The Policy Diffusion Process in the Face of Shocks: Charter Schools and the Great Recession

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I. Introduction

Like most other policy innovations, charter schools emerged quite slowly. The first charter school law, which allowed for the operation of these new semi-public schools was passed in Minnesota in 1991. The next year, California joined in. Throughout the 1990’s and early 2000’s the movement grew from a small, regional policy affecting only a couple hundred people to one that impacted several million. In the span of about a decade the phrase “charter school” went from non-existence to one of the most contentious topics in education policy. How did this happen, and what can we say about the future of charter schools in the U.S.?

This thesis will try to answer these questions through an examination of the charter school movement through the lens of policy diffusion. Policy diffusion theory describes how and why policy innovations spread throughout a network of states, countries or municipalities. Studies in the field have examined a wide array of policy types in many environments and come up with several general mechanisms by which policies spread. This thesis will study charter schools in the United States around the time of the Great Recession in an attempt to add to existing theories of diffusion. Specifically, I will try to pinpoint how economic shocks can disrupt and change the traditional path of policy diffusion, a topic that has not gotten much attention in the diffusion literature thus far.

The second chapter of this thesis will describe several general theories of policy diffusion and what they suggest might happen in the case of an economic shock such as the Great Recession. These theories and hypotheses will guide the thinking and theory of the rest of the paper. Chapter three will give a broad description and history of the charter school movement
and then move into a discussion of how its progression at both the interstate and intrastate level fits with the general theories of policy diffusion described in the first chapter.

Chapter four will explain the data and methodology that I will use to measure the effects of the recession on the charter school policy diffusion process and chapter five will present my results and a discussion of how they speak to the theories of policy diffusion discussed throughout the paper.
II. The Policy Diffusion Process

I will begin with a general description of the stages of policy diffusion. It is important to understand the basic path that policies generally take through the diffusion process before talking about specific theories of why diffusion happens.

The Stages of Diffusion

The policy diffusion process is generally thought of as being made up of several distinct stages: generation, implementation, confirmation and communication, imitation and adoption and saturation.¹ This study will be primarily concerned with the latter three stages of the diffusion process and will not deal too much with the first two. The first two stages can be thought of as necessary antecedents of the diffusion process, but are less relevant because they occur largely within the municipal unit in which the policy originated. The figure shown below illustrates the process graphically. It is important to note the S-shape of the diffusion curve. Policy diffusion theory characterizes the spread of innovation with this shape, implying slow adoption at the beginning, followed by a period of steady, relatively faster growth that finally tapers off at a certain limit.

¹ The specific names and distinctions between the stages listed here are my own. However, the broad ideas that shape the definition of the stages are synthesized from several authors, primarily Karch (2007) and Rogers (2003).
Figure 1

Generation and Implementation

The first stage – generation – is simply the act of coming up with the policy innovation that will later have the possibility of being diffused. This generation can come from any number of sources including politicians, interest groups, businesses or any other interested party. It is important to note, as mentioned above, that the generation of a policy innovation almost always occurs in a single municipal unit.\(^2\) As a result of the federal system in the United States, states have a fair amount of autonomy in experimenting with policy. Karch (2007) calls the states “laboratories of democracy.” According to him, they are the originators of ideas that go on to

\(^2\) From here on, we will assume that the municipal unit is a state. In practice, it could be a town, a county, a group of states or even a country.
compete in a marketplace full of other policies. But first, these policy innovations must go through the implementation stage of diffusion in their own home state or municipality. Not all (perhaps very few) innovations make it even this far in the diffusion process. Implementation can take the form of the passage of legislation, the writing of regulations, the creation of an institution, or any other policy one could think of.

**Confirmation and Communication**

After the implementation stage, the real diffusion can begin with the confirmation and communication stage. Based on the success and popularity of the policy, the state that implemented it and its neighbors will judge it successful or unsuccessful. This is what is called confirmation. Then, based on the success of the policy, information about the policy and its implementation will spread to nearby areas. This communicative spread can happen through a variety of channels including media coverage, interpersonal interactions between policymakers, or through the efforts of policy entrepreneurs (activist organizations or individuals).

Karch (2007) emphasizes that the communication stage of the policy diffusion process is very much dictated by policymakers’ temporal and electoral constraints (3). Because policymakers and legislators must deal with many different policy areas as well as other responsibilities, they are limited in the amount of time that they can spend searching for and learning about new policy innovations. For this reason, the spread and communication of policy innovations does not happen easily or automatically. Only those policies that gain enough attention to be noted in the limited search, or “muddling” (Lindblom 1959) get noticed and have a chance of spreading.
The diffusion literature tells us that there are a few main mechanisms by which policies can be noticed and overcome Karch’s time constraints. The first, quite simply, is through success and learning. Successful policy innovations (i.e. ones that achieve their stated goals and advance the state’s well-being) will be noticed and studied by other states just because of their success. Alternatively, policies can be noticed and communicated through the media or policy entrepreneurs. Policy entrepreneurs have been studied at great length, and the consensus is that they can be very influential in the policy diffusion process and especially during the communication phase. This is because of the way that policymakers go about their time-constrained review of policy options. Herbst (1998, 52) discusses how policymakers rely on interest groups and activists for information because of their (completely understandable) inability to pay attention to every media outlet, research paper and public sentiment out there. Thus because of their high level of access to the ears of policymakers, policy entrepreneurs in interest groups play an instrumental role in communicating policy innovations to those that can eventually implement them.

Political constraints are also important in dictating the communication of a policy innovation. Policies consistent with a particular policymaker’s or state’s political climate are more likely to get communicated to that state because of the role of political networks in the diffusion process. Policymakers tend to interact with and communicate with other political elites with similar viewpoints. Examples of this type of activity include congressional caucuses, the Republican and Democratic Governors Associations, or just informal interactions.

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3 See Boushey 2010, ch. 5 for a good review of research on policy entrepreneurs’ role in the policy diffusion process.
Imitation and Adoption

Finally, after a policy innovation has been confirmed to work and has been communicated, it can be imitated and adopted by other states. The imitation and adoption process can be thought of as somewhat similar to the communication stage, but with a few important distinctions. Like the communication stage of diffusion, the adoption stage is heavily influenced by political forces. However, unlike in communication where political networks are key, adoption is heavily determined by political action and pressure. The adoption of a policy often requires votes in a legislature, votes by citizens or at least some measure of public or institutional approval. Laws cannot be passed without legislatures, and even bureaucratic or executive actions are directly or indirectly checked by other governmental authorities or electorally. The adoption process is the step most readily recognized as a part of the diffusion process. Most studies (including this one) use the adoption of a policy as a measure of diffusion.

The Critical Mass Point

Once a policy innovation has been adopted to a certain extent in a number of states outside of the original innovator, it will reach what is called a critical mass point. This term is actually borrowed from the technological diffusion literature and from social movement theory before that, but is just as applicable to the policy diffusion process. In his seminal work on the diffusion of innovation, Everett Rogers explains that “a crucial concept in understanding the social nature of the diffusion process is the ‘critical mass,’ the point after which further diffusion becomes self-sustaining” (Diffusion of Innovations 343). Rogers discusses the critical mass point primarily in regards to communication technology or products such as the fax machine or the Internet. He argues that because of the nature of this type of technology, the utility gained by
each subsequent adopter is higher than that gained from adoption by his predecessor. After the critical mass point, the utility gained from adoption becomes so high that it is in almost everyone’s interest to adopt the new technology. One can think of the diffusion of phone technology as a good example of this. The first wave of initial adopters would gain fairly small amounts of utility from the technology unless they had special purposes they needed phones for. However, as the technology spread, purchasing a phone would give a person more opportunities because they could use it to communicate with more and more people. Once society reached the point where enough people had phones, it did not make sense anymore for someone not to own a phone because of the information they would miss out on without one.

While Rogers’s critical point definition deals with the diffusion of technology, the same idea can be and is applied to the policy diffusion process with some slight modifications depending on the type of policy. For the idea of a critical mass point to make sense, there need to be increasing returns to adoption for each successive adopter. While it is not as immediately obvious why this would be the case with policy diffusion as it was with phones, I argue that it is still the case. This should be true for two reasons. First, as more states adopt a policy, the risks of adoption decrease because the policies will have been better tested and are thus less likely to fail. Additionally, as more states adopt a policy, larger networks of actors exist to help support its implementation and design. For instance, with the case of charter schools, the greater number there are, the more they can share knowledge of how to run successfully and educate better. This increases the benefits of adoption as more and more states adopt the policy.
Saturation

The final stage of the policy diffusion process occurs when there is no more room for the policy innovation to expand into. For some policies, this saturation point is at 100% - the policy only stops spreading once every city, state and municipality has adopted it. This is the case for policies like income taxes, term limits or seatbelt requirements. For other policies, however, the saturation point is not at 100%. This is probably the case with policies like smoking bans or motorcycle helmet laws.

Theories of Diffusion

There are several main theories put forth in the literature that try to explain why policy diffusion happens. These hypotheses explain diffusion at several different stages of the process, and draw on environmental, political and specific issue characteristics as determinants. I will discuss them here.

Proximity

One widely cited driver of policy diffusion is geographical proximity. Many scholars hypothesize that one of the strongest determinants of whether a municipality (most often a state) adopts a specific policy is how many of their close neighbors have a similar policy (Karch 2007, 41). The geographical proximity hypothesis is most likely to work during the communication stage of diffusion. As discussed earlier, policymakers engage in a very limited search process when considering policies, and the more accessible policies will be more likely to be
communicated. Nearby states will be more easily noticed and thus more likely to be sources of diffusion.

An interesting addition to this hypothesis is the network proximity hypothesis. Operating under the same logic as above, proponents of this theory suggest that policymakers’ level of familiarity and friendship with other policymakers plays just as important a role in diffusion (Karch 2007, 5-9). Their muddling search will also tend to latch onto ideas from people and places that they are familiar with. For instance, Democratic legislators may be more likely to know other Democratic policymakers and adopt their policies simply because they were not as exposed to Republican policies. The theory of network proximity (as opposed to geographical proximity) seems especially relevant in more modern times with faster travel and easier long-distance communication. Whereas in the past it was much easier to communicate with people who were geographically close to you, there is now little difference in the cost and accessibility of long and short distance communication. Therefore, network proximity may be just as important as geographical proximity.

Neither the geographical nor network proximity hypotheses have anything to say about how diffusion may be affected by an economic shock. Both diffusion mechanisms would remain largely unchanged in the face of a shock such as the Great Recession, and so these hypotheses would seem to predict that the policy diffusion process would continue upon its S-shaped journey through the recession.

Slack Resources

In contrast to the proximity hypotheses, the slack resources theory of diffusion is hugely dependent on economic conditions. This theory sees innovation and new policy adoption as a
sort of luxury good. States will be more likely to adopt new policies when in good economic times and less likely during harder times (Karch 2007, 42). The reasoning behind this idea is that the adoption of a new policy involves cost, risk or both. States are more willing to spend and risk their financial resources when they have wiggle room in their budgets. However, it is important to note that this hypothesis may be a weak predictor of diffusion when the policy at hand is viewed as a way to save resources and reduce expenditures (as is the case with charter schools in some people’s eyes).

The slack resources hypothesis speaks clearly to the question of how diffusion would change in a recession. Because states’ resources would dry up, they would be less willing to risk their assets on new policies, thus slowing the diffusion process.

*Competition*

The competition hypothesis views states as economic competitors similar to businesses. Each state makes decisions in order to maximize revenues at the expense of other states (Shipan and Volden 2008, 849; Berry and Berry 1990). For instance, Berry and Baybeck (2011) show that states will compete to create lotteries that draw revenue from residents of other states and that keep their own residents’ money within their state. In this theory, policy gets diffused through the observation and copying of fiscally successful policies, making it primarily a theory about the imitation and adoption phase of diffusion. States will take up policies that make financial sense to implement. Shipan and Volden describe this type of behavior as economic competition in their analysis. They find that states will be wary to adopt policies that could drive business out of their state and jump to put in place policies that will raise their revenues at the expense of the neighboring states. Berry and Berry view this behavior from a broader rational-
choice perspective. Their theory and results argue that it is not just competition with other states that drives policy adoption but instead it is a drive towards efficiency, profit and utility maximization. The important distinction here is that states adopt policies to better themselves in an absolute sense, not just relative to their neighbors.

While nothing has been written on how this competitive diffusion dynamic may change during periods of economic crisis, one would assume that the competition would grow fiercer and that successful policy innovations would be even more heavily copied and diffused. However, just based on the theory, it is hard to say whether states would tend to be more or less risk seeking in an economic crisis.

Problem Severity and Political Factors

Two final fairly obvious drivers of diffusion are problem severity and politics. As they are so issue specific, they will be discussed at greater length in the next section on the charter school movement in particular. Basically, they state that policies will diffuse faster and farther when they address more severe problems and when they have strong political backing.
III. The Charter School Movement

The remainder of this thesis will be dedicated to the discussion of what the charter school movement can tell us about the theories of policy diffusion discussed in the previous section. However, before we can think about the charter school movement in the context of policy diffusion, we must discuss exactly what charter schools are and the general theories about how they are funded and approved. After that, this chapter will move into a discussion of how the charter school movement has fit the predictions of the diffusion literature so far.

What Are Charter Schools?

Charter schools in the United States are a fairly new educational innovation. The first charter school opened in Minnesota in 1991. Since then, the movement has grown, and now 41 states have charter school laws allowing for the existence of charters and detailing the policies and procedures that must be followed by such schools. While the definition varies by state, a charter school is generally a public school (i.e. a school funded by the government) that has much more flexibility and autonomy in its teaching methods and administrative procedures than a conventional public school.

The literature on charter school approval, closure, and funding is very rich and complex. Part of the reason for the complexity stems from the fact that charter school policy varies widely across the United States. Each of the 41 states that has a unique charter school law stipulating the particulars of charter school funding, openings, and closings. This literature review will begin with the non-controversial facts about the determinants of charter school funding, outlining some of the particulars of many charter school laws.
Charter School Laws

While there is much variation in the guidelines laid out by charter school laws in different states, they all have several common themes. First, each law establishes a procedure for the approval of a charter school. In most cases, a proposed charter school must be approved by the school board in the district that the charter would operate in (National Association of Charter School Authorizers 2012). Some states appoint authorizers other than school districts – mayors, state committees or other independent boards to handle decisions about charter schools, an issue which will be discussed later in this paper, in the section about the structural determinants of charter policy. These committees and boards are the same ones that write up contracts with each charter school determining the requirements that schools must meet in order to have their charter renewed. Charters are reviewed periodically, and conditions are set in the contract for when the authorizing body may renew, discontinue, or revoke a school’s charter. The contracts between these authorizers and the charter school are where the autonomy and possibility for political influences come into play.

Charter school laws also provide guidelines for how much funding charters will receive, or how their funding level is determined. For example, Pennsylvania’s law says that charters are to be funded by the school district in which they are located unless that district refuses to fund them, in which case they are funded by the state Department of Education with money that would have otherwise gone to the district (Kanuck 2012). This is not an uncommon funding

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4 From here on, the phrase “charter school policy” or “charter policy” will be used to refer to policy determining the opening, closing and funding of charter schools.
5 For a detailed example of the procedures for the approval and review of charter schools, please see the Pennsylvania Department of Education website: http://www.portal.state.pa.us/portal/server.pt/community/charter_schools/7356.
procedure, and as can be clearly seen, it provides for significant political leeway in terms of
determining the level of funding a school receives.

It should also be mentioned that many charter schools also receive funding in the form of
grants from government and non-government organizations and foundations (Reckhow 2010).
As mentioned above, school districts are sometimes allowed to refuse to fund a charter school. In
this case, funding is taken from the district’s budget and given to the charter school. However,
because districts themselves have grants from other institutions, and several funding streams, the
state-provided funding to the charter is not always as high as it would be for a comparable-sized
public school. When this is the case (and even if it is not the case), charter schools may apply for
grants from foundations and the federal government to make up their budget shortfalls (Reckhow
2010). This funding source can be a major mechanism that is influenced by political and
structural factors that exist in specific districts, schools or states. Additionally, this funding
stream is one that would likely be most affected by an economic crisis. Because grants are not
nearly as guaranteed as state or local funding is, economic crises could bring about large declines
in the amount of funding that some charter schools that rely on such grants receive.

Funding Differences Between Public and Charter Schools

Before a discussion of the charter school movement and its diffusion path can start, we
must make a few important observations about how their funding differs from the funding of
conventional public schools. Otherwise, arguments about the determinants of charter school
policy cannot be put into context. The previous section gave a broad outline of the main
structural differences between charter schools and conventional public schools – this section will
give a little more theory and depth as well as discuss the a few implications of the structure of charter school laws.

Putting charter school laws aside for the moment, Quentin Quade presents a theoretical argument based on economic theories of competition for why we see differences between public and charter school funding. Quade argues that charter schools are in constant competition with every level of government in the fight for funding. He argues that because the government normally has a monopoly on educational services, it is always reluctant to give up any of its power. Charter schools represent competition to the government, and so the government would only enter into a contract with a charter school if it gained from this contract (Quade 1996, 50). This expectation of gain from transactions with charter schools is what Quade argues is the driver of differences in public and charter school funding. This gain need not necessarily be financial, but it certainly can be. A financial gain from transaction would manifest itself as lower per-pupil funding in charter schools than public schools. However, political gains are important too, and so if the building of a charter school would create political gains for the government (through satisfaction of constituents, reelection of office holders, etc.), then we might see similar per-pupil funding between public and charter schools. Thus, Quade argues that the biggest determinant of charter school funding is the relative political strength of the charter compared to the local government at the time. Strong, well politically supported charters that can offer political gains to the government may see very little difference in funding from public schools. Less supported charters might see large funding gaps. This speaks to the political hypothesis of diffusion – the more political power charters have, the more likely they are to succeed and spread. Quade’s theory could also suggest that charters would have an even harder time getting funding after an economic crisis. Because the government’s resources would be diminished, it
might be more protective of its resources and require higher transactional gains to approve a charter school.

More practically, and as discussed in the previous section, charter schools often receive less funding from their local school districts than do conventional public schools (Hassel et al. 2005, 11). This forces them to rely more heavily on funding from other sources. As outlined above, in Pennsylvania much (but rarely all) of this funding can be made up at the state level. However, the rest of the funding received by charter schools is non-guaranteed grant money from either the federal government or private foundations that must be applied for. As a result, charter school funding is much more variable than public school funding (Hassel et al. 2005, 7). Some charters with generous donors can receive plenty of funding, but others that have less success obtaining grant money are left with lower levels of funding than their public counterparts.

A second major difference between the funding available to public and charter schools is the ability to issue bonds and raise taxes for facility financing. The main sources of funding for public school facility budgets (building projects, maintenance, etc.) are municipal bond issues and local tax revenue, neither of which charter schools have access to (United States General Accounting Office 2000, 8). Again, without the ability to raise revenue through taxes and bond issues, charters are forced to look to uncertain grants. The issue of bonds and raising taxes is especially relevant to the question of how charter school policy changes in and after an economic crisis because of the nature of this funding compared to other types of funding available to both public and charter schools. If we assume that education funding declines across the board in an economic crisis, this means that both public and charter schools have less access to local, state, and set federal government funding (the main sources they have in common). However public schools have access to a source of financing that actually becomes more useful in an economic
crisis – bonds. Because of losses in the stock market, investors are more likely to flock to less-risky, low return assets such as bonds. As a result of this and lower interest rates dictated by the Federal Reserve Bank, public schools should be able to sell more bonds at lower interest rates, and thus at a lower cost to themselves. On the other hand, the only funding sources left to charter schools to make up for lost local and state funding in a recession are grants from the federal government and private foundations, both of which are less certain.

Overall, the differences in financing between public and charter schools in the U.S. put charters in a much more precarious situation. This will be important to keep in mind when thinking about how or why the economic crisis might affect the diffusion of charter schools across the U.S.

*Explaining the Legislation Movement through Diffusion*

The charter school concept was born in the late 1980’s. This was perhaps the perfect time for the idea to take flight, for it was in the midst of a perceived education crisis in the United States. It also came during Ronald Reagan’s presidency, a time during which the ideas of the free market and privatization were held in very high regard. The first laws allowing for the existence of charter schools were passed in Minnesota in 1991 followed closely by California in 1992. Kucsova (2005) attributes much of the initial diffusion (the adoption and communication stages) to several of the factors outlined in the political and proximity diffusion hypotheses. She highlights the importance of governors’ associations in the spread of the policy. These associations served as communication networks that carried the idea and stories of its success from one state to another. As more states heard about the innovation, more and more of them
adopted laws allowing for charter schools to exist within their states. The adoption rate of charter school laws increased throughout the early and mid 1990’s following the S-curve very closely.

Figure 2

But why did the states adopt the new policy innovation that was the charter school movement? First, as mentioned earlier, the national political climate at the time was very friendly to market reform. Reagan’s rhetoric, policies and popularity had the country primed for privatization. This climate also happened to coincide with a growing sense in the United States that its educational system was holding the economy back. Kucsova explains that many Americans in the early and mid 1980’s were realizing that the “workers [might] be becoming inferior to their counterparts abroad. Business associated the decrease in the competitiveness of

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*Figure 2 is a slightly modified version of a figure found in Boushley (2010), p. 27.*
the American economy with the quality of education” (16). For this reason, governors in the late 1980’s were on the lookout for educational reforms, and when a semi-market-based reform came up, they were eager to jump on it. This attitude and action fits right in with the political hypothesis of diffusion as well as the competitive hypothesis.

In the case of charter school diffusion, governors also acted as policy entrepreneurs for along with the more common interest group entrepreneurs. Because the governors were not able to pass charter school legislation without their state legislature, they “created special committees to draft charter school law proposals…they [lobbied] key legislators and [addressed] the general public in their state of the state addresses” (24). Governors invested themselves heavily in the passage of charter school laws.

As far as saturation, it is tough to say whether charter school law diffusion has hit that point yet, or where the saturation point will be. As of 2012, 41 states have charter school laws. We can see from the graphic above that the S-curve of diffusion seems to be flattening out towards the mid to late 2000’s, reaching towards saturation. However despite the seemingly near-complete cycle of policy diffusion at the state legislation level, the process is still far from complete at the intrastate level. Unlike the interstate legislative trends which show flattening in recent years, the proportion of charter schools in school districts within states has continued to rise steadily through the first decade of the 21st century. This policy diffusion trend is what my thesis will examine in detail.

**Diffusion Within the States**

As is evident from the previous section, the interstate diffusion of charter school policy has been studied at great length. However, I believe that diffusion at the intrastate level tells the
more interesting story. Looking at diffusion between states, one might conclude that charter schools have reached their saturation point in the U.S., have been incredibly successful and stop there. State level laws don’t tell the full story – the laws only start the process of diffusion by allowing charters to exist. At the district and county level, the diffusion process is still alive and well. However, the above account of the diffusion of charter school policy between states will still help inform the following account of intrastate diffusion.

The theories explaining the politics of charter school approval, closure, funding and diffusion at the intrastate level fall into two main categories. The first group points to structural factors as the main determinants of variation in charter school growth rates, arguing that the funding mechanisms laid out in the charter school laws themselves are the fundamental determinants of charter funding. However, a large and competing group argue that what really matters in determining charter school policy are the political forces, actors and balances in school districts and states.

*Structural Theories of Diffusion*

Structural theories about charter school policy diffusion are characterized by the idea that the approval and spread of charter schools is primarily driven by the structure of states’ charter school laws and the institutions they create. Interestingly, these theories don’t fit nicely under the umbrella of any of the previously discussed diffusion hypotheses. However, they do illustrate another important component of diffusion: inertia. Structural theories of diffusion see the process as inevitable and completely determined by very stable forces. They generally discount the possible effects of partisan politics and individual actors, arguing that they have little ability to influence outcomes that are primarily determined by the institutions they work within. Instead,
they center around the power structure of governing authorities and the structure of the funding streams that charters draw from, both of which are determined by charter school laws. One common argument in this school of thought is that the level of centralization of the charter authorizing body is key in determining the level of funding that charter schools receive. Louann Palmer and Rebecca Gau (2003) express this argument in a paper on charter authorization. Their claim is that when charter authorization bodies are more centralized and when their power is consolidated into fewer individuals, the authorization process is more efficient, leading to higher levels of funding and lower numbers of revocations for charters in that state or district. By examination of authorizing agents with differing degrees of centralization, Gau and Palmer conclude that this result is due to the efficiency bred by specialization. Local school boards have many functions aside from authorizing charters, and thus are not as good at picking successes as are dedicated charter school authorizing bodies. Because of this, a larger portion of their charters fail or are less able to receive performance-based funding (Palmer and Gau 2003, 18). This finding is corroborated by other authors. Through a statistical analysis of education grants awarded to charter schools, Sarah Reckhow finds that charters in districts with more centralized and consolidated authorization powers are much more successful in obtaining private grant funding (Reckhow 2010, 1-2). Although Reckhow’s paper does not discuss federal grants, a 1998 U.S. General Accounting Office report finds that charters that receive funding primarily from state departments of education rather than local school boards have a much easier time getting federal funding than those primarily receiving funding from school boards (United States General Accounting Office 1998). Again, This report is consistent with the centralization

7 Unlike state and local charter school funding, which is often determined on a per pupil basis or as a percentage of district funding, some federal money for charter schools often comes in the form of grants, much like funding from private foundations.
efficiency hypothesis. The GAO’s finding about federal funding, along with Reckhow’s results on grants from private foundations would both have the result of higher levels of funding and fewer charter revocations in areas with more consolidated authorization power. When power is more centralized, both studies find that charters are able to get more outside funding. More grant money means higher levels of funding, but would also probably lead to higher levels of achievement by students in charters. This, in turn, would increase schools’ likelihood of having their charter renewed rather than revoked and the likelihood that other charters will open in attempts to emulate these successful charters.

It is not entirely straightforward to relate the above centralization argument to the possible effects of the economic crisis on charter school policy. However, because it can probably be expected that an economic crisis would have little impact on the funding and authorization structures for charter schools, scholars subscribing to systemic or institutional arguments about charter policy would likely argue that policy would not change much in response to a crisis. The only policy changes that would happen would have to be results of general declines in education funding, meaning that there would be little difference between charter and conventional public school funding changes.

Political Determinants

While some scholars ascribe to the structural theories of charter diffusion, most stick to explanations consistent with the general theories of diffusion laid out in the first section.

Under the broad umbrella of political determinants of charter school policy diffusion, there are a few different, but related policy theories. Each theory relates a conflict between two or more groups of actors within the policymaking system to a certain policy outcome. For
example, some scholars point to partisanship, or the struggle and power balance between political parties as a strong driving force behind funding. Other theories that will be discussed center around conflicts involving unions, taxpayers, and different levels of government.

Shober, Manna and Witte (2006) examine the effects of partisanship at the state and local level as a determinant of charter school openings. Consistent with much of the literature on privatization, they find that significantly more charter schools open when Republicans are dominant in the authorization process, fewer opening when Democrats are in control. Much of the literature on privatization and contracting of government services explains this empirical result theoretically. Generally, more conservative political actors favor reducing the size of the government, and are thus more likely to approve privatization measures (Burch 2009). While charter schools are not exactly a direct form of privatization, they are certainly one of the most common steps in that direction that can be observed in education policy.

The partisanship argument can give interesting insight into what the possible effects of the economic crisis on charter policy might be. The privatization literature tells us that the main argument given by Republicans for privatization in general and charter schools in particular is that they increase efficiency through competition and the creation of markets (Burch 2009). Because of this, we might expect that when a state with a Republican governor or legislature faces a funding crisis and is forced to make even greater efficiency gains, they would turn to charter schools to make that happen. Similarly, Republican-controlled school boards and authorizing committees might lean towards opening more charters in order to save money. Because Democrats are generally more wary of privatization, we could see the opposite effect in Democrat-controlled areas. However, Democrats generally have a less simply characterized

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attitude towards charter schools specifically – some oppose them because of they are a type of privatization that they don’t feel is efficient, but some view them as an important reform in increasing educational achievement (Burch 2009).

Another similar, but distinct theory as to how partisanship affects charter school policy is presented by Zhang and Yang (2008). Their research focuses on explaining the spread of charter schools at the local level using politics and educational need as driving factors. They examine whether charter schools are opened because of educational need in an area or because of the political preferences of the relevant actor in that area. They find that none of their measures of educational need (low test scores, literacy rates, etc.) are related to the number of charters approved and that measures of political preferences are strongly related to charter policy (Zhang and Yang 2008, 583-585). This would seem to support political hypotheses of diffusion over the problem severity hypothesis. Interestingly though, Zhang and Yang come up with the opposite partisan result as Shober et al., finding that higher numbers of registered Democrats in an area is related to more charter schools rather than vice versa. While this finding seems strange, it may be the product of the use of a measure of partisanship of voters rather than officials and administrators, or it may be a unique result for the sample used in their paper. Zhang and Yang examined only the 67 existing charters in Florida at the time, while Shober’s study was nationwide.

Zhang and Yang’s findings are particularly interesting in the context of an economic crisis. If, as was discussed above, charter school policy changed after the crisis due to political factors, Zhang and Yang’s finding suggests that the change could be even larger than one might expect a priori. Zhang and Yang hypothesize (but later disprove), and one might naturally think that the number of charter schools in a given area would be related to the educational needs of
that area (e.g. districts with high dropout rates might have higher numbers of charter schools because of an attempt to use innovative methods to solve the dropout problem). Such an effect would serve to mitigate or constrain the effects of partisan politics on the number of charter schools in that area. However, Zhang and Yang find that there is no relationship between educational need and charter school prevalence, meaning that educational need would not dampen the effects of political pushes in either direction.

**Union Conflicts**

Many scholars also highlight the importance of teachers unions in determining charter school diffusion. For much of the time since charters came into existence, it has been generally acknowledged that teachers unions oppose them (Biddle 2010). The reason behind this opposition has been that because of the flexibility allowed to charter schools, they employ fewer (if any) unionized teachers and allow for lower levels of accreditation among their teachers (Powers 2009, 35). For example, Pennsylvania’s charter school law stipulates that:

“At least 75% of the professional staff of a charter school must hold appropriate Pennsylvania certification…The staff may bargain collectively, but not as part of the school district's bargaining unit. Protections are built into the bill to allow teachers to transfer to a charter school without penalty to employee rights: seniority, right of return, retirement, health benefits and tenure” (Kanuck).

Assuming competitive labor markets in teaching, this means is that unions are hurt by the existence of charter schools. Charter teachers have lower unionization rates, and are required to bargain separately from the teachers in the districts traditional public schools.
As far as determining charter school policy in general, union opposition means that charter school numbers and funding should be lower in districts and states with strong teachers unions. This is exactly what the literature finds. Powers (2009), through several case studies concludes that strong unions beget highly contentious debates around charter schools. One of her main pieces of evidence is that charter school approval and funding decisions are much more contentious at the local (district) level than they are at the state level. She finds that unions generally have much more influence at the district level, and are thus able to push back against charters much better at that level. Generalizing this finding, she concludes that the stronger the union present in a given district, the less likely that district is to approve a charter and fund it well. This conclusion is supported by both Spring (2011) and Biddle (2010), although these two authors bring a few more specific insights into the discussion. First, Spring helps relate the issue of union power to charter school funding after a crisis. He argues that because of the powerful role that unions play in charter school politics, charter funding and approval rates may drop even further during a budget crisis (Spring 2011, 193-198). Because unions are more invested in conventional public schools, when something must go to the chopping block, they will be much more likely to propose that it be charter school funding or charter schools in general. Additionally, because one of the most common cuts across the board during a budget crisis is per-pupil funding (Spring 2011, 196) and charter schools tend to have less funding per pupil anyway, this hits them especially hard, and possibly to the point where they cannot be sustained and must shut down.

While Spring and Powers argues that union opposition is a strong factor in explaining lower numbers of charter schools and less charter school funding, Biddle (2010) takes a slightly more optimistic view. His article details the changing role of teachers unions in charter school
policy. While he acknowledges that teachers unions have traditionally opposed charters, as most charter school teachers were not unionized and were more amenable to performance pay and other policies that unions opposed, he sees a shift in attitudes recently. Now that charters are growing in number, the unions are forced to accept charter schools and some have switched to trying to unionize teachers at charter schools rather than only outright opposing the alternative schools. Biddle argues that unions have faced somewhat of a backlash from their opposition to charters as well as seen their efforts to suppress the schools become less and less effective. This new approach by some unions is quite new – Biddle says that the phenomenon started around 2008 or 2009 (Biddle 2010) – so it is unclear what exactly it will mean for charter school funding and approval. Presumably, Biddle argues, even an incremental improvement in the union-charter relationship will help charter school funding and numbers in the long run, as unions will be less likely to use their substantial political clout to oppose the formation of charters.

However, although this change in relations exists, we cannot be sure whether it will survive the stress of an economic crisis. As funding becomes scarcer, unions may revert back to their staunch opposition to charters as a sort of fallback position to help protect themselves and conventional public school teachers. The opposite could also be true though. In an economic crisis, teachers unions might have incentive to try to reach out and expand their ranks both to collect more dues and to have better bargaining power.

Now that we have a good understanding of both the policy diffusion literature and the determinants of charter school policy diffusion at the intrastate level we can move on to empirically testing the role of the economic crisis in the diffusion of charter school policy.
IV. Research Motivation and Design

Motivation

In the first section of this thesis, I presented several hypotheses about policy diffusion dynamics, some general and some specific to the charter school movement. However, while some of these theories seemed to suggest certain interactions with economic crisis, the diffusion literature is conspicuously quiet on this subject. My analysis will attempt to fill this gap in the literature by empirically testing how the Great Recession has affected the diffusion of charter schools in the U.S. My results will give support for and against various theories of diffusion while also helping complete them.

The Great Recession and Education

After the bursting of the housing bubble, the collapse of Lehman Brothers and the stock market as a whole, government budgets were ravaged. The decreased revenues from lower household incomes and less consumption combined with increased safety net demands from those left without jobs dug deep deficits for most states. 48 states faced budget shortfalls in 2009 and 2010 and 46 did in 2011 (Fed. SF 2011). Because states cannot borrow money from the Federal Reserve in the same way or on the same scale that the federal government can, these shortfalls have triggered large spending cuts in state-provided services including education. Since the onset of the Great Recession, 33 states and the District of Columbia have cut K-12 education funding (Fed. SF 2011). In conjunction with the same phenomenon on the local level, this has caused counties, cities and school districts to make tough decisions about what to invest in as far as education. Given the ideas presented in the earlier section of this paper, it is not
outside of the realm of reason to think that this educational funding shock could have major impacts on the diffusion of charter schools.

Data

The data I will use for my statistical analysis will be from the National Center for Education Statistics’ Common Core Data (available at http://nces.ed.gov/ccd/). This data set provides information on all schools, districts and state education systems in the United States for every year from 1986 to 2011. I will use data from states with charter school laws from 2005-2011, so that I will have three years before and after the crisis to examine, allowing me to control for general time trends in policy and funding. In order to find changes in charter school policy after the crisis – I will run a regression predicting the proportion of charter schools (compared to all schools) in a county before and after the crisis. Ideally, I would liked to have my level of observation be a district-year (e.g. “The School District of Philadelphia, 2008”). However, in the data set, many charter schools or groups of charter schools are listed as their own district, rather than as parts of the districts they are located in. This means that a district with 3 conventional public schools and 1 charter school could appear as two districts, each consisting of only one type of school. For this reason, my unit of observation will be a county-year. Collapsing the data by county eliminates the measurement error that could be caused by the concern discussed above. However, this fix does not come without issues of its own. It means that the dataset loses observations (dropping from 91,740 district-years to 9,498 county-years) which will reduce the likelihood that I find statistically significant results. However, 9,498 is still quite a large sample and shouldn’t pose too many significance problems. The larger issue is that of accuracy. Being larger units of analysis than districts, counties may be less homogenous and thus less likely to
exhibit variation. This is an unfortunate consequence, but the units of observation should still be small enough for the data set to successfully capture regional and temporal variation in school characteristics. Below is a table of descriptive statistics.
### Figure 3 - Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>charterprop</td>
<td>Proportion of schools that are charters</td>
<td>9459</td>
<td>0.024</td>
<td>0.05</td>
<td>0</td>
<td>0.50</td>
</tr>
<tr>
<td>postcrisis2007</td>
<td>0 = before 2008, 1 = 2008 and later</td>
<td>9459</td>
<td>0.50</td>
<td>0.50</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>year</td>
<td>Year (2005 = 05-06 school year, etc.)</td>
<td>9459</td>
<td>2008</td>
<td>1.71</td>
<td>2005</td>
<td>2010</td>
</tr>
<tr>
<td>year_postcrisis2007</td>
<td>Number of years after 2007</td>
<td>9459</td>
<td>1.00</td>
<td>1.15</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>nonwhiteprop</td>
<td>Proportion of nonwhite students</td>
<td>9454</td>
<td>0.32</td>
<td>0.24</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>ellsratio</td>
<td>Proportion of English Language Learners</td>
<td>9454</td>
<td>0.04</td>
<td>0.07</td>
<td>0</td>
<td>0.98</td>
</tr>
<tr>
<td>iepsratio</td>
<td>Proportion of students with an Individualized Education Program</td>
<td>9454</td>
<td>0.14</td>
<td>0.04</td>
<td>0</td>
<td>0.83</td>
</tr>
<tr>
<td>stratio</td>
<td>Student-teacher ratio</td>
<td>9454</td>
<td>14.79</td>
<td>3.45</td>
<td>0</td>
<td>109</td>
</tr>
<tr>
<td>income2000</td>
<td>Median income (from 2000 census)</td>
<td>9432</td>
<td>43490</td>
<td>10320</td>
<td>18372</td>
<td>100059</td>
</tr>
<tr>
<td>povertyrate</td>
<td>Poverty rate</td>
<td>9432</td>
<td>0.13</td>
<td>0.06</td>
<td>0.02</td>
<td>0.50</td>
</tr>
<tr>
<td>unionprop⁹</td>
<td>Proportion of unionized public school teachers in state</td>
<td>9459</td>
<td>0.68</td>
<td>0.19</td>
<td>0.27</td>
<td>0.99</td>
</tr>
<tr>
<td>redstate¹⁰</td>
<td>1 = red state, 0 = else</td>
<td>9459</td>
<td>0.34</td>
<td>0.47</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

⁹ Unionprop is a state-level variable that was added to the data manually. It was constructed using summary statistics from the NCES’s Schools and Staffing Survey. The data is available at: [http://nces.ed.gov/surveys/sass/tables/sass0708_043_t1s.asp](http://nces.ed.gov/surveys/sass/tables/sass0708_043_t1s.asp).

¹⁰ “Red states” and “Blue states” are defined as those states in which there was a 10% or greater margin of victory for the Republican (red) or Democratic (blue) presidential candidate in both 2004 and 2008. See Appendix for each state’s classification.
<table>
<thead>
<tr>
<th>bluestate</th>
<th>1 = blue state, 0 = else</th>
<th>9459</th>
<th>0.12</th>
<th>0.32</th>
<th>0</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>hithard</td>
<td>1 = state hit hard by crisis, 0 = else</td>
<td>9459</td>
<td>0.13</td>
<td>0.34</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>hithard_postcrisis2007</td>
<td>Interaction</td>
<td>9459</td>
<td>0.07</td>
<td>0.25</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>redstate_hithard_postcrisis2007</td>
<td>Interaction</td>
<td>9459</td>
<td>0.02</td>
<td>0.14</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>bluestate_hithard_postcrisis2007</td>
<td>Interaction</td>
<td>9459</td>
<td>0.00</td>
<td>0.03</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
There are a few important observations to be made about the data. Nationally, about 2.4% of schools are charters. About half of the counties in the sample have no charters, and the county with the highest proportion of charters is exactly half charter, half public. 90% of counties are composed of less than 12% charters. So, as we can see, charters are a fairly rare occurrence nationwide. However, the movement grew fairly steadily from 2005 to 2010. As can be seen in the graph below, the average proportion of charter schools in a county has risen over the six-year span from just over 2% to about 2.8%. Interestingly enough, however, we can also see from the graph that there was a flattening of the growth trend between 2007 and 2008, just when the economic crisis hit. While these descriptive statistics are weak evidence on their own, they do suggest that the Great Recession may have had an effect on the spread of the charter school movement.

*Figure 4 – Charter School Growth Trends*
Specifications and Analytical Structure

My first regression will serve as a rough, baseline estimation of how charter school diffusion dynamics have changed since the recession. It will measure how the proportion of charter schools in any given county has changed since the economic crisis and is specified as follows:

\[ \text{CharterProp}_i = \beta_0 + \beta_1 \text{PostCrisis}_i + \beta_2 \text{PostCrisis}_i \times t_i + \gamma X_i + \delta t_i + \Phi S_i + \epsilon_i \]

\( \text{CharterProp}_i \) is the proportion of schools in county \( i \) in a certain year that are charters. \( \beta_0 \) is the constant term. \( t \) is a time trend control – including this variable allows me to control for general upward or downward trends of charter funding over time. \( \text{PostCrisis} \) is a dummy variable with a value of 1 for years after 2007, and 0 for years before the crisis. \( \text{PostCrisis} \) is the primary variable of interest in the regression, as its coefficient will tell me if charter school funding has increased or decreased since the crisis. To detect non-parallel shifts in charter school proportions after the crisis, I add \( \text{PostCrisis} \times t \). A positive and statistically significant value for \( \beta_1 \) would indicate that the proportion of charter schools in counties has increased since the crisis holding all other variables constant – a negative and significant coefficient would tell the opposite story. A statistically insignificant \( \beta_1 \) would indicate that charter funding has not changed relative to public school funding since the crisis. A positive and statistically significant value for \( \beta_2 \) would indicate that growth in the proportion of charter schools in a county has slowed or become negative. \( X \) is a vector of control variables including the size of the district, its racial and socioeconomic composition, and the student-teacher ratio. \( S \) is a vector of state dummies (fixed-
effects by state). This allows the constant term in the regression to vary by state and controls for any state-level unobservable variation in the model.

I will be using a probit regression model for this analysis. While this regression technique is generally reserved for analyses in which the dependent variable is a 0/1 dummy, it will work in this case as well because the variable charterprop is, in essence, a count. Additionally, the probit model can be especially effective in cases like this because its estimates will be less biased by the skewed data (most counties have a very low proportion of charter schools) than a standard Ordinary Least Squares model would be.¹¹

A second methodological decision to note is the absence of an autoregressive (or lag) term in my model. The reason for this is that my data are not stationary over the time period I am examining. In other words, the relationship between the proportion of charter schools in a county and time or any of the other variables may change over time, particularly at the time of the economic crisis. In fact, this thesis is trying to show that the data are not stationary at this point. Including an autoregressive term assumes and tries to force the data to be stationary which would bias my results.

This first regression will detect general disruptions to the policy diffusion process caused by the economic crisis and will be able to quantify any disruption very precisely. It will not, however, be able to address the more specific diffusion hypotheses about differences between red states and blue states. For that, I will run a second, very similar regression with a few extra variables specified as follows:

¹¹ This reasoning and the approach I use are discussed in more depth in Muthen and Speckart (1983).
CharterProp_i = \beta_0 + \beta_1 PostCrisis_i + \beta_2 PostCrisis_i \times t_i + \beta_3 RedState_i + \beta_4 BlueState_i + 
\beta_5 HitHard_i + \beta_6 HitHard_i \times PostCrisis_i + \beta_7 RedState_i \times HitHard_i \times PostCrisis_i 
+ \beta_8 BlueState_i \times HitHard_i \times PostCrisis_i + \gamma X_i + \delta t_i + \epsilon_i

In this regression, the coefficients on the RedState and BlueState dummies will indicate how the average proportions of charters in a district are different in red and blue states. I have defined red and blue states as the states in which the presidential vote went to the Republican or Democratic candidate by a margin of more than 10% in both the 2004 and 2008 elections.\textsuperscript{12} HitHard is a dummy variable that is equal to 1 if the county is in a state that was one of the 9 worst hit states by the recession, measured by change in unemployment rate after the crisis.\textsuperscript{13} The coefficient on this variable will tell us how the proportion of charters is different in states that were hit hard by the crisis. The main variables of interest in the regression are the interaction terms. The coefficient on the interaction term between HitHard and PostCrisis will show us how diffusion dynamics changed in those states most affected by the crisis. Seeing a significant coefficient with the same sign as the PostCrisis dummy would show that states hit harder by the recession experienced an even greater shock to the diffusion process than the average state. The triple interaction terms will indicate how the policy diffusion process was affected by the crisis in the hardest hit red states and the hardest hit blue states.

\textsuperscript{12} See Appendix for a full list of red and blue states
\textsuperscript{13} See Appendix for a full list of hardest hit states
V. Results and Discussion

General National Trends

The results of the first regression appear below:

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Robust S.E.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>postcrisis2007</td>
<td>0.025</td>
<td>0.133</td>
<td>0.853</td>
</tr>
<tr>
<td>year</td>
<td>0.093*</td>
<td>0.054</td>
<td>0.084</td>
</tr>
<tr>
<td>year_postcrisis2007</td>
<td>-0.139*</td>
<td>0.075</td>
<td>0.064</td>
</tr>
<tr>
<td>nonwhiteprop</td>
<td>1.249***</td>
<td>0.213</td>
<td>0.000</td>
</tr>
<tr>
<td>ellratio</td>
<td>2.712***</td>
<td>0.433</td>
<td>0.000</td>
</tr>
<tr>
<td>iepratio</td>
<td>1.162*</td>
<td>0.648</td>
<td>0.073</td>
</tr>
<tr>
<td>stratio</td>
<td>0.030*</td>
<td>0.017</td>
<td>0.085</td>
</tr>
<tr>
<td>income2000</td>
<td>2.8x10^{-5}***</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>povertyrate</td>
<td>-0.658</td>
<td>0.890</td>
<td>0.460</td>
</tr>
<tr>
<td>unionprop</td>
<td>6.989***</td>
<td>0.436</td>
<td>0.000</td>
</tr>
<tr>
<td>_cons</td>
<td>-195.223*</td>
<td>107.756</td>
<td>0.070</td>
</tr>
</tbody>
</table>

State F.E.     Yes
Pseudo R2       0.2687
N               9143

*Significantly different from zero at the 10% level
**Significantly different from zero at the 5% level
***Significantly different from zero at the 1% level

This regression provides us with some expected and some unexpected results. First, we can see that the main variables of interest tell a very interesting story. We can see that the coefficient on the time trend variable is positive and significant at the 10% level, meaning that before the recession, the proportion of charter schools was growing on average, holding all else constant. Specifically, the coefficient tells us that the proportion of charter schools in the average
district was increasing by about .5 percentage points per year holding all else constant. This is consistent with the story that before the economic crisis, intrastate charter school diffusion was following the conventional policy diffusion path. However, we can see that the coefficient on the interaction between the post-crisis dummy and the time trend is negative, significant and larger in magnitude than the coefficient on the time trend itself. What this indicates is that after the onset of the economic crisis, the proportion of charter schools in a county went from increasing steadily to decreasing by about .25 percentage points per year, holding all other variables constant. This shows that the policy diffusion process turned around and was thrown off track by the economic crisis. Also, we can see that the post-crisis dummy is not significant in the regression. This means that there was no jump discontinuity in the adoption curve (i.e. the curve bent down after the crisis starting at the same level it was at immediately before the crisis, not any lower or higher). This result is shown graphically below:

\[^{14}\text{Coefficients interpreted using marginal effects at the means of all other variables.}\]
Figure 6

A few other interesting things to note about the regression are the signs on the two income variables, the race variable and on the union variable. We can see both from the positive sign on the median income variable and from the negative sign on the poverty rate variable that there tend to be more charters in richer counties. However, this result is after controlling for all other variable in the regression, including nonwhiteprop, the proportion of students in the county that are not white. We can see that this variable has the second largest effect of any of the variable in the regression, telling us that communities with higher proportions of non-white students are much more likely to have large numbers of charter schools than areas with more white students. Given that a community’s income and the proportion of its students that are non-
white are highly correlated, it may be unwise of us to think of their effects as separate, as they may be picking up some of each other’s effects because of multicollinearity. Finally, we should note the unexpected result that the coefficient on the variable unionprop, the proportion of a state’s teachers that are union members is positive and significant, holding all else constant. Theory would lead us to expect that states with stronger unions would have fewer charters, given the fact that unions actively and outspokenly work against the charter school movement. Upon further thought, however, this result may be due to an omitted variable – liberalness. From a simple correlation matrix, we readily find out that liberal states have both higher proportions of charter schools and much higher unionization rates among teachers. So, the unionization variable may be picking up the effect of a state’s general political leaning and thus not accurately representing the relationship between union strength and charter school diffusion. The next regression will take care of this omitted variable bias.

**Examining the Role of Politics**

Now that we have confirmed that charter school diffusion process was disrupted by the recession, we can delve a little deeper and try to determine how political and circumstantial factors interacted with this disruption. The results of the second regression appear below:

**Figure 7**

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Robust S.E.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>postcrisis2007</strong></td>
<td>0.019</td>
<td>0.154</td>
<td>0.899</td>
</tr>
<tr>
<td><strong>year</strong></td>
<td>0.088</td>
<td>0.060</td>
<td>0.143</td>
</tr>
<tr>
<td><strong>year_postcrisis2007</strong></td>
<td>-0.150*</td>
<td>0.085</td>
<td>0.077</td>
</tr>
<tr>
<td><strong>nonwhiteprop</strong></td>
<td>0.770***</td>
<td>0.218</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>ellratio</strong></td>
<td>2.975***</td>
<td>0.510</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>iepratio</strong></td>
<td>2.279***</td>
<td>0.767</td>
<td>0.003</td>
</tr>
</tbody>
</table>
In this second regression, the signs and effects of the variables that were in the first regression remain largely the same. However, while in the last regression we saw a positive year trend, here it is insignificant. We do still see a negative trend in charter school proportions after the crisis though. Additionally, we can see that the unionization variable has switched to the expected negative sign now that we are controlling for states’ political tendencies.

What this regression adds is a look into how political factors mediate the diffusion disruption caused by the economic crisis. First, we can see that we fail to find evidence to confirm the problem severity hypothesis. The coefficient on the interaction between HitHard and PostCrisis is not significant and thus we cannot say that the states hardest hit by the economic crisis acted much differently as far as their charter school policy than did other states.

We do see support for other hypotheses though. Red states have lower than average proportions of charter schools while blue states have higher than average proportions. Counties
in red states have about 4.7% fewer charters than average and blue states have about 4.5% more charters than average. This could be due to the political preferences of voters or policymakers in these states, but could also be due to the network proximity hypothesis. Because charter schools first opened in primarily blue states, it is likely that blue states are simply further along in the diffusion process than red states. This difference would persist and be exacerbated because of the network hypothesis because blue state officials would tend to spread their policies to other blue state officials and not red state ones. The result of this theory can be seen in the graph below with the red line representing the diffusion curve in the red states and the blue curve representing diffusion in blue states.

Unfortunately, there are not enough observations in hard-hit blue states to determine if they responded differently to the crisis. However, we can see a positive and significant coefficient on the triple interaction term between RedState, HitHard and PostCrisis. What this positive coefficient tells us is that the hardest hit red states in the sample responded to the economic crisis and subsequent budget shortfalls by increasing their enthusiasm for and spread of charter schools. In fact, a joint F-test tells us that the proportions of charter schools in red compared to blue states after the crisis are statistically equivalent. Essentially, the red states bridged the diffusion gap between themselves and the blue states in response to the economic crisis. This gives us very strong support for the political hypothesis of policy diffusion - the relative power of political parties matters to the process. Specifically, it also supports the idea that Republicans turned to privatization after the crisis to save money. A graphical representation of this result is below:
My results show no support for the structural inertia hypothesis of diffusion that is so often put forth in the charter school literature. Several different other factors were able to supersede the inertial checks that the theory talks about. Unfortunately, I am also unable to say anything meaningful about the geographical proximity hypothesis. My data did not allow me to measure geographical proximity to other counties with high proportions of charter schools.
A Caveat

The results of this analysis very conclusively show how the charter school policy diffusion process was disrupted by the Great Recession. The spread of charter schools stopped for the most part, except for in a few of the hardest hit red states where it was given a boost. However, it is important to note that the analysis presented here is only a few years removed from the crisis itself, and takes place while many of the effects of the recession are still being felt across the country. So, while this study can definitively conclude that charter school diffusion was very strongly impacted by the recession, it cannot speak to what the crisis has done to the very long-term outlook of charter schools. I do not mean to say that the flat-lining of the movement will last forever (on the contrary, I sincerely doubt that it will). I merely wish to bring attention to the fact that the economic crisis upset the theory’s predicted course of diffusion.
VI. Conclusion

This thesis tests the policy diffusion literature’s ability to explain diffusion in the face of economic shocks. Diffusion is often thought of as having neat stages that guide policies along as they spread throughout the nation. However, what I have shown in this thesis is that the process is not always quite that simple and that policy diffusion doesn’t always fit the smooth S-curve that scholars describe. I formulate hypotheses of what several policy diffusion theories would predict happening to charter school policy diffusion in the face of an economic shock and test these theories against each other. Through an examination of states’ charter school diffusion rates before and after the economic crisis, I conclude that policy diffusion can be seriously disrupted and at least temporarily halted by a crisis such as the Great Recession. I find that after 2007, when the recession hit and education budgets were slashed, the steady spread of charter schools within states ground to a halt, throwing a notable kink into the policy diffusion curve.

Taking a step back from the charter school movement specifically, this finding could be significant to policy diffusion theory in general. While a crisis such as the Great Recession does not come up all too often, other smaller but more focused crises do. We noted that the major reason that the recession had such an effect on charter school diffusion was because it caused large cuts in state and local education budgets. A smaller crisis could have caused the same thing to happen and in the same way. Smaller and more concentrated crises could have large effects on the diffusion of other policies. While it is convenient to think of policy diffusion as a smooth process, the theory should leave room for the kinks and divergences that crises can throw into the picture.
## VII. Appendix

### Descriptive Statistics by State

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