	$11,877	$13,781	$13,992	$211
Total funding per student	17,014	23,089	21,596	-1,493

[a] Consists primarily of state pension payments on behalf of districts, state debt service on school facility bonds, non-Proposition 98 funding for California State Preschool Program, and operational expenses of the California Department of Education.

[b] The June 2020 budget plan shifted funding for several child care programs from the California Department of Education to the California Dep Social Services beginning in 2021-22. The 2021-22 amount excludes approximately $1.4 billion related to programs affected by this shift. This is more than offset by (1) approximately $1.4 billion in one-time funding for various infrastructure improvements and (2) baseline increases in s pension costs and debt service on school facility bonds.

[c] Includes revenue from property taxes collected in excess of the Local Control Funding Formula allotments, parcel taxes, fees, and local reimbursements.

[d] Consists of funding from the Coronavirus Aid, Relief, and Economic Security Act (March 2020), the Coronavirus Response and Relief Supple Appropriations Act (December 2020), and the American Rescue Plan Act (March 2021).

[e] Amount for 2021-22 excludes more than $900 million in federal funding related to child care programs shifting from the California Departmen Education to the California Department of Social Services in 2021-22.

[f] Reflects average daily attendance.

Note: Legislative Analyst's Office (2021). In the public domain.

Financing of Public Schools

Fortunately, since there are numerous publicly available sources of the same charter school financial data, the raw materials needed for triangulation are available; these are petitions/renewals, budgets, interim financial statements, CAFRs, and LCAPs. Although petitions are not submitted under penalty of perjury, any material change to the petition would likely be cause for a re-evaluation of the petition, something that is undesirable. Petitions are presented at the start of a charter school's life and whenever a charter needs to be renewed. Budgets are defined by four reports. First is an annual budget which defines how a charter school will spend its revenues in the following fiscal year. Next are two unaudited interim reports, the 1st Interim Report and the 2nd Interim Report which track spending versus budget. The final budget-related report, issued in the following fiscal year, is the retrospective, audited Comprehensive Annual Report (CAFR). It is worth noting here that budgets are frequently modified during a school year, but only after having been approved by the governing board at a public meeting. Lastly, the Local Control and Accountability Plan (LCAP) explains how a school's expenditures over a three year period will address all state priorities plus any locally developed priorities. Although the LCAP is a three year plan, it contains annual goals, metrics that are used to measure progress, and expenditures associated with meeting those goals.

Financing of Charter Schools

The following are some sources of financial data specific to charter schools.

1. Every charter school in California is required to present to a chartering authority a petition which must contain certain required elements before the charter school is allowed to begin operation. The absence of one of these elements is grounds for denying the charter's petition to operate. For example, what is the intent of the charter school? How is the charter school going to measure its success or failure? What population is it targeting? And, what are its financial projections?

These petitions run anywhere from a hundred or so pages to over a thousand. They contain a wealth of data on curriculum, demographics, pedagogy, discipline, teacher recruitment, and, of course, on the charter school's finances.

2. Once a charter has been granted the right to operate, it must file annually with the California Department of Education certain forms that detail its revenues and expenses. State law also mandates an annual audit by an independent accounting firm which charter schools must file with their County Office of Education. All together, these forms should provide a complete picture of a charter school's finances, and crucially, everything should balance.

   Charters must also publish at a public meeting an annual budget, and they, just like TPSs, cannot spend – at least in theory – unbudgeted money unless the governing board approves at a public meeting any changes.

3. A major source of financial data is the annual, audited, consolidated financial statements of Rocketship Education. Equally, some financial statements are available for non-profits associated with Rocketship Education. Combined, these statements should provide a comprehensive view of Rocketship's finances, but looking backwards, for the previous year.

   Similar to bond underwriters (see below), financial auditors are liable for "omitting, misstating, or obscuring [items which] could reasonably be expected to influence decisions that the primary users make on the basis of those financial statements" (Cayamanda, 2020), and this tends to increase the diligence of the auditors. However, potential liability doesn't always result in truly comprehensive financial statements; sometimes the lure of accounting fees overwhelms any misgivings, as was the case with Enron and Arthur Andersen in 2001.

4. There are federal forms that non-profits need to file that provide some financial data. The most interesting seems to be IRS Form 990, Return of Organization Exempt from Income Tax.

5. Bond prospectuses are also a source of financial information. When bonds are issued, they are described in detail in a prospectus. These documents, in addition to specifying the terms (e.g. interest rate, repayment schedule, collateral) of the bond, contain information relevant to assessing the risk associated with purchasing that bond.

   Bond prospectuses can be mined for data that might not appear in petitions and financial statements because bond underwriters are "potential liability for any

> material misrepresentations or omissions contained in a registration statement or prospectus" (Block et al., 2008). This liability, of course, is not unlimited. If bond underwriters exercise due diligence or the misrepresentation is not material, they are likely not liable. Crucially, the definitions of *material misrepresentation* and *due diligence* depended on both statute and case law, so a bond underwriter can only make a reasoned guess at their liability. The result is that bond underwriters are likely to be more diligent that is absolutely necessary.

All of these sources should be in basic agreement, i.e. the LCFF funding received by a Rocketship charter school should match what the state thinks it's sending to the school, what the school reports to the state it received and spent, what independent auditors report the school receives and spends, and what it actually spends, naturally after accounting for revenue sources other than LCFF. If these figures are not in agreement, something is amiss and should be investigated.

In some fashion or another, all profit must originate from Rocketship's revenue. In the case of the sale-leaseback of facilities, for example, the rent over and above market rates constitutes the profit, and this is an operational expense ultimately paid for by taxes. If facilities are bought with public dollars (i.e. grants) and subsequently sold, the net proceeds are profit.

Examples of Financial Statements

To make the discussion of these financial statements more concrete, here are some examples drawn from the Los Altos School District (LASD) for the 2019–20 school year. The LASD documents make good models because they have consistently won the Meritorious Budget Award for Excellence from the Association of School Business Officials International for the quality and comprehensiveness of its financial statements.

Only a few financial statements are needed to get a good overall picture of a school2 or district's finances. These are:

- Annual Budget
- Comprehensive Annual Financial Report
  - Government Fund Balances (Figure 2 on page 46)
  - Summary of Net Position (Figure 3 on page 48)
  - Change in Net Position (Figure 4 on page 49)
  - Net Costs of Services (Figure 5 on page 49)
  - Capital Assets (Figure 6 on page 50)
  - Long-term Liabilities (Figure 7 on page 50)
- Local Control Accountability Plan (LCAP) (not presented)

The Annual Budget

Budgets, in California, are the first of four important financial documents that schools produce during a fiscal year. For any given fiscal year (July 1–June 30), the first financial document is the annual budget, a forward looking financial statement, which is approved before the end of the prior fiscal year. Next are two (unaudited) interim reports which track how well the school or district is adhering to the approved annual budget, and finally, after a certified public accountant has audited the school or district, a comprehensive annual financial report (CAFR) which is an audited, certified, retrospective account of the school or district's financial activity.

Figure 2 on page 46 is a very high-level summary LASD's finances. It shows what the district's revenues are expected to be, roughly where they are expected to come from, what the district's expenses are expected to be, and whether these are expected to be in balance. It is the rough equivalent of a business income statement.[24]

When looking at financial statements, one should look for:

- Unusually large (or small) entries
- Unusual changes year-to-year

[24] Schools group their finances by funds. Most of their revenue goes into the general fund, and most of their expenses come out of the general fund. But some transactions must by law be accounted for in different funds. The three largest are the General Fund, the Special Revenue Fund, and the Capital Projects Fund, and together they account for virtually all of the financial activity of a school.

- Unusual ratios
- Totals which do not add up
- Entries that are not supported by detail elsewhere

Figure 2 on the next page is a snapshot of the next fiscal year. Because it is a snapshot, detecting usual changes year-to-year is not possible. (Changes are detectable using Figure 3 on page 48 which compares fiscal two years the year ending in 2019 and the year ending in 2020.) However, with just a budget summary, one can note some ratios, for example, the percentage of expenses spent on salaries and benefits. This is 80.18% which is in line with what is typical of elementary school districts in California. One can calculate the state-wide average for all districts for 2019–20 using the Data Table at `www.ed-data.org/state/CA`, and that comes out to 83.71%. So, LASD spends a little more on salaries and benefits than the average elementary school district in California does.

Calculating this ratio brings up a general issue: What is an appropriate comparison group? In this particular case, the Ed-Data web site does not have county-level financial data, so the only comparison which can be made is at the state level. But should the state-level comparison group be all districts, or just elementary school districts? Again, the Data Table tab on `www.ed-data.or/state/CA` does not filter by type of district (although the Graph tab does), so, in this case, using just the Ed-Data data, our choices are forced. More generally, the most appropriate comparison group is usually the smallest, available group which shares the attributes of what's being compared.

The equivalent of a business balance sheet, which identifies assets and liabilities, is the statement of net position. Figure 3 on page 48 shows LASD's net position, i.e. assets minus liabilities at the end of the 2019–20 school year. Note that unlike a balance sheet, a statement of net position for schools (and other governmental entities) does not balance;

Figure 2

LASD All Funds Summary

	General Fund	Special Revenue Funds	Capital Project Funds	Total All Governmental Funds
REVENUES				
LCFF/Revenue Limit Sources	48,960,469	-	-	48,960,469
Federal Revenue	1,128,389	-	-	1,128,389
Other State Revenue	3,799,074	-	-	3,799,074
Other Local Revenue	15,253,502	42,250	2,013,980	17,309,732
TOTAL REVENUES	**69,141,434**	**42,250**	**2,013,980**	**71,197,664**
EXPENDITURES				
Certificated Salaries	26,804,421	-	-	26,804,421
Classified Salaries	11,964,000	-	-	11,964,000
Employee Benefits	18,838,463	-	-	18,838,463
Books & Supplies	1,508,676	-	-	1,508,676
Services & Other Operating Expenditures	8,879,712	300,000	2,715,938	11,895,650
Capital Outlay	235,312	-	258,400	493,712
Other Outgo	8,262	-	332,803	341,065
TOTAL EXPENDITURES	**68,238,846**	**300,000**	**3,307,141**	**71,845,986**
Excess (Deficiency) of Revenues Over Expenditures	**902,588**	**(257,750)**	**(1,293,161)**	**(648,322)**
OTHER FINANCING SOURCES/USES				
Interfund Transfers In	-	300,174	-	300,174
Interfund Transfers Out	-	-	(300,174)	(300,174)
TOTAL OTHER FINANCING SOURCES/USES	**-**	**300,174**	**(300,174)**	**-**
NET INCREASE/(DECREASE) IN FUND BALANCE	**902,588**	**42,424**	**(1,593,335)**	**(648,322)**
BEGINNING FUND BALANCES	**5,440,096**	**3,630,240**	**24,295,150**	**33,365,486**
ENDING FUND BALANCES	**6,342,683**	**3,672,664**	**22,701,816**	**32,717,164**
	$1 dollar difference in General Fund Ending Fund Balance due to rounding error.			

Note: Kenyon (2019). In the public domain.

assets are not exactly equal to liabilities.[25]

One unusual change that is immediately noticeable is the large increase in Capital Assets, year over year, an increase of $132M. In "Comprehensive Annual Financial Report FY 2020," five notes appear after Table 1. These are reproduced as Figure 3 on page 48 and these provide an explanation for the increase. In addition, the "Comprehensive Annual Financial Report FY 2020" contains a section, on pp. 19–45, called *Notes to the Basic Financial*

[25] Business accountants achieve this seemingly low probability equality by adding a fudge factor, *owner's equity*, so that `assets = liabilities + equity` always, exactly.

Statements. Theses notes are an integral part of the certified, audited annual statement, just as they are in audited financial reports in the business world; they cannot be omitted, and must be accurate and complete. Note 7B of Kenyon (2021a, p. 7), General Obligation (GO) Bond Anticipation Notes (BANs), explains how LASD uses a common technique to convert general obligation bonds into cash: issue BANs, backed by general obligation bonds, and payable when those bonds are issued.[26]

It's important to remember is that changes in finances can be complex, but they should also be adequately explained by a transparent and complete CAFR. When the documents are incomplete or opaque is when serious concerns should be raised.

Local Control Accountability Plans (LCAPs)

LCAPs, or Local Control and Accountability Plans, are the State of California's way of ensuring that public schools and districts all meet the same goals. They contain specifications for how a school or district will meet all eight of the state's goals and how will achievement be measured. Apparently, some LCAPs have been on the order of 500 pages long, although the norm is much less.

For each activity, schools or district indicate what goal is being met, if the goal includes increased services for disadvantaged student, how well the school or district has met that goal, the money that has been allocated to achieving and reporting those goals. (The reality of what the Department of Education wants is an order of magnitude more complicated than this description, but it is accurate as far as it goes.)

Unlike budgets and CAFRs, LCAPs don't have to "add up", nor do they have to offer a complete financial picture, but they do have to be consistent with other data. Expenditures

[26] One reason this makes sense is that interest rate on BANs is less than the interest rate of GO bonds, so LASD makes money by issuing BANs to paid off by GO bonds. In a different situation, school districts issue tax revenue anticipation notes (TRANs) because property taxes are paid semi-annually and salaries are paid monthly, so districts often and predictably do not have the cash on hand to pay their employees. The solution is to issue TRANs backed by property taxes, and paid off when the county actually pays the district.

Figure 3

Summary of Net Position

Table 1: Summary of Net Position				
	June 30, 2019	June 30, 2020	*Change*	*Percentage Change*
Assets				
Current and Other Assets	$ 20,044,318	$ 65,493,755	*$ 45,449,437*	*227%*
Capital Assets	89,045,541	221,076,448	*132,030,907*	*148%*
Total Assets	$ 109,089,859	$ 286,570,203	*$ 177,480,344*	*163%*
Deferred Outflows of Resources	$ 22,094,579	$ 19,321,134	*$ (2,773,445)*	*13%*
Liabilities				
Other Liabilities	$ 2,665,639	$ 22,680,079	*$ 20,014,440*	*751%*
Long Term Liabilities	141,558,936	269,006,215	*127,447,279*	*90%*
Total Liabilities	$ 144,224,575	$ 291,686,294	*$ 147,461,719*	*102%*
Deferred Inflows of Resources	$ 5,549,865	$ 9,680,588	*$ 4,130,723*	*74%*
Net Position				
Net Investment in Capital Assets	$ 37,623,977	$ 64,225,229	*$ 26,601,252*	*71%*
Restricted	7,726,718	6,825,216	*(901,502)*	*12%*
Unrestricted	(63,940,697)	(66,525,990)	*(2,585,293)*	*4%*
Total Net Position	$ (18,590,002)	$ 4,524,455	*$ 23,114,457*	*124%*

Note: Kenyon (2021a, p. 6). In the public domain.

have to be budgeted, and the amounts budgeted need to match what's in the LCAP.

Petitions & Renewals

The last category of financial data that's publicly available is what's in a charter school's initial petition and any renewal petitions. One of the required elements of any petition is a financial projection. Although no one expects a charter school (or any school for that matter) to prepare and adhere to a budget that exactly matches what's been projected, budgets are expected to be similar to actual expenditures, for some meaning of "similar".

Figure 4

Change of Net Position

Table 2: Change in Net Position				
	June 30, 2019	June 30, 2020	*Change*	*Percentage Change*
Revenues				
Program Revenues:				
Charges for Services	$ -	$ 446,710	*$ 446,710*	*100%*
Operating Grants and Contributions	10,052,323	7,968,769	*(2,083,554)*	*-21%*
Capital Grants and Contributions	-	23,000,000	*23,000,000*	*100%*
General Revenues:				
Property Taxes	63,216,247	65,285,688	*2,069,441*	*3%*
Grants and Entitlements - Unrestricted	3,933,401	2,511,734	*(1,421,667)*	*-36%*
Other	7,347,728	7,498,513	*150,785*	*2%*
Total Revenues	84,549,699	106,711,414	*22,161,715*	*26%*
Program Expenses				
Instruction	52,349,163	54,025,994	*1,676,831*	*3%*
Support Services:				
Instruction-related services	7,219,873	7,282,281	*62,408*	*1%*
Pupil services	4,381,022	4,334,692	*(46,330)*	*-1%*
General administration	4,658,051	4,519,337	*(138,714)*	*-3%*
Plant services	8,526,753	8,569,628	*42,875*	*1%*
Payments to other agencies	-	7,036	*7,036*	*100%*
Interest and Fiscal Charges	2,893,333	4,857,989	*1,964,656*	*68%*
Total Expenses	80,028,195	83,596,957	*3,568,762*	*4%*
Change in Net Position	4,521,504	23,114,457	*18,592,953*	*411%*
Beginning Net Position	(23,111,506)	(18,590,002)	*4,521,504*	*20%*
Ending Net Position	$ (18,590,002)	$ 4,524,455	*$ 23,114,457*	*124%*

Note: Kenyon (2021a, p. 7). In the public domain.

Figure 5

Net Cost of Services

Table 3: Net Cost of Services				
	Net Cost of Services for the Fiscal Year Ended June 30, 2019	Net Cost of Services for the Fiscal Year Ended June 30, 2020	*Change*	*Percentage Change*
Instruction	$ 43,345,309	$ 24,008,344	*$ (19,336,965)*	*-45%*
Support Services:				
Instruction-related services	6,608,564	6,681,271	*72,707*	*1%*
Pupil services	4,033,498	4,019,853	*(13,645)*	*0%*
General administration	4,568,746	4,444,973	*(123,773)*	*-3%*
Plant services	8,526,422	8,162,012	*(364,410)*	*-4%*
Payments to other agencies	-	7,036	*7,036*	*100%*
Interest and Fiscal Charges	2,893,333	4,857,989	*1,964,656*	*68%*
Total Expenses	$ 69,975,872	$ 52,181,478	*$ (17,794,394)*	*-25%*

Note: Kenyon (2021a, p. 9). In the public domain.

Figure 6

Capital Assets

Table 5: Capital Assets				
	June 30, 2019	June 30, 2020	*Increase (Decrease)*	***Percentage Change***
Land	$ 1,488,885	$ 136,262,476	*$ 134,773,591*	*9052%*
Site improvements	1,225,056	1,225,056	-	*0%*
Buildings and improvements	129,573,748	130,339,280	*765,532*	*1%*
Equipment	4,636,939	3,871,407	*(765,532)*	*-17%*
Total	136,924,628	271,698,219	*134,773,591*	*98%*
Less: Accumulated Depreciation	47,879,087	50,621,771	*2,742,684*	*6%*
Net Capital Assets	$ 89,045,541	$ 221,076,448	*$ 132,030,907*	*148%*

Note: Kenyon (2021a, p. 10). In the public domain.

Figure 7

Long-term Liabilities

Table 6: Long-term Liabilities				
	June 30, 2019	June 30, 2020	*Increase (Decrease)*	***Percentage Change***
Long-term Debt:				
General obligation bonds:				
Current interest bonds	$ 40,665,000	$ 95,850,000	*$ 55,185,000*	*136%*
Unamortized bond premium	4,596,243	9,376,755	*4,780,512*	*104%*
Bond anticipation notes	10,000,000	79,000,000	*69,000,000*	*690%*
Lease-leaseback obligations	2,405,645	2,185,036	*(220,609)*	*-9%*
Subtotal long-term debt	57,666,888	186,411,791	*128,744,903*	*223%*
Other Long-term Liabilities:				
Net pension liabilities	64,535,048	65,113,381	*578,333*	*1%*
Net OPEB obligation	18,914,928	16,922,035	*(1,992,893)*	*-11%*
Compensated absences	442,072	559,008	*116,936*	*26%*
Subtotal other long-term liabilities	83,892,048	82,594,424	*(1,297,624)*	*-2%*
Total Long-term Liabilities	$ 141,558,936	$ 269,006,215	*$ 127,447,279*	*90%*

Note: Kenyon (2021a, p. 11). In the public domain.

Data Sources

Unlike many studies, there is not a paucity of data on Rocketship, rather there is a surfeit. The data collected so far is voluminous. The current number of pages of initial and renewal petitions runs to 7371 pages. Three bond prospectuses total over 1000 pages. And there are many financial data documents yet to obtain. For example, of the eight categories of financial data listed in the section "Financial Data Sources" , only some of the first have been collected.

The challenge for this inquiry will be to organize the data so that gaps and anomalies can be identified, interesting and valid comparisons can be made with public schools and other charter schools, and the flows of money in and out of Rocketship can be identified. One approach would be to create a common framework and recast all the financial data from each school into that common framework. But, until the data have actually been collected and analyses started, choosing one particular framework within which to work is likely to lead to work which will need to be redone using a different framework.

Financial Data Sources

The primary questions that these financial data analyses are seeking to answer involves a clear mapping of the financial flows tied to Rocketship's ten schools in Santa Clara County. That mass of data needs to be organized and interpreted, and using an interpretive framework will make the analysis easier. Some examples of potential frameworks are:

1. The six year forecast spreadsheet that LASD uses, an example of which is reproduced in Figure 8 *LASD's Multi-Year Projection* on page 53. Most of the elements of forecast are combinations of SACS[27] codes. The main drawback of using this framework is that each school would have to have its elements copied from their SACS submissions. A lesser drawback is that comparisons with other schools or districts

[27] Standardized Account Code Structure, the chart of accounts (cost centers) used by the California Department of Education. These are defined in "California School Accounting Manual: Definitions, Instructions, and Procedures." The function (activity) codes are on pp.149–151 (§325–3 *et seq*.)

might be harder since these codes are California-specific. The main benefit is that these elements have been used for years and so are known to be very useful … but for forecasting, not for the purposes of this study.

2. A spreadsheet of the 9 high-level SACS object codes. This option is has the advantage that these sums can be calculated using reports available on Annual Financial Data web page[28] maintained by the California Department of Education. These reports go back to FY2003–4. The main disadvantage is that any gaps or anomalies may not show up in the aggregated numbers.
3. A third way of approaching the problem of making sense of large amounts of data is to use a [simulation] model. Some possible models are
    - Bruce Baker's *National Education Cost Model* (B. D. Baker et al., 2018, p. 5)
    - the Operating Resource Flow model from B. Baker and Miron (2015, p. 16)
    - the resource cost model (RCM) or the education cost function (ECF) as developed by B. D. Baker (2018, pp. 188–197)
    - ratio analysis or index analysis as in B. D. Baker and Richards (2004, pp. 70–86) This method can identify quickly what's different in a particular budget or petition.

The raw data will be collected from

- Initial and renewal charter school petitions
- Materials and recordings (when available) of authorizer approval meetings
- Marketing material, print and online, created by Rocketship
- Annual, approved budgets, and audited annual actuals
- Annual Comprehensive Financial Reports (CAFRs)
- Checks written, a record of money that has been paid out

These documents are all in the public domain and with the exception of the last, should, if they have been filed, be available from the California Departments of Education and Finance, or from the Santa Clara County Office of Education. A record of checks written is only available from Rocketship, although independent auditors have examined Rocketship's books and have determined that there are no material omissions or misrepresentations.

[28] `https://www.cde.ca.gov/ds/fd/fd`

Figure 8

LASD's Multi-Year Projection

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
% Change in Prop Tax Collections	7.06%	4.00%	4.00%	4.00%	4.00%	4.00%
Enrollment	3,574	3,669	3,725	3,761	3,792	3,813
In-district students @ charter school	1043	1061	1061	1061	1061	1061
Total Enrollment, LASD + BCS	4,617	4,730	*4,786*	*4,822*	*4,853*	*4,874*
Transfer of Prop Tax to BCS	9,187,469	9,926,004	10,210,982	10,494,976	10,785,723	10,450,068
Cost-of-Living Adjustment (COLA)	0.00%	4.05%	2.98%	3.05%	3.00%	3.00%
Foundation Funding	2,400,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Parcel Tax	820	820	820	820	820	597
Class Size, K-3	19	22	22	22	22	22
Class Size, 4-6	25	25	25	25	25	25
Class Size, 7-8	25	26	26	26	26	26
Teachers, FTE	226	220	222	223	225	226
Raises (across-the-board)	2.00%	2.00%	0.00%	0.00%	0.00%	0.00%
Cost of Step/Column Movement	355,034	355,276	357,641	358,823	361,188	362,370
Step/CoI (converted to % salary inc.)	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
Health Benefit rate increases	5.0%	7.5%	7.5%	7.5%	7.5%	7.5%
Health Benefits (converted to % salary inc.	0.9%	1.4%	1.4%	1.4%	1.6%	1.7%
STRS rate increases	-1.0%	0.8%	1.1%	0.0%	0.0%	0.0%
Total Comp (as % of salary)	3.2%	5.4%	3.7%	2.6%	2.8%	2.9%
LCFF Sources	47,831,288	48,960,469	50,930,778	52,994,478	55,150,308	58,023,166
Federal Sources	2,966,976	1,128,389	1,162,015	1,197,456	1,233,380	1,270,382
Other State Sources	7,460,221	3,799,074	3,848,990	3,863,445	3,874,123	3,881,107
Other Local Sources	14,942,614	15,253,502	15,910,684	15,977,729	16,049,330	13,308,736
Total Revenues	**73,201,099**	**69,141,434**	**71,852,467**	**74,033,108**	**76,307,141**	**76,483,390**
Certificated Salaries	28,473,085	26,804,421	27,081,223	27,286,386	27,563,386	27,771,946
Classified Salaries	12,146,432	11,964,000	12,072,253	12,178,439	12,284,470	12,390,750
Employee Benefits	16,708,058	17,877,672	19,185,547	19,853,541	20,542,397	21,163,633
Retiree Benefits	934,490	960,791	1,001,625	1,044,194	1,088,572	1,134,836
Books & Supplies	3,926,089	1,508,677	1,542,077	1,573,747	1,607,611	1,640,136
Contract Services	9,782,495	8,879,712	8,999,752	9,143,511	9,308,868	9,477,329
Capital Outlay	251,893	235,312	240,835	246,658	253,080	259,653
Other	8,262	8,262	8,262	8,262	8,262	8,262
Total Expenses	**72,230,804**	**68,238,847**	**70,131,574**	**71,334,737**	**72,656,646**	**73,846,545**
Net Change	**970,295**	**902,587**	**1,720,892**	**2,698,370**	**3,650,495**	**2,636,845**
Adjusted Beginning Balance	4,469,801	5,440,096	6,342,683	8,063,576	10,761,946	14,412,441
Ending Balance	5,440,096	6,342,683	8,063,576	10,761,946	14,412,441	17,049,286
Encumbrances	5,000	5,000	5,000	5,000	5,000	5,000
General Fund Reserves	5,435,096	6,337,683	8,058,576	10,756,946	14,407,441	17,044,286
Reserves, Special Reserve Funds	3,590,562	3,630,562	3,690,466	3,760,585	3,839,557	3,920,188
Total Reserves	**9,025,657**	**9,968,245**	**11,749,042**	**14,517,531**	**18,246,998**	**20,964,474**
% of Expense	**12.50%**	**14.61%**	**16.75%**	**20.35%**	**25.11%**	**28.39%**

Note: Kenyon (2021b, p. 137) In the public domain.

Non-financial Data Sources

Data sources that are not financial in nature are needed to be able to compare fairly Rocketship's schools to other schools, particularly those outside of Santa Clara County. Some of the following sources may be consulted depending on what is being compared or analyzed.

- Demographic data from counties, states, and the federal government
  - The County of Santa Clara (232 datasets)
  - The California Open Data Portal (2,668 datasets)
  - The United States Government (335,221 datasets)
- Data from many hundreds of studies of public education or charter schools
- National Center for Education Statistics (NCES) at the Institute for Education Sciences (IES)
- American Community Survey (U.S. Census Bureau)
- California Department of Education and the State Board of Education
- Santa Clara County, Charter Schools Department
- Databases of American elections and voters
- Stanford Educational Data Archive
- School Finance Indicators Database
- EdSource, Ed-Data, & other aggregators of educational data specific to California
- Court records that involve Rocketship
- Standardized test scores
  - National Assessment of Educational Progress (NAEP) [two series]
  - Early Childhood Longitudinal Study, Kindergarten Cohorts of 1998 and 2010 (ECLS-K:1998, 2010)
  - California Assessment of Student Performance and Progress (CAASPP) and the Academic Progress Indicator (API)

Are There Gaps or Anomalies in the Data?

Determining whether there are gaps or anomalies in a charter school's financial data is time-consuming but not very involved. Reviewing the data is not difficult – usually there a

no advanced algorithms to apply, just using basic arithmetic to check if all the numbers add up. One can ask the following questions:

- Are the data accessible, or even present in the first place? Charter schools are notorious for simply not filing required documents or filing horrendously late, or offering incomplete filings. Petitions are not usually a problem because without a petition, or with a materially incomplete petition, the petition will not be granted. However, once a school is operational, late or missing filings will not bring everything to a halt. Although Rocketship was fined for failing an attendance audit, it was allowed to continue to operate.
- Have the data been fudged? There are forensic techniques (e.g. Benford's Law) that can point to suspect data (Zhu et al., 2021). There is also triangulation which involves comparing one source of data with another to see if they match. For example, charter petitions make forecasts of revenue and expenses. How accurate were those forecasts? Were the reasons given for anomalies plausible? foreseeable? reasonable? One mistake is not usually a sign that something is being covered up, but several large mistakes usually are.
- California requires that LEAs meet the numbers they previously forecast or explain why they didn't meet those numbers, and certify they can meet their financial obligations this year, and two years into the future. If an LEA cannot certify that they did and that they can, they might receive a visit from the California Department of Education's Financial Crisis & Management Assistance Team (FCMAT), and in the extreme case be subject to a state takeover or to involuntary closure.

Table 3 below shows a summary of the attributes of missing data or CPRA requests which have been unanswered within the statutory 10 days.

Table 3
Missing Data and Unanswered CPRA Requests (as of February 5, 2022)

Organization	Description	Type	Response Due By
Mateo Sheedy	Approved budgets for FY2022	CPRA	January 15, 2022
SCCOE	Board packet for Mosaic renewal	CPRA	December 17, 2021

After the required data has been collected and cleaned[29], this study will turn to

[29] Raw data needs to be prepared so that entries are uniform across all elements of a dataset: Missing data

looking at comparing Rocketship's financials to traditional public schools and districts, and to other charter schools and charter school chains.

Are There More Serious Problems?

Unfortunately, charter schools and charter school chains have a long history of various kinds of fraud. Lafer (2017), In the Public Interest (2018), Burris et al. (2020), and Burris and Bryant (2020), are just a few of the reports that detail fraud and waste in charter schools. Although it has engaged in some questionable activities, Rocketship has not been implicated in anything illegal.[30] But with billions of dollars allocated to charter schools for facilities in the last decade and a half just in California (Lafer, 2017, p. 4), the temptation to misappropriate funds must be strong. It is also instructive to note that Californian charter schools have fought tooth and nail to prevent any laws that would increase transparency or hold charter operators to the same conflict-of-interest standards that public schools and other government entities are held to. Mostly they have been successful, the Attorney General of California did issue a ruling holding them to those standards.

However, it's not necessary to misappropriate funds to make money off of charter school facilities. As the report *Fraud and waste in California's charter schools* details,

> While charter schools constructed with general obligation bonds cannot be sold or used for anything other than the authorized school, schools constructed with tax-exempt conduit bonds become the private property of the charter operator. Even if the charter is revoked, neither the state nor a local school district can take control of this property. Additionally, schools constructed with private funding subsidized by New Market Tax Credits or acquired with private funds but whose mortgage payments are reimbursed

might have to be synthesized, units made uniform, outliers removed, etc.

[30] Rocketship schools in Santa Clara have had ties with a virtual charter school serving special education students hundred of miles away. Rocketship has also collected pandemic-relief funds intended for businesses and not available to public schools.

> through the Charter Facilities Grant Program (known as "SB740") are typically owned without restriction. In the Public Interest (2018, p. 6)

Rocketship has issued just shy of $90M of tax-exempt bonds to "finance and/or refinance the acquisition, construction, expansion, remodeling, renovation, improvement, furnishing and equipping of the land and facilities" (California School Finance Authority, 2015b, 2015a, 2017b, 2017a). These conduit bonds are exactly the kind referenced in In the Public Interest (2018). The properties owned or leased are partially paid for out of public funds but are privately owned.

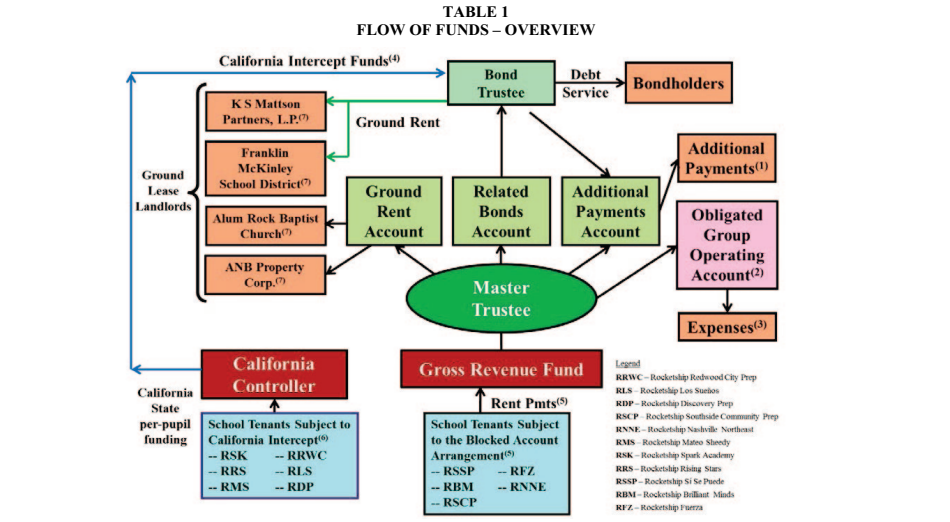
Analyzing Bond Financing

Bond financing can be both complicated (a hard problem, but solution methods exist) and complex (many unknowns and interrelated factors). Illustrating this are two examples of the analysis from just a single prospectus, that of Rocketship's $43M bond offering. That offering is described in the 536 pages which comprise "$42,160,000 Charter School Revenue Bonds (Rocketship Education - Obligated Group)." The $43M offering is complicated because there are many moving parts which are described in the offering in the well-known language of bond finance. Terms, rates, contingencies, amounts, dates, and required performance are all specified in a fashion that has withstood legal onslaught many times over. But the offering is also complex because it must also convince others that its predictions are reasonable. The most important of those predictions is that the issuer can pay the interest and repay the principal when they due.

The first figure, Figure 9 *Flow of Funds: Overview* gives the overall picture and shows how rents from schools (blue) are "intercepted" by the California Controller (red) and paid directly to landlords, or paid to the Gross Revenue Fund (red) from which the Master Trustee pays lessors (orange) and bond holders and expense accounts (orange). What is not

Figure 9

Flow of Funds: Overview



Note: California School Finance Authority (2017a, p. 53). In the public domain.

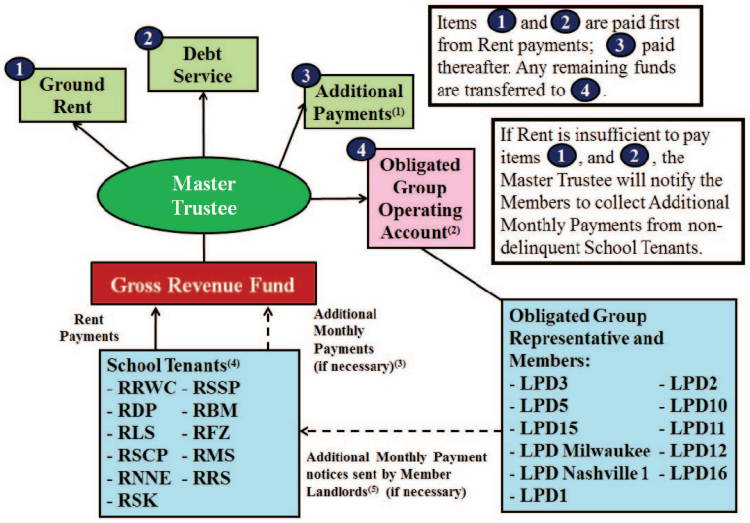
shown is the $750 per ADA (in 2017, rising to $1,211 in 2020–21) that Rocketship will apply to lease payments. Since money is fungible, the State of California is giving Rocketship between $2.4 and $3.7M depending on the year (2016–17 to 2020–21 at the $750/ADA rate), money they would otherwise not have. This is effectively profit.

The next figure, Figure 10"*Flow of Funds: Cross-Collateralization*" adds an important detail: how Rocketship uses its assets as collateral more than once. (The term *cross-collateralization* means using an asset as collateral for two or more obligations, here lease and bond payments.) In this case, if the payments of "School Tenants" are insufficient, the Master Trustee may require additional monthly payments from the "Obligated Group

Figure 10

Flow of Funds: Cross-Collateralization

TABLE 2
FLOW OF FUNDS – CROSS-COLLATERALIZATION MECHANISM



(1) Reflects amounts necessary to pay all Additional Payments pursuant to the applicable Loan Agreements, as defined therein. Does not indicate Additional Monthly Payments.
(2) Funds in this account will be held by the Borrower, subject to provisions in the Master Indenture. See "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS – The Master Indenture – Gross Revenue Fund" discussed previously.
(3) "Additional Monthly Payment" is an additional monthly Rent payment made by Rocketship from revenues of a non-delinquent School to make up for any monthly Rent shortfall within the Obligated Group, as required under each Lease.
(4) Rocketship will contribute funds from these Schools to the Gross Revenue Fund (via the applicable Lease Agreements) to cover Additional Monthly Payments and any other payments which are not previously covered through California State Intercept Funds.
(5) Required to be sent if any portion of Base Rent is not received by the Master Trustee when due pursuant to any Lease.
Source: Rocketship Education.

55

Note: California School Finance Authority (2017a, p. 55). In the public domain.

Representatives and Member" to supplement those from "School Tenants".

These two examples show the kind of analysis that is needed to characterize a bond offering.

How Does Rocketship Compare?

Demographic Data

When searching for anomalous data, individual Rocketship schools need to be compared to individual traditional public schools or to individual charter schools, but only after making

any needed adjustments to account for the demographic contexts in which the schools operate. It makes no sense to compare the finances of, say, Rocketship Mateo Sheedy in San José with the finances of the Westside Union Elementary School in Los Baños, less than 65 miles away as the crow files. One is a medium-sized charter school in a large urban school district, the other is a larger public school in a rural public district. This means that demographic data must be used along with financial data to obtain valid and useful comparisons.

When it comes to representation, scatter plots are an easy-to-understand way of presenting many individual data points. Indeed, Bruce D. Baker makes frequent use of scatter plots in *Educational inequality and school finance: Why money matters for america's students* to capture how outcomes vary over resources (B. D. Baker, 2018, p. 209). B. D. Baker and Richards suggest using a dozen or so indexes to measure institutional performance like Cost per Classroom or Effort to Succeed (B. D. Baker & Richards, 2004, p. 82), and a suitable choice of indices vs schools is a good way of spotting anomalies.

Figure 11 "An example scatter plot" is an example scatter plot. The data is completely made up just to illustrate what a scatter plot might look like. One could interpret the scatter plot to mean that the Rocketship schools, those withing the grey ellipse and shown as blue squares, fall outside the normal range of other, comparison schools, shown as red triangles and white circles. The units could be, for example, number of students/school vs number of teachers/school, or size of facility vs least cost/sq. ft.

If needed, I intend to make use of the following datasets that specialize in education.

- Data from the United States Department of Education, primarily the National Center for Education Statistics (NCES). These datasets (500) are searchable online using the Open Data Platform `http://nces.ed.gov/`. Of particular interest is the massive Digest of Education Statistics, produced annually from 1990 onwards. The Digest for 2019 runs to 651 pages.
- The NCES Open Data Platform can analyze over 15,000 data sets in its collection.

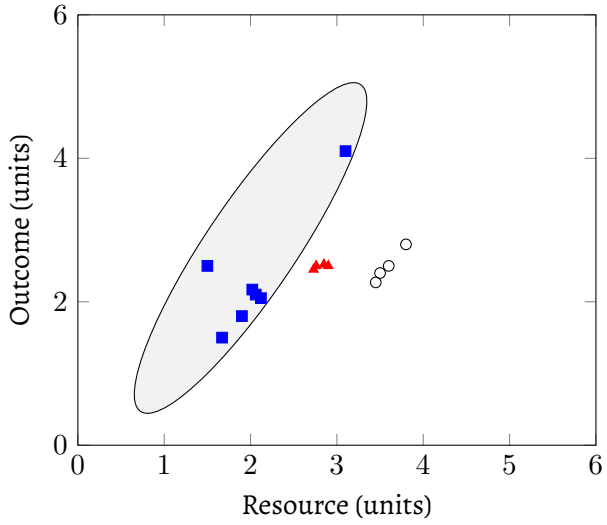


Figure 11
An example scatter plot

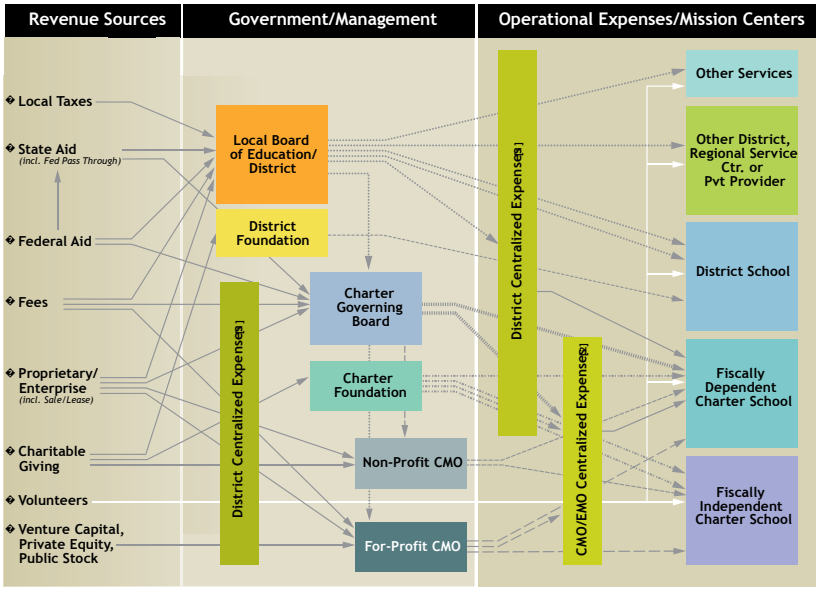
- The Institute of Education Sciences, which is part of the NCES, maintains DataLab, a tool to analyze a very large number datasets, some of which span years, thus enabling longitudional studies to be undertaken
- The Stanford Educational Data Archive (SEDA) 4.0 is a carefully cleaned and curated dataset that includes

> … a range of detailed data on educational conditions, contexts, and outcomes in schools and school districts across the United States. It includes data at a range of institutional and geographic levels of aggregation, including schools, districts, counties, commuting zones, metropolitan areas, and states. It includes measures of academic achievement, achievement gaps, school and neighborhood racial and socioeconomic composition, school and neighborhood racial and socioeconomic segregation patterns, and other features of the schooling system. Reardon.etal2021

- The National Assessment of Educational Progress (NAEP), both the current results and the long-term trend results.
- The Early Childhood Longitudinal Studies (ECLS), kindergarten cohorts of 1998 & 2011.

Figure 12

Operating Resource Flows



Note: B. Baker and Miron (2015, p. 16). Used with permission.

What About the Flow of Money Through Rocketship?

Since a goal of this dissertation is to map the flow of money into and out of Rocketship, I will use diagrams similar to the one used by Bruce Baker and Gary Miron (2015), which is reproduced here as Figure 12.

In this example, money flows from left to right, and there are no loops. Colors are used merely to distinguish the various blocks.

Findings and Results

Discussion

Judging Case Studies

2

Abbreviations

ARUSD Alum Rock Unified School District

BAN Bond anticipation note

CAFR Comprehensive Annual Financial Report

CDE California Department of Education

CMO Charter school management organization

COE County Office of Education

COVID-19 Corona Virus Disease 2019

CSBA California School Boards Association

DOE U.S. Department of Education

EC Education Code of California law

EMO Education management organization

GO bond General obligation bond

LASD Los Altos School District

LCAP Local Control and Accountability Plan

LCFF Local Control Funding Formula

LEA Local education agency

SACS Standardized Account Code Structure

SARC School Accountability Report Card

SARS-CoV-2 Severe Acute Respiratory Syndrome Corona Virus #2

SCCBOE Santa Clara County Board of Education

SCCOE Santa Clara County Office of Education

SCC Santa Clara County

SEDA Stanford Educational Data Archive

TPS Traditional Public School

TRAN Tax revenue anticipation note

Glossary

blended learning A method of teaching where both in-person instruction and virtual instruction are used.

charter school A quasi-private school that is publicly funded but privately run.

chartering authority A governmental entity that grants charter schools the authority to operate and which provides oversight. In California, a chartering authority could be a public school district, a county office of education, or the California Department of Education.

cross-collateralization A term from bond financing which indicates that an asset has been used as collateral in two different obligations.

public school Public schools are funded by taxes and are governed by a publicly elected Board of Trustees. Public schools accept any and all students who wish to enroll, at any time of year, regardless of race, national origin, sexual orientation, gender, religion, or citizenship.

typical or neuro-typical children Children without special needs.

unduplicated pupils The State of California augments school district revenue on a per pupil basis for every pupil that qualifies for free or reduced price lunch, or is an English language learner, or is a foster youth, but only an unduplicated basis. Notably, children with special needs are not considered *unduplicated pupils*. Neither are homeless children.

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Index

Colophon

This dissertation was created using programs that are open source with freely available components and programs. The fonts, the text editor, the markup language, and the operating system are all FOSS (free, open source software).

The body and headings were set in 12pt Alegreya.

The Alegreya family of serif typefaces was designed by Juan Pablo del Peral of Huerta Tipográfica in 2011 and immediately won praise and awards. It is a classic Renaissance typeface, a kind that was first developed in the fourteenth and fifteenth centuries in northern Italy. It comes in Regular, Medium, Bold and Black weights, all of which are available in Roman and Italic styles. There is a full set of Greek and Cyrillic letters as well as Latin small caps. All fonts have a full set of ligatures, and Roman, Old Style, and Lining numerals. Notably, all the numeral share the same width so they line up regardless of which style is being used. (Multiplication using Roman numerals, anyone?) If any criticism can be leveled against the Alegreya superfamily, it is that they don't come in display sizes and don't contain swash characters. Otherwise it is nearly perfect.

The program LaTeX and the document class `memoir` were used to format this text. LaTeX was created by Leslie Lamport as a user-friendly version of one of the first digital typesetting systems, TeX . TeX is one of the masterpieces of computer programming whose author, Donald Knuth, won the Turing Award in 1974. It is a testament to Knuth's brilliance as both a mathematician and a programmer that TeX is still in use more than four decades later and arguably has no peers when it comes to typesetting complex mathematics and scientific material. It is, however, awkward to use and hard to learn. Fortunately, Leslie Lamport wrapped TeX in a macro system, LaTeX , which was orders of magnitude easier to use than TeX itself.

LaTeX is extraordinarily flexible because there are packages (which implement classes) available for thousands of specialized tasks. Currently, CTAN (the Comprehensive TeX Archive Network) has just shy of 6000 packages which can be downloaded. One of those packages implements the class `memoir` that I use. It was written by Peter Wilson, and released in 2001. (I'm listed as a contributor to `memoir`, but in truth I really just corrected some minor typos.)

Wilson's muse is Robert Bringhurst, author of *The Elements of Typographic Style*, one of the definitive books on typography and book design. The package `memoir` would undoubtedly meet with Bringhurst's approval. The class `memoir` provides in one package nearly everything a person needs to produce "beautiful books" (Knuth's words). Although creating a bibliography, glossary, and an index are possible in `memoir`, specialized packages are normally used instead of the built-in ones supplied by `memoir`.

Zotero is a program to manage and maintain a bibliographic database and to provide citations on demand. It, along with the editor Emacs ("an operating system disguised as an editor") and the package `reftex`, cooperate with `memoir` to provide a complete system for writing scholarly papers, theses, reports, and dissertations.

All of these program run on Linux, a version of Unix. The particular distribution being used here is called Arch Linux.

It is notable that Linux, Emacs, and TEX are all programs that are decades old, have never been replaced or superseded, are constantly being improved, and are actively used. They share a common set of characteristics: their fundamental architecture is sound, extensibility is a core feature, and they and the thousands of specialized packages are freely available. I predict that iPhones will barely be a faint memory before Unix, Emacs, and TEX_fade from view.