Democracy and State Capacity: Complements or Substitutes?

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Abstract

When it comes to social welfare, we do not have clear understanding of whether it is more important to have democracy or a capable state. Specifically, most studies do not consider the possibility that effects of democracy are conditioned or obscured by differences in the capabilities of states to deliver services effectively. This article contends that better developmental outcomes can result from either democracy or state capacity, but the combination of high levels of both democracy and state capacity is not synergistic. Empirical evidence from a time-series-cross-sectional dataset covering up to 153 countries during the 1965-2010 time period supports the conclusion that these factors partially substitute for each other with respect to improving outcomes in school enrollment and infant mortality. These findings provide a more optimistic answer to the query of Ross (2006) as to whether democracy is good for the poor. Once accounting for state capacity, we find that democracy leads to better development outcomes.

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When it comes to improving overall social welfare in a country, is it more important to have democracy or a capable state? Do these political attributes create independent paths to improvement in education and health outcomes? Or, do democracy and state capacity in combination synergistically produce faster improvement than either one of these factors acting individually? Despite numerous studies of the effects of democracy on development, we do not have clear answers to these questions because the potential interdependence of democracy and state capacity is not addressed. We do not know, in other words, whether these attributes act as complements or substitutes.[1]

Public services improve human outcomes most dramatically when resources are directed to where they do the most good and when delivery mechanisms are efficacious. Although there is a consensus that spending on public services is greater in democracies than non-democracies, findings are inconsistent with respect to the effects of democracy on actual health and education outcomes (Nelson, 2007b). One explanation for this puzzle, best exemplified in Ross (2006), is that democracies do not direct resources to where they are most needed, instead subsidizing middle- and upper-income groups that have greater political clout than the poor. Though logical, this indictment of democracy is premature, since it does not consider the possibility that effects of democracy are conditioned or obscured by differences in the capabilities of states to deliver services effectively. A more complete understanding of the role of democracy emerges by incorporating the effects of state capacity into the analysis.

This article contends that better developmental outcomes can result from either democracy or state capacity, but the combination of high levels of both democracy and state capacity is not synergistic. These political attributes have overlapping effects in terms of transmitting information about public needs, agenda setting, and policy design. Empirical evidence from a time-series-cross-sectional dataset covering up to 153 countries during the 1965-2010 time period instead supports the conclusion that these factors partially substitute for each other with respect to improving outcomes in school enrollment and infant mortality. These findings provide a more optimistic

[1]Thanks to *redacted* for help with framing this research.

answer to the query of Ross (2006) as to whether democracy is good for the poor. Once accounting for state capacity, we find that democracy leads to better development outcomes.

Section 1 argues that mixed findings regarding the effects of democracy on development outcomes may be explained once we account for its interrelationship with state capacity. Section 2 depicts the level, manner, and effectiveness of public service provision as a function of the lines of accountability between the various actors involved, highlighting the ways in which democracy and state capacity affect these lines. The subsequent section posits that the effects of democracy and state capacity overlap rather than augment each other, thus generating the hypothesis that democracy and state capacity serve as substitutes. Section 4 presents a range of empirical tests that provide considerable evidence consistent with this hypothesis. The last section assesses the implications of these findings.

Democracy, State Capacity, and Public Service Delivery

The degree to which public services have a measurable impact on development indicators is a function of three factors: the level of resources allocated, the manner in which they are distributed, and the effectiveness with which they are used. In theory, democracy and state capacity are key determinants of these factors, but the nature of their interaction is unclear. Their effects may be complementary, with democracy creating the incentives to expend greater resources on public services and state capacity providing the means to deliver these services effectively. Alternatively, democracy and state capacity could work independently and through different mechanisms to create the incentives and means to deliver public services. In this scenario, democracy and state capacity would substitute for each other.

Both democracy and state capacity are multi-dimensional in nature. While recognizing this complexity, this study seeks to define these concepts in a manner that is generalizable across contexts. Here, democracy encompasses the two key dimensions described in Dahl (1971): contestation and inclusiveness. Contestation requires that there exist regular opportunities to choose among

leaders that compete for votes in fair elections, as well as the rights to form political organizations and express one's political views (Dahl, 1971: 20). Inclusiveness pertains to the breadth of these participation rights in the polity.

Likewise, the focus here is on a basic conception of state capacity: state infrastructural power (Mann, 1984). Infrastructural power refers to the institutional capacity of the state to "penetrate its territories and logistically implement decisions" (1984: 113). As discussed in Soifer and vom Hau (2008), infrastructural power is conceptually distinct from Weberian bureaucratic professionalism in that it is focused on the state's ability to enforce and implement policies rather than on the nature of the bureaucracy itself. Bureaucratic professionalism may lead to greater infrastructural power, but it is only one potential source (2008: 223-4). States with greater infrastructural power have greater capacity to provide public services, and they are thus more capable of improving outcomes in health and education.

On the one hand, we can conceive of state capacity, defined in this basic sense, as an instrument available to rulers, who make use of it at their discretion. If the state is merely an instrument, then the effect of incentives for rulers to deliver public services depends upon the level of state capacity. Individually, neither factor is sufficient, but the combination of the two factors working together would be powerful. On the other hand, it could be that states with greater capacity intrinsically provide higher levels of public services, independent from the policy priorities of the ruler to some degree. Competent bureaucracies, staffed with policy experts and well-trained personnel, are not passive tools. They gather information, monitor service delivery, and help set the policy agenda. In this scenario, the effects of state capacity and democracy may overlap or substitute for each other.

Whatever the nature of the interaction between democracy and state capacity, the existing literature rarely grapples with it. Nelson (2007b), for example, reviewed nearly two dozen cross-national, quantitative studies conducted since 1990 on the relationship between democracy and provision of social services.[2] These studies consistently found that democracies spend more on

[2]For examples, see Kaufman and Segura-Ubiergo (2001), Brown and Hunter (2004), Avelino et al. (2005), and Stasavage (2005).

public services than do non-democracies, all else being equal, but "links between democracy and social sector outcomes are inconsistent and weak" (2007b: 80). Only a few of these studies, however, attempt to account for the effects of state capacity,[3] and none examine the interrelationship of democracy and state capacity.

Canada and South Korea help illustrate why neglecting the role of state capacity in large-sample studies may matter significantly. In 1990, these countries were similar in their rates of infant mortality, with 6.8 and 7.9 deaths per 1,000 births respectively. Both ranked among the top 20 countries worldwide. Yet, in contrast to Canada, South Korea had liberalized only recently. As McGuire (2010) notes, despite semi-democracy and martial law during the 1960-1990 period, South Korean rulers nonetheless felt pressure to build legitimacy, leading them to enact public policies that improved sanitation, health care services, delivery of electricity and transportation, along the way producing rapid economic growth. Government-run health centers, later supplemented by policies to increase the number of doctors serving rural areas and funding for community-run clinics, helped support a significant decline in infant mortality rates (2010: 218-9). Unlike many countries where rulers had similar objectives, South Korea had the state capacity to carry out these polices.

Given only these two cases, one might surmise that democracy makes little difference for health and education outcomes. This generalization would be hasty, driven by the unusual performance of South Korea under non-democracy. Yet, the nature of the comparison is fundamentally the same in large-sample, cross-national statistical studies: when estimating the effects of democracy on average across countries, high-performing autocratic states are potentially confounding. The greater the number of such cases in the sample, the smaller in magnitude are the apparent effects of democracy, even if other autocracies are the worst performers. Indeed, Ross (2006) contends that previous studies produced overly optimistic conclusions about the effects of democracy as a

[3]The exceptions are Frey and Al-Roumi (1999), who use government spending as a percentage of GDP as a proxy for state strength, and Khaleghian (2003), who uses the International Country Risk Guide indicator of bureaucratic quality.

result of selection bias arising due to missing data from high-performing autocracies.[4] In this way, the success of some autocracies casts doubt upon the effectiveness of democracy in general.

By incorporating state capacity, and its interaction with democracy, into the analysis, we can obtain a fuller understanding of democracy's impact on public service delivery. If democracy and state capacity are complementary, we would expect democracy to be effective at improving development outcomes when paired with a capable state, but not otherwise. If these factors are substitutes, we would expect that many autocracies could perform well given a capable state. Either eventuality would help explain why the effect of democracy, on average across states with varying capacity, is not robustly linked to better performance on health and education outcomes in some studies.

Accountability and Public Service Delivery

The nature of public service provision is a function of the various lines of accountability between key groups of actors: citizens, policymakers, organizational providers, and service professionals (World Bank, 2004). The strength of these lines of accountability affects the level, manner, and effectiveness of public service delivery. To what extent can citizens, and the poor in particular, hold policymakers accountable, creating incentives to provide public services? In turn, to what extent can policymakers hold frontline service personnel accountable for service delivery? When services are delivered through the public sector, this chain of accountability may have many links.

Theories that predict democracy will produce better development outcomes typically focus on one part of this overall picture: the accountability of policymakers to citizens. In a representative account, Lake and Baum (2001) assume that politicians are utility-maximizing actors whose goal is to use the power of the state to extract rents for themselves. The state, with control over the legitimate use of force, is akin to a market monopolist in collection of revenues and provision of

[4] With a larger sample obtained in part through data imputation, Ross finds that democracy has little effect on child mortality.

public services. It can constrain supply to extract rents. Politicians thus vie for control over the state, but the extent to which they are able to convert this control into rent extraction depends upon the contestability of political markets.

Contestability is a function of the extent to which there are barriers to entry and exit for politicians in competing for office and of the costs to citizens for participating in processes for selection of rulers. To the extent that political markets are contestable, Lake and Baum predict, politicians are induced to devote resources to public services. Absent political contestation, rulers constrain the supply of public services below the social optimum in order to maximize rents. The framework creates a clear theoretical connection between democracy and the level of resources devoted to public services: leaders of democracies should be responsive to popular demands, and autocrats are expected to exploit citizens and should exhibit a "systematic bias . . . against provision of public services" (2001: 599).

Likewise, democracy is claimed to facilitate the flow of information and enable the formation of groups that can demand social services (Sen, 1999; McGuire, 2010). The combination of the greater flow of information and incentives for rulers to respond to citizens is central to Sen's explanation for why democracies do not experience famines. The existence of a free media and political opposition creates an "early warning system" (1999: 181). In similar fashion, democracy can increase awareness of routine failures in public service delivery, fostering the conceptualization of public policy needs and increasing their political salience.

There are two reasons why democracy may fall short of these expectations, however. First, democracy may not make rulers accountable to those who need services the most. Second, policymakers may not have the necessary tools to deliver public services effectively even when given such incentives. These reasons have very different implications for whether democracy is good for the poor. Crucially, unless we account for the role of state capacity, we cannot distinguish between them in empirical tests.

The heart of the critique by Ross (2006) is that the poor lack the political power to hold rulers accountable. Instead, political competition may bind rulers to constituencies that are relatively

well-off, subsidizing access to health and education services for those who could otherwise use their own resources. As Nelson explains, "in democracies, pro-poor reallocation of resources across levels of service and among regions may be particularly difficult politically ... middle class demand for more and better education and health services is virtually unlimited" (2007a: 27). In terms of health care, these groups are more likely to demand "curative" services, shifting the allocation of resources away from the kinds of programs that are most effective at producing declines in infant mortality: low-cost, preventive health care for at-risk groups (McGuire, 2010).

Other perspectives highlight aspects of selection institutions that may give rulers narrow or particularistic incentives. In Bueno de Mesquita et al. (2003), for instance, it is not the level of democracy *per se* that determines the level of spending allocated to public goods but the size of the coalition on which rulers depend for remaining in power. Within democracies, electoral rules help define the breadth of incentives. When politicians must attract votes on an individual basis, they have greater incentives to favor policies that give them the ability to take personal credit for delivering goods and "directly and personally control the distribution" (Hicken and Simmons, 2008: 111). The result is a higher proportion of spending devoted to political pork and patronage, undermining the effectiveness of education spending on reducing illiteracy.

Even strong incentives to deliver public services broadly, however, do not equal the capability to deliver public services. Where lines of accountability to public service providers are weak, policymakers may lack the means to improve outcomes, and building improvements in state capacity requires time. Given that rates of absenteeism among health and education workers are often between 20-40%, lack of accountability can be a major problem (World Bank, 2004). In terms of building state capacity, evidence suggests that democracy does not appear to improve public sector performance dramatically, at least in the short term (Nelson, 2007b), and moderate levels of democracy may actually be less promising for fostering state capacity improvements than very low or high levels (Bäck and Hadenius, 2008). In any event, since such improvements would happen only slowly, the level of state capacity is for all practical purposes given exogenously. Thus, even when rulers intend to improve education and health outcomes through increased provision of

public goods, they may not have the necessary tools to achieve these objectives.

The inability of policymakers to ensure effective delivery of public services can have a perverse effect on their incentives. As argued in Keefer (2008b), particularistic policies arise in democracies when politicians cannot make credible promises. For electoral competition to promote improvements in social services, citizens must be able to observe the effects of the incumbent's policy decisions. Unfortunately, promises to make general improvements in public policy outputs are more difficult to monitor than are personalized exchanges, such as patronage and pork, and the effects of any policy changes may be distant in time. Since neither incumbents nor challengers can make credible promises that services will improve, the result is competition around particularistic benefits (Sandbrook, 1986; Englebert, 2000).

The role of state capacity in determining the strength of the lines of accountability from rulers to services providers is thus important. When state capacity is high, rulers who wish to deliver higher levels of public services can do so with greater effectiveness. When state capacity is low, spending may not reach service providers, and policymakers may lack mechanisms to hold service providers accountable for service delivery.

It is not clear, however, that greater state capacity is uniquely important in democracies. It may be that regimes of all types will deliver more public services when they have capable states. Two arguments support this claim. First, states with greater capacity intrinsically provide higher levels of public services. Second, greater state capacity may also give non-democratic rulers stronger incentives to increase public service delivery. Each argument is explored in turn.

The proposition that states with greater capacity intrinsically provide higher levels of public services requires that state bureaucrats have incentives that are at least partially independent of the preferences of rulers. As Moon and Dixon (1985) argue, these incentives may exist because bureaucrats have an interest in the legitimacy of the state in the eyes of citizens. These interests arise to the extent that states are "collections of individual careers and organizational interests" that stand for themselves (Caporaso, 1982: 105), often having greater longevity than rulers. In the Weberian sense, bureaucrats stand apart from class competition and take the perspective of the

technician to identify and solve problems. Bureaucrats, as agents of the state, thus have incentives for provision of public welfare.

Additionally, bureaucratic socialization in effective agencies conditions bureaucrats to act in a manner that is consistent with the mission of their agency. Theoretical models typically begin with the assumption that bureaucrats are self-interested actors, but exactly what they want is a matter of contention. Niskanen (1971) lists salary, perquisites, public reputation, and agency output, among other possibilities. Empirical research finds that an ethos of public service can be a prominent factor (Tendler, 1997; Brehm and Gates, 1999; Marsh et al., 2000; Gains and John, 2010), indicating the bureaucratic norms emerge endogenously. As James Q. Wilson writes, bureaucratic organization shapes the views and skills of the people that inhabit the organization (Wilson, 1989). Effective organizations establish clear goals, identify priorities, and provide procedures for how to address them. Over time, the day-to-day experiences of working in the organization create a sense of collective mission and peer expectations that permeate the bureaucratic culture. These norms can have a strong effect on public service delivery (Tendler, 1997; Mangla, 2014).

More broadly, Ziblatt (2008) finds that capable state agencies set the policy agenda in a manner that leads to greater public goods provision. The technocratic or policy professionals that staff government bureaucracies influence both the identification of problems and the range of possible solutions.[5] These actors may tackle perceived problems even in the absence of strong political demands on rulers by citizens. McGuire's (2010) study of primary health care programs in several Latin American and East Asian countries also notes the important role of bureaucratic initiative. "Officials may get involved with national primary health care programs at the behest of top political authorities; but more often, and usually in accordance with broader policy orientations outlined by such authorities, they propose and design the programs on their own, and they seek political approval after having done so" (2010: 291).

The basis of the second argument is that capable states may also alter the strategic choices of

[5]For example, public health professionals seek to improve public health outcomes due to training or professional norms.

authoritarian rulers. In the literature on democracy, dictators tend to be treated as a homogeneous class of rent-seekers that do not face popular pressures to perform well. Instead, as argued in Acemoglu and Robinson (2006), autocratic rulers are not immune to such pressures, and repression is not the only tool in their arsenal to manage them. Loyalty-building measures such as redistributive or developmental policies can also help dictators maintain power. The optimal mix of repression and loyalty-building measures is a function of their relative costs (Wintrobe, 1998; Gandhi, 2008). Greater state capacity to deliver public services lowers the costs of building loyalty.

Among dictatorships, accordingly, are countries that produced substantial developmental gains. To illustrate, many Communist party-states made development initiatives a high priority, leading to high levels of school enrollment and significant improvements in health care. Cuba, for example, enjoys a level of life expectancy far higher than is typical for countries with similar levels of GDP per capita. Likewise, the East Asian capitalist developmental states of South Korea and Taiwan mixed repressive measures with polices that promoted broad-based economic growth, leading to significant improvement on education and health indicators. Notably, in each of these cases, states had the capacity to deliver public goods.

In summary, both democracy and state capacity have potentially important effects on the lines of accountability between the various actors involved with the politics of public service delivery. State capacity, in particular, has both a direct effect on the efficacy of public goods provision and indirect effects on the incentives of rulers to supply public services. Omitting state capacity may thus produce misleading or inconclusive results. A fuller picture requires that we understand the nature of the interaction between democracy and state capacity, which is the subject of the next section.

Complements or Substitutes?

The theoretical arguments presented above suggest that accounting for the effects of state capacity could reveal one of three competing possibilities about the relationship between democracy and

development outcomes. First, democracy may have no effect, supporting the earlier findings of Ross (2006). This empirical possibility serves as the null hypothesis in this analysis. Second, it could be that the positive effects of democracy are conditioned by the level of state capacity, in which case democracy and state capacity would work synergistically to improve development outcomes. Third, if higher levels of state capacity provide some of the same functions filled by greater democracy, such as the ability to identify public needs and set the policy agenda to address those needs, state capacity and democracy would substitute for each other. This section develops the argument that the last relationship is most likely to hold.

If democracy and state capacity work synergistically to improve development outcomes, it must be the case that each of these two factors depends upon the presence of the other for its potential to be realized fully. Perhaps democracy supplies the motivation to deliver public services while state capacity supplies the means. The effect of each is constrained without the other. Where state capacity is low, resources spent on public services are wasted through inefficiency, absenteeism, or other maladies in service delivery. In the absence of institutions that can deliver programmatic services effectively, electoral pressure to deliver benefits may degenerate into clientelistic exchanges. On the other hand, where states are capable but rulers have little incentive to supply public services, state capacity to deliver these benefits goes unused.

A second potential mechanism is that democracy and state capacity work in tandem, each reinforcing the effects of the other, to create incentives for increasing the level of resources allocated to public services, to distributing these resources where they have the greatest impact, and for using them effectively. Electoral competition and the freedom to mobilize strengthens the lines of accountability between citizens, politicians, organizational providers, and service professionals. State capacity augments these effects, while democracy in turn creates incentives to strengthen capacity.

There are strong reasons to believe, however, that these synergistic effects will not be observed. The effects of democracy and state capacity on the level, manner, and efficiency of public service delivery overlap each other to some extent. For example, the impact of democracy on public

service delivery may be smaller in countries where relatively high levels of state capacity already facilitate better outcomes, and vice-versa. The logic supporting the expectation that democracy and state capacity are partial substitutes is outlined below.

First, the greater the extent to which state capacity provides for better services intrinsically, the less that democracy is necessary to increase the incentives on rulers to do the same. Not only does high state capacity provide a mechanism for service delivery, but it can improve the flow of information regarding public needs, facilitate the design of better policies, and help set the policy agenda. These effects do not require the presence of democracy, and they overlap with the theorized effects of democracy.

For example, accurate information about public needs can come from a well-organized data collection effort by competent public agencies as well as from a free press and protections for political expression. The combination of all of these sources at the same time would likely produce, at most, an additive effect on the information flow rather than generate a positive interaction. Most likely, the combined body of information would be less than the sum generated by the individual parts. Similar arguments apply with respect to agenda setting and policy design.

Moreover, as argued above, greater state capacity to deliver public services is likely a tool for autocratic leaders as well. In the logic of Wintrobe (1998) and Gandhi (2008), dictators use some combination of carrots (i.e. benefits) and sticks (i.e. coercion) to maintain power. The relative costs of these measures determine the extent to which they are attractive to rulers. Since greater state capacity to deliver public services reduces the relative costs of supplying carrots, we can expect that dictators will also supply more public services as state capacity increases. There is not a unique synergy between state capacity and democracy.

In summary, the expectation is that democracy and state capacity tend to substitute for each other. Democracy is expected to increase the incentives on rulers to improve public sector outcomes, a claim supported by the consistent finding that democracies devote more resources to public services. By helping identify public needs and set the agenda for policymakers in all types

of regimes, capable states provide an alternative mechanism to accomplish some functions hypothesized to result from democracy. Increasing the level of democracy would thus have a more modest effect on improving developmental outcomes where state capacity is already high. Likewise, raising the level of state capacity may have a much more potent developmental impact among non-democratic countries than among democracies.

Hypothesis 1 *Democracy and state capacity both lead to improved health and education outcomes, but these effects substitute for each other to some degree.*

Findings consistent with the hypothesis would show that both factors lead to improved development outcomes but that the effects are overlapping. There is, in other words, a negative interaction between the two factors. On the other hand, if the data show a positive interaction between the two factors, the logical conclusion is that democracy and state capacity act as complements. The next section describes the empirical tests and presents the results.

Empirical Analysis

Data

A time-series-cross-section dataset was constructed to cover up to 166 countries during the period 1965-2010. Since many human development indicators are not collected annually, and since they do not respond rapidly to institutional changes, each observation in the dataset represents a five-year period. The dependent variables in this analysis are changes from one period to the next in two widely-measured development indicators: the level of secondary school enrollment and the infant mortality rate.

Data on the gross rate of secondary school enrollment (*EnrollSec*) come from the World Bank (2011). School enrollment is a good measure of the contemporary level of public service delivery, requiring both the allocation of resources and the organizational capacity to provide services over space. Even though enrollment does not measure the quality of schools, or the degree to which

people become more educated, it is a key development indicator with broad cross-national coverage. The mean level of secondary school enrollment in the sample is 55.4%, with a standard deviation of 33.5%.[6]

Infant mortality rates are a useful composite indicator of the provision of public services. As noted by Ross (2006) and Deaton (2013), infant mortality is a function of many different factors, such as nutrition, access to health care, clean water, air quality, and female education and literacy. Additionally, data on infant mortality are more widely available than any of these other factors individually. All infant mortality data come from the *Child Mortality Estimates Info* dataset, which is a joint product of UNICEF, the WHO, the World Bank, and the United Nations Population Division (The Inter-agency Group for Child Mortality Estimation, 2010). The mean rate of infant mortality is 59.6 deaths per 1,000 live births, with a standard deviation of 48.9. In line with common practice, the log value of infant mortality is used in all analyses. Infant mortality rates have a natural floor, and improvement is much more difficult when the rate is low to begin with.

The first explanatory concept of central interest, *Democracy*, is measured using two variables. First, I use the *Polity2* variable from Marshall and Jaggers (2009) rescaled to run from 0 to 1. The original Polity data come from ratings of autocracy and autocracy combined into a single scale, and the elements of the index include measures of the competitiveness and regularity of executive recruitment and political participation. Higher values on this scale indicate higher levels of democracy. Missing values were filled using the measure of political rights developed by Gastil (Freedom House, 2008). The mean value of Polity2 is .54, and the standard deviation is .37. Although the problems with this measure are well-understood (Munck and Verkuilen, 2002), using the measure provides comparability with other works such as Ross (2006).[7]

The second measure of democracy is the dichotomous measure from Boix, Miller and Rosato (Boix et al., 2013), hereinafter *DemocracyBMR*. This measure is based upon two main components: first, the use of elections to choose the legislature and, directly or indirectly, the chief

[6]Since the gross rate of secondary school enrollment is based upon the number of students enrolled in secondary school compared to the school-age population, it can exceed 100%.

[7]In an appendix available online, all tests are repeated using the Gastil measure with very similar results.

executive; second, a minimum threshold of participation rights. These two criteria create a spare measure of the concept that should be more free of entanglement with other concepts of interest in this study, such as the degree of political institutionalization. The mean level of this variable is .41 and the standard deviation is .48. The two democracy measures are correlated at .87.

The third measure of democracy comes from the March 2014 version of the Unified Democracy Scores (Pemstein et al., 2010), a composite measure of democracy constructed through a Bayesian latent variables analysis built upon ten existing scales. The UDS measure thus captures common tendencies across the different measures of democracy and reduces the possibility that statistical results are due to the idiosyncratic aspects of any one measure. Since each observation is a five-year period, I use the mean of the annual summary scores for each country.[8] After rescaling the scores so they range from 0 to 4 to aid in interpretation of interaction effects, the mean value of UDS is 1.94 and the standard deviation is .07.

Measuring state capacity is a difficult challenge, especially when one wishes to cover a large number of countries over time. An ideal measure does not exist. This study employs two different approaches. The first measure is the variable *StateHist*, a 0-1 index of state antiquity devised by Bockstette et al. (2002) as updated in Chanda and Putterman (2005) and by the author.[9] The second measure is *Census*, a measure of census frequency along the lines suggested by Centeno (2002) and Soifer (2013).

The StateHist index measures the roots of the state in its territory using three components: the amount time from the year 0 (C.E.) era to the year 1950 that a government existed above the tribal level, whether that government was foreign-based or locally-based, and the extent of the modern-day territory that was ruled by that government.[10] The validity of this measure rests upon

[8] This makes it difficult to apply the Monte Carlo approach that involves using samples from the posterior distribution of the estimated democracy scores.

[9] Using the procedures described in Bockstette et al. (2002), the value of StateHist was calculated for 14 additional countries.

[10] The values are weighted such that more recent time periods count more heavily than more distant periods. I use their statehist05v3 index.

the contention that state infrastructural capacity is strongly correlated with the depth of the state's historical roots. Where states are relatively young in a given territory, we should expect that they are less able to implement policies effectively. The mean value of StateHist is .45 and the standard deviation is .24.

The measure addresses two of the problems that Tilly (1975) sees as common in the treatment of the state: how to handle shifting boundaries of the state over time and the issue of colonial control. States may extend their territorial reach by solidifying control over peripheral areas over time, or they may lose territory as the result of conflict. In the StateHist index, states that control a larger percentage of their contemporary (i.e. 1950) territory for a longer period of time have higher scores. If these states were sovereign, rather than controlled by a foreign power, they score higher still. This feature of StateHist captures the logic in Herbst (2000) that, although colonial powers may often create lasting territorial boundaries, the formal means of territorial governance are typically weaker.

The Census measure is intended to "capture the ability of the state to collect complex information from the society within its borders" (Soifer, 2013: 9). Gathering such data requires that the state be able to extend its power throughout its territory, serves as the basis for the state's ability tax its population and thus represents a critical, if bluntly-measured, component of state power. Where states cannot conduct censuses regularly, they surely are administratively weak and likely will lack coercive and extractive capabilities as well. This measure was constructed using data from the United Nations on the dates of country censuses, as updated by the author. It is calculated for each year by looking forward and backward in time to the most proximate censuses, summing up these values and rescaling them such that regularly holding censuses every 10 years produces a score of 1. Census, which ranges from 0 to 2.26, has a mean of .90, and a standard deviation of .41.

[Table 1 about here.]

Neither of these measures is ideal, but they differ in their construction. They neither are

strongly correlated with each other nor with the measures of democracy, as can be seen in Table 1. Since StateHist measures the roots of the state up until the year 1950, it is time-invariant during the period under study. Census is a narrow measure of state capacity that is focused on basic state functions, and it varies over time. If the measures produce consistent results in empirical tests despite these differences, we can be more confident that our findings are not driven by idiosyncrasies of particular measures.

Estimation Procedures

Time-series-cross-sectional data with slow-moving or time-invariant explanatory variables present a range of estimation challenges, including dynamic issues, heterogeneity across country units, and unobserved country-level fixed effects. There is no single correct approach that works in all cases. This research, accordingly, employs different approaches in an attempt to ascertain the robustness of the results.

The functional form of the basic model is that of an Error Correction Model. This type of model is appropriate when the dependent variable appears to be non-stationary, as is the case here.[11] As described in Franzese (2002) and Blaydes and Kayser (2011), one can in practice regress the first-difference of the dependent variable on the lagged first difference, the lagged level of the dependent variable, and the lagged levels and/or first differences of independent variables according to theoretical expectations and according to whether they move meaningfully. The general functional form, where the number of independent variables (z) is arbitrary, is thus:

$$\Delta y_{i,t} = \alpha + \beta_1 \Delta y_{i,t-1} + \beta_2 y_{i,t-1} + \beta_j \Delta z_{i,t} + \beta_k z_{i,t-1} + \varepsilon_{i,t}$$

In this case, neither the measures of democracy nor state capacity move dramatically from one period to the next, and we do not expect such changes to have an immediate effect in health

[11] Augmented Dickey Fuller tests indicate the presence of a unit root in the case of InfMort. Although this is not the case for EnrollSec, tests using both ECM and non-ECM functional forms show little difference in the substantive results. The former approach is used for consistency.

and education outcomes.[12] As a result, only the lagged level of these variables is included in the model. The critical test of the hypothesis that democracy and state capacity tend to substitute for each other comes from an interaction term between the measures of these two concepts.

For secondary school enrollment, the median first difference over a five-year period ($\Delta\text{EnrollSec}_t$) is an increase in enrollment of 3.5 percentage points and the standard deviation is 7.5. In the case of log infant mortality, the median first difference ($\Delta\text{InfMort}_t$) is -.14, meaning that the typical scenario is a decline in infant mortality by roughly 14% from the previous level five years prior. The standard deviation is .11.

I control for several other variables that may affect the level and efficacy of public goods delivery: the log of GDP per capita lagged by one period, growth in GDP per capita, and lagged population density. It is clear that country wealth is correlated both with state capacity and democracy, as well as social development indicators. Controlling for wealth is thus essential. The variable *GDP/cap* comes from the logged value of real GDP per capita in 2005 international dollars (Laspeyres index) Heston et al. (2009). Since economic growth permits expansion of public services, the change in the level of GDP/cap from one time-period to the next is included as well. A country's population density also affects the nature of a country's challenges in delivering public goods, with greater density expected to facilitate public service delivery. These data come from the World Bank (2010).

The functional form of this model addresses potential problems related to non-stationarity of the dependent variable and serial correlation of the errors, but it does not address heterogeneity or fixed differences across the country units. Significant debate exists regarding the use of fixed effects to deal with the latter concern. Although fixed effects estimation does control for unobserved differences across countries, albeit bluntly, it is not advisable when the central independent vari-

[12] In about half the cases, the value of Democracy does not change at all. When it does change, the magnitude of change is typically small. In only 4% of cases does it change by more than .4. Alternative tests using the first differenced Democracy variable in addition to the lagged level produced no substantive difference in the results. DemocracyBMR is unchanged in about 75% of cases, and StateHist is fixed by construction.

ables of interest are time-invariant. The primary estimation approach is OLS with random effects, using clustered (i.e. robust) standard errors to adjust for heterogeneity across countries.[13]

Results

Table 2 contains the first set of results, where the dependent variable is $\Delta\text{EnrollSec}_t$, the difference in the level of secondary school enrollment from the current period compared to the previous one. Model 1 uses Polity2 as the measure of democracy and StateHist for state capacity. As indicated by the coefficient of -0.12 on the lagged level of EnrollSec, enrollment grows more slowly the higher the existing level of enrollment. Where existing school enrollment is 10% higher, the predicted change (i.e. increase) in enrollment is expected to be 1.2 percentage points less, all else being equal. Country wealth and economic growth also matter – secondary school enrollments grow more quickly in the level of GDP per capita and its growth rate – while the coefficient on population density is not different from zero with high confidence.

[Table 2 about here.]

The coefficients on Democracy and StateCapac indicate that both of these factors are linked with faster enrollment growth when the value of the other is zero. Their interaction is negative, however, which means that the magnitude of the individual effect of each factor lessens as the value of the other factor is increases. In other words, the individual effects appear to overlap each other rather than accumulate in either an additive or a synergistic manner. Each of the three relevant coefficients reaches the .01 level of significance. As Brambor et al. (2006) warn, however, interpretation of interaction effects is difficult using traditional statistical tables, so these results

[13] In robustness checks, I employed the fixed-effects vector decomposition (FEVD) introduced by Plümper and Troeger (2007), and updated in 2010, which implements a three-stage procedure to estimate fixed effects but decompose them into portions explained and not-explained by the observed time-invariant country characteristics. This technique is the subject of significant discussion in the Spring 2011 edition of *Political Analysis*, volume 19:2. I use version 4.0 of the xtfevd estimation routine, which corrects earlier problems in the calculation of standard errors.

are supplemented with figures showing the marginal effect of a one-unit change in each variable across the range of the other. The marginal effects plots for Model 1 are presented in Figure 1.

As Figure 1(a) reveals, Democracy has a strong, positive effect on secondary school enrollment when StateHist is at the low end of its range. Where StateHist is close to 0, for example, a country rated as a full democracy is expected to experience school enrollment growth that is slightly more than five percentage points faster compared to a country rated as fully autocratic. This prediction ceases to be different from zero with 95% confidence when StateHist reaches .47, which is about the level of Romania. Although the marginal effect of Democracy may appear to be negative when StateHist is at the top of its range, we must also consider the fact that the individual effect of StateHist is strong and positive, so the combined effect of the two factors on secondary school enrollment is still positive overall. When both variables are at their maximum value, enrollment is expected to increase more rapidly by about two percentage points.

[Figure 1 about here.]

Figure 1(b) depicts a similar story for the marginal effect of StateHist as a function of the level of Democracy. When Democracy is close to zero, a country rated one unit higher on StateHist is predicted to experience school enrollment growth that is faster by 4.8 percentage points. The strength of this marginal effect tapers off in more democratic countries, being indistinguishable from zero at 95% confidence when Democracy reaches .38, which is the level of Kenya in 1996-2000.

Overall, the findings from Model 1 are consistent with the expectation that democracy and state capacity are both important for improving development indicators, but they do not work in a manner that is synergistic. When the level of democracy is low, the level of state capacity matters more for secondary school enrollment, and vice-versa. Having high levels of both factors is associated with faster growth of secondary school enrollment, but the combined effect is less than the sum of the individual effects.

Models 2 through 6 on Table 2 repeat this test using the various combinations of the measures of democracy and state capacity. The findings from these tests are very consistent with those in Model 1 despite the fact that the measures are quite different in their construction. In each case, the estimated marginal effect of each measure of democracy or state capacity is strongest when the value of the other variable is lowest. Rather than serve to augment each other, democracy and state capacity appear to substitute for each other when it comes to school enrollment growth.

The same series of tests was performed with the change in the infant mortality rate (ΔInfMort) as the dependent variable. The results from these tests are presented in Table 3, where the model numbers correspond to the same tests in Table 2. If hypothesized expectations are correct, the coefficients should have the opposite signs from the previous set of tests, since a declining infant mortality rate signifies the better outcome. Overall, these expectations prove true, but the findings are somewhat less precise when Census is the measure of state capacity.

[Table 3 about here.]

Model 1 again uses the rescaled Polity2 index (Democracy) as the measure of democracy and StateHist as the measure of state capacity. The coefficients on the standalone variables Democracy and StateHist, which represent the effect of each variable when the other is zero, are substantively large and statistically significant at the .01 level. When Democracy is zero, a one standard deviation increase in StateHist (.24) is associated with a decline in the infant mortality rate by about 1.7% over five years. When StateHist is zero, the infant mortality rate is predicted to decline by about 1.5% over five years when Democracy increases by a standard deviation (.37). The positive coefficient on the interaction term, however, indicates that these effects become smaller in magnitude as the value of the other variable increases.

Interpretation of the interaction in its entirety facilitated by Figure 2, which shows the marginal effects of each institutional variable as a function of the level of the other. As Figure 2(a) shows, a one-unit shift in Democracy has a strong effect on the predicted infant mortality rate, reducing it by about 4%, when StateHist is at the low end of the index. This effect is smaller in magnitude when

StateHist is higher, and it is no longer different from zero with 95% confidence when StateHist is at .60, which corresponds to the level of Algeria. Meanwhile, as revealed in Figure 2(b), the effect of StateHist on infant mortality is most strongly negative when Democracy is low. There, we would predict the infant morality rate to be lower by a little more than 6% were StateHist one unit higher. Once Democracy reaches about .90, the level of Mexico in 2006-2010, the predicted effect of StateHist ceases to be statistically different from zero.

[Figure 2 about here.]

The estimates in Models 2 through 6 are consistent with those in Model 1, all the coefficients have the expected signs. The interpretation remains that levels of infant mortality fall more quickly when levels of democracy and state capacity are higher, but these two factors overlap each other to some degree. The degree of statistical precision is slightly less, however, when Census is used as the indicator of state capacity in Models 2 and 4. For example, in Model 4, where the measure of democracy is from Boix et al. (2013), the marginal effect of StateCapac cannot be distinguished from zero with 95% confidence when Democracy is near zero. Instead, the level of statistical confidence is about 88%.

The results consistently show, however, that the relationship between democracy and the change in the infant mortality rate is mediated by the level of state capacity. In all six models, higher values of the Democracy variable predict a more rapid decline in infant morality when the StateCapac variable is near zero. These effects are smaller in magnitude when the measures of state capacity are high.

Discussion

Overall, looking across both sets of tests, the evidence presented here suggests strongly that democracy and state capacity do not act synergistically to improve on development outcomes. Where statistical results were obtained with a high level of confidence, the evidence was nearly always

consistent with the hypothesis that the effects of democracy and state capacity do not create a positive synergy. Instead, the evidence usually is consistent with the idea that these effects overlap each other. The combination of the two characteristics is not greater than the sum of its parts.

Democracy and state capacity are not completely overlapping their effects, however. Where the level of one factor is high, increasing the level of the other factor is still predicted to produce improvement in infant mortality and secondary school enrollment rates, albeit to a lesser degree. In other words, these factors serve as partial substitutes.

Illustrative Cases

Although these statistical relationships are consistent with expectations, the patterns in the data might arise for reasons other than those theoretically identified above. An inspection of specific cases thus facilitates a fuller assessment of the plausibility of these causal mechanisms. Additionally, rather than rely upon the cross-national measures of democracy and state capacity, we can incorporate more nuanced, context-specific descriptions of these concepts. The richer level of detail also permits a closer examination of the political circumstances and policy initiatives that are associated with trends in developmental indicators. Finally, focusing on the trajectory of an individual country over time controls for country-specific factors that are omitted in the cross-national data.

I selected four cases – Benin, Chad, Morocco, and Sri Lanka – that represent different combinations of the key independent variables. Benin and Chad entered the sample with low levels of state capacity and democracy, but Benin democratized while Chad is generally regarded as not democratic. Meanwhile, both Morocco and Sri Lanka are characterized by relatively high levels of state capacity, but Morocco has remained a monarchy while Sri Lanka has generally experienced democratic government despite civil conflict.

Both Benin (then Dahomey) and Chad became independent from French colonial authority in 1960. In both cases, post-colonial politics were characterized by regional/ethnic divides and

significant instability. Benin experienced a series of military coups between 1963 and 1972, then Major Mathieu Kérékou seized power, installed himself as president, and remained in that position until 1991.[14] In Chad, President François Tombalbaye abolished opposition parties in 1962, dissolved the National Assembly in 1963, and pushed the political dominance of the south. The rise of insurgency movements in the north in the mid-1960s led to civil war and the return of French troops, who attempted to restore order during the period 1968-1972.

[Figure 3 about here.]

Unsurprisingly, then, when coverage of the development indicators begins in the early 1970s, Benin and Chad were very similar in terms of GDP per capita, infant mortality and school enrollment. They begin to take different paths at this point, however. In Benin, Kérékou ruled with no specific ideology, but to break the power of the rival, regionally-based patronage networks that had corrupted and destabilized politics, he adopted Marxist-Leninist rhetoric in 1974, applied repression, centralized power in the presidency, and ruled in a top-down fashion (Magnusson, 2001; Seely, 2009). These actions produced greater political stability and inaugurated a period in which schools were nationalized, the state sector was expanded significantly, and the legal system was reorganized (Dossou-Yovo, 1999). During the period 1972-1984, school enrollment grew at an annual rate of nearly 11% and infant mortality fell by about 1.6% annually.

Growing fiscal problems made this system unsustainable, however, and by the mid-1980s the state could no longer pay public sector salaries in timely fashion, and mounting corruption troubled the state sector. These problems culminated with major public protests in 1989 that brought down the regime and led to a period of political restructuring. The fiscal weakness of the state took a significant toll, with secondary school enrollment falling at a rate of 10% annually from 1984 to 1991.[15] A critical political juncture came with the National Conference that began in February 1990, which led to the restoration of competitive legislative elections and opened up other venues

[14] He later was elected president once again in 1996

[15] The rate of decline of infant mortality slowed slightly, but did not reverse.

for political participation. Since 1991, Benin has been rated as a democracy on the usual measures. As Seely states, politics changed significantly in that a strategy of collecting popular opinion on a subject "was legitimized as a democratic means of decision-making," citing the estates-general on education in September 1990 as a key example (Seely, 2009: 148).

[Figure 4 about here.]

With democratization came a distinct shift in the trajectory of education and infant mortality indicators in Benin. From 1991 to 2005, school enrollment increased at the pace of 4% per year, and the rate of infant mortality dropped by about 2% annually. This improvement appears to be more closely tied to the general shift in the political landscape that came with democratization than to the strength of electoral incentives, as the party system is fractionalized and electoral competition is clientelistic (Keefer, 2008a). With decentralization of public services to the commune level, and a state that lacks hegemony and legitimacy in rural areas, political space has opened for non-governmental actors to have a significant role in the design and implementation of education and health services (Bierschenk, 2009). As a recent report from the Overseas Development Institute notes, "the expansion of access to basic education in Benin is an impressive example of what can be achieved in a resource-constrained country with relatively low levels of institutional and planning capacity, if there is sufficient political support to prioritise and resource a sector" (Engel et al., 2011).

In Chad, civil war continued throughout much of the 1970s and 1980s, a period that included military interventions by France and Libya. The state was too weak to exert control over its territory, and periodic attempts by military rulers to negotiate with insurgent leaders and bring them into the government failed to create enduring peace. Former northern rebel leader Hissane Habré captured the capital at the end of a period of civil war from 1979-1982, and he ruled until being deposed in 1990 by Idriss Déby. Despite Libyan military intervention in the north, this was a period of relative peace and the resumption of social services in many parts of the country. The rate

of infant mortality fell by about 1% per year from 1982-1990, and school enrollment appears to have grown slightly, though data are sparse.

Déby has ruled Chad since the early 1990's, surviving coup attempts and winning elections marred by irregularities and suppression of the opposition in 1996, 2001, 2006, and 2011. Chad rates very low on the various indicators of democracy, and politics are characterized by "armed factionalism" (Handy, 2007). Significant civil conflict, including civil war from 2005-2010, has continued to be a problem. War disrupted training of health and education personnel, and the resulting shortages of skilled professionals in these areas remains an enormous impediment to effective delivery of public services.

Trends in infant mortality rates and school enrollment differ in the post-1990 period. Infant mortality has remained essentially flat for the past 20 years, an outcome that is very poor when contrasted with the general trend across countries of declining mortality. As a World Bank (2000) project appraisal noted, many of the country's health facilities are "non-operational." School enrollment grew, however, at pace of just over 7% per year from 1990-2009. This outcome appears attributable to unusually strong local-community efforts to support schools in a situation of state ineffectiveness. Parent Teacher Associations pay for more than 70 percent of primary school teachers (World Bank, 2013). Unfortunately, the shortage of trained teachers means that this strong enrollment growth does not translate into improvement in educational outcomes. In 2012, only 9% of secondary school students passed their baccalaureate exams (Kagbe, 2012). In short, outcomes in Chad are consistent with expectations for a country with low democracy and state capacity.

In Morocco, French colonial rule created the administrative apparatus of a modern state with the coercive capacity to control its territory and extract revenues, but the ideological basis for control over this apparatus upon the restoration of independence in 1956 was unclear (Joffe, 1988). Drawing upon his lineage in the Alawite dynasty, Mohammed V allied with the nationalist Istiqlal party to establish a constitutional monarchy with himself as the king. He then worked with political allies and used the support of the countryside to fragment the nationalists and shift power to the palace (Sater, 2009). His son, King Hassan II, who ruled from 1961 to 1999, navigated a series

of challenges over the next two decades to attain political dominance. The power of the monarch rests upon a large patronage network to maintain the support of political elites. The system is rife with corruption, and elections are widely regarded as meaningless. Under this system, allocation of resources for public health and education has been significantly skewed toward those who are economically advantaged and live in urban areas.

When he rose to the throne in 1999, Mohammed VI promised significant political and social reforms. Among these reforms was an effort to make the next ten years the "decade of education." Notably, the impetus for reform came from the top rather than through parliamentary demands fostered by a participatory democratic process, and the new policies lacked coherence from the point of view of educators (Diyen, 2004). School enrollment increased at a rate of roughly 6% per year from 2000 to 2007, following more than a decade of stagnation. Morocco still lags considerably behind other countries with similar levels of economic development in terms of enrollment and other education outcomes, but the initiative coming from the throne did produce some gains.

Likewise, despite steady progress in reducing infant mortality, particularly for deaths due to diseases preventable by immunization, the infant mortality rate is still 33-50% higher in Morocco than similar countries in the Middle East North Africa region.[16] A recent World Bank report concludes, "Morocco could easily bring down the unacceptably high child and maternal mortality rates with well-funded programmes geared towards the needs of the rural poor for nutrition, immunization, and timely and proper treatment of childhood illnesses" (World Bank, 2007). These populations lack the means to hold political elites accountable, however.

In contrast, Sri Lanka emerged from colonial rule in 1948 with a centralized state bureaucracy and universal suffrage in place. It was an "impressive parliamentary democracy" from 1956-1977, with a highly competitive party system (Oberst, 1988: 176). The regime had a revenue base from the planation export economy and a network of health clinics and schools. The high level of political participation, even among the rural poor, led to broad distribution of public services, including the expansion of access to schools and health facilities (Björkman, 1985). Parties competed with

[16]The next highest is Algeria, followed by Jordan, Tunisia and Egypt

each other by promising expansion of social welfare programs. As a result, human development outcomes in Sri Lanka were unusually good for a developing country, but the strain of these programs on the state's fiscal capacity became significant when the economy did not grow fast enough to support this spending (Kelegama, 2000).

Economic problems produced a political turning point in 1977, returning the United National Party to power with a platform of economic liberalization. The economy gradually began to turn around, but the high level of unemployment and the sense of social exclusion, with roots in ethnic political divides, were conducive to the onset of the civil war that waged for much of the next two decades (Abeyratne, 2004). The intensity of conflict varied over time and region, leading to internal displacement of citizens and 80,000-100,000 deaths, but levels of school enrollment and infant mortality for the most part continued to improve gradually. One notable exception is the period 1996-2002, when conflict was severe and reporting of school enrollment statistics become infrequent. Secondary school enrollment dropped to 70% in 1998, down by 4% from two years prior. With a cease fire in 2002, enrollment then jumped to 85% the next time statistics were reported. Overall, despite conflict, the existing network for public service delivery continued to function and the role of NGO's has expanded. There are significant regional disparities, however, particularly in the north and east where conflict was most intense. Sri Lanka does not stand out as much as it used to among developing countries, but the tradition of social welfare protection and the infrastructure for service delivery remains strong.

These cases contextualize in useful ways the key empirical findings presented above, revealing the political circumstances surrounding policies that affect development outcomes. As expected, we gain a more nuanced appreciation of the key independent variables. What appear as similar levels of democracy in the cross-national indicators – such as Chad and Morocco in the 1960s or Benin and Sri Lanka in the 2000s – are regimes with quite different characteristics. Likewise, the case analysis suggests that the coercive and extractive capacities of the Moroccan state are more developed than its administrative professionalism. The cases also reveal the importance of other factors that were omitted in the statistical analysis, such as the role of civil conflict and fiscal crises.

Overall, the case analysis illustrates some important points. First, democracy can have a positive role in fostering improved development outcomes by inducing political competition for improved state delivery of public services (Sri Lanka) or by creating a more open political environment in which the state's role is relatively limited (Benin). Second, the case of education in Morocco illustrates that initiatives to improve public service delivery sometimes come from the top even in non-democratic contexts. Yet, the continuing inequitable distribution of health care services demonstrates that such reforms are limited when they would threaten the interests of the political elite. Finally, state capacity is an important factor in public service delivery that can endure through periods of political instability and turmoil, as demonstrated in Sri Lanka.

Summary

In summary, when it comes to improving overall social welfare in a country, democracy is indeed a positive force. We can observe these effects more clearly by including measures of state capacity, and their interaction with democracy, into the analysis. Whereas previous research has shown mixed results, the results presented here are quite consistent in predicting that democracy has the effect of improving development outcomes, and that this effect is stronger when levels of state capacity are low. In other words, higher levels of democracy can help compensate for low levels of state capacity when it comes to improving development outcomes.

This finding has important implications for the debate over democratic sequencing, particularly the argument that the consolidated institutions of a modern state are a precondition for effective democracy (Linz and Stepan, 1996; Rose and Shin, 2001). In this view, priority should be given to building institutions that can maintain order and uphold the rule of law. Although some level of basic order indeed must be necessary, state capacity does not have to reach a high level before democracy can have a positive effect on development outcomes, at least when it comes to improving rates of secondary school enrollment and infant mortality. Expressed differently, democratic weak states perform better than than their non-democratic counterparts. This finding is congru-

ent with the conclusion in Bratton and Chang that we should not pose a "false choice between democratization forwards or backwards" (2006: 1081).

The results also demonstrate that state capacity has a strong effect on improving development outcomes that applies across regime types. This finding supports recent work that seeks to broaden our understanding of autocratic regimes. When state capacity is high, development outcomes improve even in the absence of democracy. The implication is that, when states are capable, autocratic rulers either use public services as a strategic tool for bolstering their legitimacy or at least that they tolerate initiatives arising from state bureaucracies. Furthermore, the results encompass those of Ross (2006) and point to a different conclusion. Relatively high state capacity explains why some autocratic states perform so well. Controlling for state capacity thus permits us to isolate the effect of democracy, recovering the finding that democracy is indeed good for the poor.

Finally although the data presented in this article support the broad conclusion that democracy and state capacity serve to substitute for each other, the analysis does not test the specific mechanisms through which these effects are hypothesized to occur. For example, additional research could help determine whether state capacity and democracy overlap each other in terms of their effects on the flow of information regarding public needs and whether democracies with less capable states are more likely to turn to non-state actors for public service provision than other countries. Since broad, cross-national data on such questions are not readily available, work in these areas may be facilitated by case studies or small sample analyses.

References

Abeyratne, S. (2004). Economic roots of political conflict: The case of sri lanka. *The World Economy*, 27(8):1295–1314.

Acemoglu, D. and Robinson, J. A. (2006). *Economic Origins of Dictatorship and Democracy*. Cambridge University Press, Cambridge.

Avelino, G., Brown, D. S., and Hunter, W. (2005). The effects of capital mobility, trade openness, and democracy on social spending in latin america, 1980-1999. *American Journal of Political Science*, 49(3):625–641.

Bäck, H. and Hadenius, A. (2008). Democracy and state capacity: Exploring a j-shaped relationship. *Governance: An International Journal of Policy, Administration, and Institutions*, 21(1):1–24.

Bierschenk, T. (2009). Democratization without development: Benin 1989-2009. *International Journal of Politics, Culture, and Society*, 22(3):337–357.

Björkman, J. (1985). Health policy and politics in sri lanka: Developments in the south asian welfare state. *Asian Survey*, 25(5):537–552.

Blaydes, L. and Kayser, M. A. (2011). Counting calories: Democracy and distribution in the developing world. *International Studies Quarterly*, 55(4):887–908.

Bockstette, V., Chanda, A., and Putterman, L. (2002). States and markets: The advantage of an early start. *Journal of Economic Growth*, 7:347–369.

Boix, C., Miller, M., and Rosato, S. (2013). A complete data set of political regimes, 1800-2007. *Comparative Political Studies*, 46(12):1523–54.

Brambor, T., Clark, W. R., and Golder, M. (2006). Understanding interaction models: Improving empirical analyses. *Political Analysis*, 14(1):63–82.

Bratton, M. and Chang, E. C. (2006). State building and democratization in sub-saharan africa: Forwards, backwards, or together? *Comparative Political Studies*, 39(9):1059–1083.

Brehm, J. and Gates, S. (1999). *Working, Shirking and Sabotage: Bureaucratic Response to a Democratic Public*. The University of Michigan Press, Ann Arbor.

Brown, D. S. and Hunter, W. (2004). Democracy and human capital formation: Education spending in latin america, 1980 to 1997. *Comparative Political Studies*, 37(7):842–864.

Bueno de Mesquita, B., Smith, A., Siverson, R. M., and Morrow, J. D. (2003). *The Logic of Political Survival*. The MIT Press, Cambridge.

Caporaso, J. A. (1982). The state's role in third world economic growth. *Annals of the American Academy of Political and Social Science*, 459:103–111.

Centeno, M. (2002). Limited wars and limited states. In Davis, D., editor, *Irregular Armed Forces and Their Role in Politics and State Formation*. Cambridge University Press, Cambridge.

Chanda, A. and Putterman, L. (2005). State effectiveness, economic growth, and the age of states. In Lange, M. and Rueschemeyer, D., editors, *States and Development: Historical Antecedents of Stagnation and Advance*. Palgrave Macmillan, New York.

Dahl, R. A. (1971). *Polyarchy: Participation and Opposition*. Yale University Press, New Haven.

Deaton, A. (2013). *The Great Escape: Health, Wealth, and the Origins of Inequality*. Princeton University Press, Princeton.

Diyen, H. (2004). Reform of secondary education in morocco: Challenges and prospects. *Prospects*, 34(2):211–222.

Dossou-Yovo, N. (1999). The experience of benin. *International Journal on World Peace*, 16(3):59–74.

Engel, J., Magloire Cossou, E., and Rose, P. (2011). Benin's progress in education: Expanding access and narrowing the gender gap. Overseas Development Institute. London, UK.

Englebert, P. (2000). Pre-colonial institutions, post-colonial states, and economic development in tropical africa. *Political Research Quarterly*, 53(1):7–36.

Franzese, R. J. (2002). *Macroeconomic Policies of Developed Democracies*. Cambridge University Press, Cambridge.

Freedom House (2008). *Freedom in the World Country Ratings: 1972 to 2007*. Freedom House, Inc., Washington, D.C.

Frey, R. and Al-Roumi, A. (1999). Political democracy and the physical quality of life: The cross-national

evidence. *Social Indicators Research*, 47(1):73–97.

Gains, F. and John, P. (2010). What do bureaucrats like doing? bureaucratic preferences in response to institutional reform. *Public Administration Review*, 70(3):455–463.

Gandhi, J. (2008). *Political Institutions Under Dictatorship*. Cambridge University Press, Cambridge.

Handy, P.-S. (2007). Chad: Wading through a domestic political crisis in a turbulent region. Situation Report: Institute for Security Studies.

Herbst, J. (2000). *States and Power in Africa: Comparative Lessons in Authority and Control*. Princeton University Press, Princeton.

Heston, A., Summers, R., and Aten, B. (2009). *Penn World Table Version 6.3*. Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania.

Hicken, A. and Simmons, J. W. (2008). The personal vote and the efficacy of education spending. *American Journal of Political Science*, 52(1):109–124.

Joffe, G. (1988). Morocco: Monarchy, legitimacy and succession. *Third World Quarterly*, 10(1):201–228.

Kagbe, R. (2012). Education in chad: In a state of decline. openDemocracy.

Kaufman, R. R. and Segura-Ubiergo, A. (2001). Globalization, domestic politics and social spending in latin america: A time-series cross-section analysis, 1973-97. *World Politics*, 53(4):553–87.

Keefer, P. (2008a). The political economy of growth and diversification in benin. Unpublished Manuscript. Development Research Group. The World Bank.

Keefer, P. (2008b). Political market imperfections, clientelism and the quality of democracy. Center for the Study of Imperfections in Democracy (DISC), Central European University. Working Paper 2008/3.

Kelegama, S. (2000). Development in independent sri lanka: What went wrong? *Economic and Political Weekly*, 35(17):1477–1490.

Khaleghian, P. (2003). Decentralization and public services: The case of immunization. World Bank Policy Research Working Paper 2989.

Lake, D. A. and Baum, M. A. (2001). The invisible hand of democracy: Political control and the provision of public services. *Comparative Political Studies*, 34(6):587–621.

Linz, J. J. and Stepan, A. (1996). *Problems of Democratic Transition and Consolidation: Southern Europe, South America, and Post-Communist Europe*. Johns Hopkins University Press, Baltimore.

Magnusson, B. A. (2001). Democratization and domestic insecurity: Navigating the transition in benin. *Comparative Politics*, 33(2):211–230.

Mangla, A. (2014). Bureaucratic norms and state capacity: Implementing primary education in india's himalayan region. Working Paper 14-099. Harvard Business School.

Mann, M. (1984). The autonomous power of the state: Its origins, mechanisms, and results. *European Journal of Sociology*, 25(2):185–213.

Marsh, D., Smith, M. J., and Richards, D. (2000). Bureaucrats, politicians and reform in whitehall: Analysing the bureau-shaping model. *British Journal of Political Science*, 30(3):461–482.

Marshall, M. G. and Jaggers, K. (2009). *Polity IV Project: Dataset Users' Manual*. Center for Systemic Peace, George Mason University.

McGuire, J. W. (2010). *Wealth, Health, and Democracy in East Asia and Latin America*. Cambridge University Press, Cambridge.

Moon, B. E. and Dixon, W. J. (1985). Politics, the state, and basic human needs: A cross-national study. *American Journal of Political Science*, 29(4):661–694.

Mulligan, C. B., Gill, R., and Sala-i-Martin, X. (2004). Do democracies have different public policies than nondemocracies? *Journal of Economic Perspectives*, 18(1):51–74.

Munck, G. L. and Verkuilen, J. (2002). Conceptualizing and measuring democracy: Evaluating alternative indicies. *Comparative Political Studies*, 35(1):5–34.

Nelson, J. M. (2007a). Democratic politics and pro-poor social services: Unpacking the concept of "reform". In Devarajan, S. and Widlund, I., editors, *The Politics of Service Delivery in Democracies: Better Access for the Poor*. Ministry for Foreign Affairs of Sweden. Expert Group on Development Issues., Stockholm.

Nelson, J. M. (2007b). Elections, democracy, and social services. *Studies in Comparative International Development*, 41(4):79–97.

Niskanen, W. A. (1971). *Bureaucracy and Representative Government*. Aldine, Atherton, Chicago.

Oberst, R. C. (1988). Federalism and ethnic conflict in sri lanka. *Publius*, 18(3):175–193.

Pemstein, D., Meserve, S. A., and Melton, J. (2010). Democratic compromise: A latent variable analysis of ten measures of regime type. *Political Analysis*, 18(4):426–449.

Plümper, T. and Troeger, V. E. (2007). Efficient estimation of time-invariant and rarely changing variables in finite sample panel analyses with unit fixed effects. *Political Analysis*, 15(2):124–139.

Rose, R. and Shin, D. (2001). Democratization backwards: The problem of third-wave democracies. *British Journal of Political Science*, 31(2):331–354.

Ross, M. L. (2006). Is democracy good for the poor? *American Journal of Political Science*, 50(4):860–874.

Sandbrook, R. (1986). The state and economic stagnation in tropical africa. *World Development*, 14(3):319–332.

Sater, J. N. (2009). Parliamentary elections and authoritarian rule in morocco. *Middle East Journal*, 63(3):381–400.

Seely, J. C. (2009). *The Legacies of Transition Governments in Africa: The Cases of Benin and Togo*. Palgrave Macmillan, New York.

Sen, A. (1999). *Development as Freedom*. Anchor Books, New York.

Soifer, H. and vom Hau, M. (2008). Unpacking the *strength* of the state: The utility of state infrastructural power. *Studies in Comparative International Development*, 43(3/4):219–230.

Soifer, H. D. (2013). State power and the economic origins of democracy. *Studies in Comparative International Development*, 48(1):1–22.

Stasavage, D. (2005). Democracy and education spending in africa. *American Journal of Political Science*, 49(2):343–358.

Tendler, J. (1997). *Good Government in the Tropics*. The Johns Hopkins University Press, Baltimore.

The Inter-agency Group for Child Mortality Estimation (2010). *CME Info Dataset*. United Nations Children's Fund.

Tilly, C. (1975). *The Formation of National States in Western Europe*, chapter Western State-Making and Theories of Political Transformation, pages 601–638. Number 9. Princeton University Press.

Wilson, J. W. (1989). *Bureaucracy: What Government Agencies Do and Why They Do It*. Basic Books, New York.

Wintrobe, R. (1998). *The Political Economy of Dictatorship*. Cambridge University Press, Cambridge.

World Bank (2000). Project appraisal document on a proposed credit in the amount of SDR 31 million to the Republic of Chad for a health sector support project. Technical Report Report No: 20189-CD, The World Bank. Africa Regional Office.

World Bank (2004). *World Development Report 2004: Making Services Work for Poor People*. World Bank and Oxford University Press, Washington, D.C.

World Bank (2007). Kingdom of morocco. health policy note towards a more equitable and sustainable health care system: Policy challenges and opportunities. Middle East and North Africa Social and Human Development Group. Policy Note (P104274).

World Bank (2010). *World Development Indicators 2010 (WDI Online)*. The World Bank, Washington, D.C.

World Bank (2011). *World Development Indicators 2011 (WDI Online)*. The World Bank, Washington, D.C.

World Bank (2013). Project appraisal document on a proposed credit in the amount of SDR 10 million to the Republic of Chad for an education sector reform project phase ii. International Development Association. Report No: 77950-TD.

Ziblatt, D. (2008). Why some cities provide more public goods than others: A subnational comparison of the provision of public goods in german cities in 1912. *Studies in Comparative International Development*, 43(3-4):273–289.

Table 1: Correlation of Key Independent Variables

	Polity2	DemocBMR	UDS	StateHist	Census
Polity2	1.00				
DemocracyBMR	.88	1.00			
UDS	.94	.86	1.00		
StateHist	.01	.03	.03	1.00	
Census	.33	.32	.37	.03	1.00

Table 2: Democracy, State Capacity, and School Enrollment

	(1)	(2)	(3)	(4)	(5)	(6)
Democracy_{t-1}	5.03**	4.40*	2.67**	2.72^	1.75**	1.48*
	(1.16)	(1.94)	(0.89)	(1.43)	(0.57)	(0.74)
StateCapac_{t-1}	4.80**	3.45**	2.45*	2.64**	6.08**	4.68**
	(1.42)	(1.23)	(1.14)	(0.82)	(2.04)	(1.66)
$\text{Democ}_{t-1}\cdot\text{StateCapac}_{t-1}$	−7.90**	−3.37^	−4.59**	−2.40^	−2.71**	−1.24^
	(2.15)	(1.92)	(1.73)	(1.41)	(0.92)	(0.73)
GDP/cap_{t-1}	2.32**	2.25**	2.30**	2.26**	2.30**	2.25**
	(0.39)	(0.35)	(0.38)	(0.35)	(0.38)	(0.35)
ΔGDP/cap	0.25**	0.26**	0.25**	0.26**	0.25**	0.25**
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
PopDensity_{t-1}	0.10	0.05	0.09	0.07	0.13	0.07
	(0.18)	(0.17)	(0.17)	(0.17)	(0.18)	(0.17)
EnrollSec_{t-1}	−0.12**	−0.12**	−0.12**	−0.12**	−0.12**	−0.13**
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
$\Delta\text{EnrollSec}_{t-1}$	0.18**	0.16**	0.18**	0.16**	0.18**	0.16**
	(0.05)	(0.04)	(0.04)	(0.04)	(0.05)	(0.04)
Constant	−13.77**	−13.26**	−12.02**	−12.29**	−14.45**	−14.36**
	(2.80)	(2.47)	(2.77)	(2.47)	(2.91)	(2.59)
N	896	953	896	950	891	948
Countries	151	161	151	161	149	159
R^2	0.15	0.15	0.15	0.15	0.15	0.15
StateCapac	StateHist	Census	StateHist	Census	StateHist	Census
Democracy	Polity2	Polity2	BMR	BMR	UDS	UDS

^ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 2. Random-effects OLS model with panel-clustered standard errors. The dependent variable is $\Delta\ \text{EnrollSec}_t$: the change in gross secondary school enrollment from the previous period to the current period. All models include time-period dummy variables to capture worldwide trends.

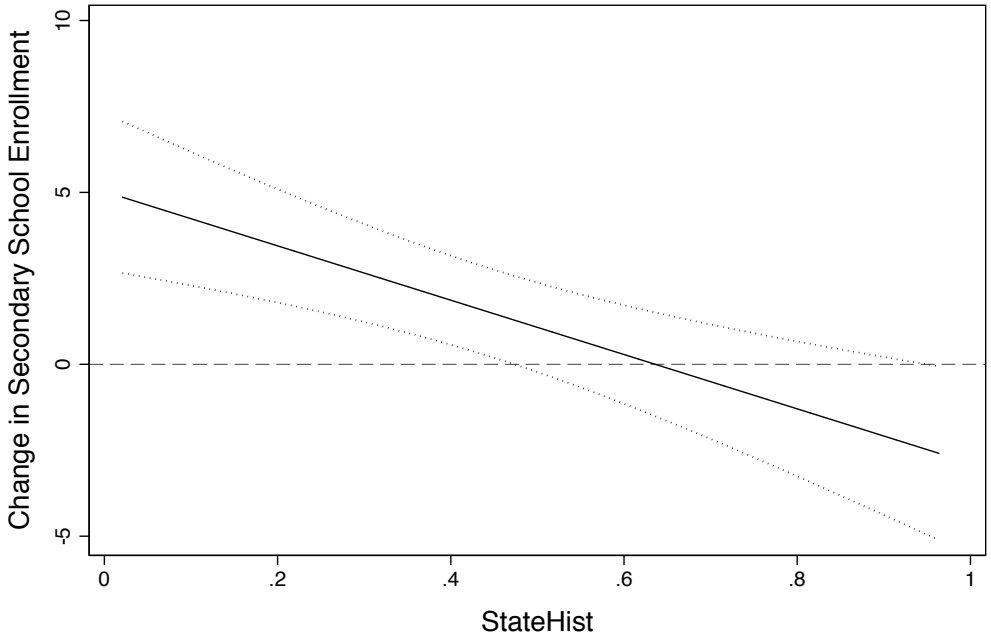
Table 3: Democracy, State Capacity, and Infant Mortality

	(1)	(2)	(3)	(4)	(5)	(6)
Democracy_{t-1}	−0.04*	−0.05**	−0.03*	−0.04**	−0.02*	−0.02**
	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)
StateCapac_{t-1}	−0.07**	−0.03^	−0.06**	−0.02	−0.08**	−0.04*
	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
$\text{Democ}_{t-1}\cdot\text{StateCapac}_{t-1}$	0.04	0.04^	0.03	0.03^	0.02	0.01*
	(0.03)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
GDP/cap_{t-1}	−0.02**	−0.02**	−0.02**	−0.02**	−0.02**	−0.02**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
ΔGDP/cap	−0.00*	−0.00*	−0.00*	−0.00*	−0.00*	−0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
PopDensity_{t-1}	−0.00	−0.00*	−0.00	−0.00*	−0.00	−0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
InfMort_{t-1}	−0.02**	−0.02**	−0.02**	−0.02**	−0.02**	−0.02**
	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)
$\Delta\text{InfMort}_{t-1}$	0.55**	0.57**	0.55**	0.57**	0.55**	0.57**
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Constant	0.23**	0.22**	0.20**	0.20**	0.24**	0.23**
	(0.05)	(0.06)	(0.05)	(0.05)	(0.06)	(0.06)
N	1066	1124	1065	1124	1062	1121
Countries	152	162	151	161	150	160
R^2	0.46	0.44	0.46	0.44	0.46	0.44
StateCapac	StateHist	Census	StateHist	Census	StateHist	Census
Democracy	Polity2	Polity2	BMR	BMR	UDS	UDS

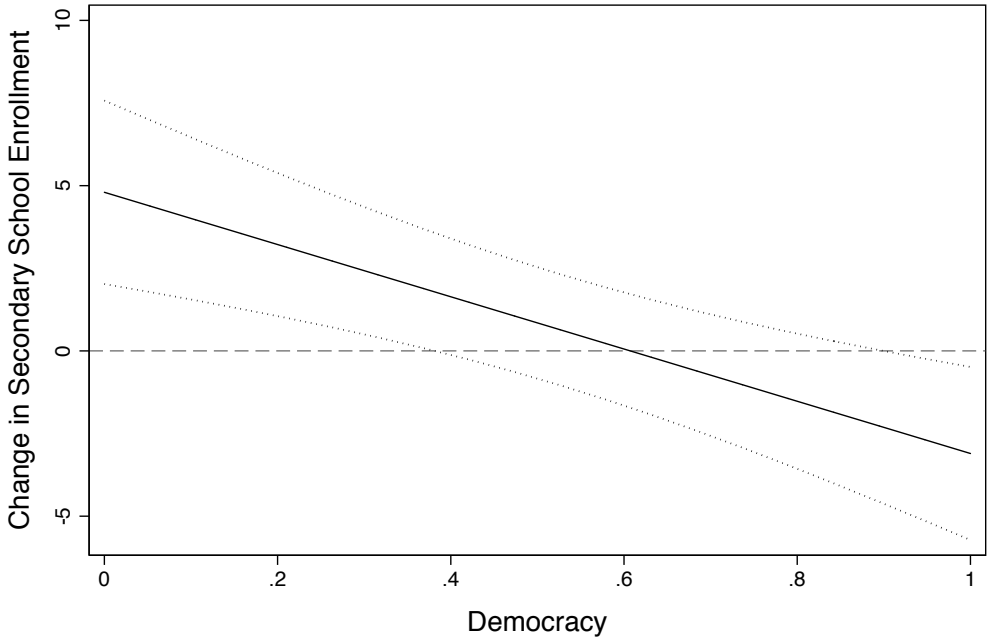
^ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Table 3. Random-effects OLS model with panel-clustered standard errors. The dependent variable is Δ InfMort_t: the change in the log infant mortality rate from the previous period to the current period. All models include time-period dummy variables to capture worldwide trends.

Figure 1: Marginal Effect Plots of Democracy and StateHist on EnrollSec

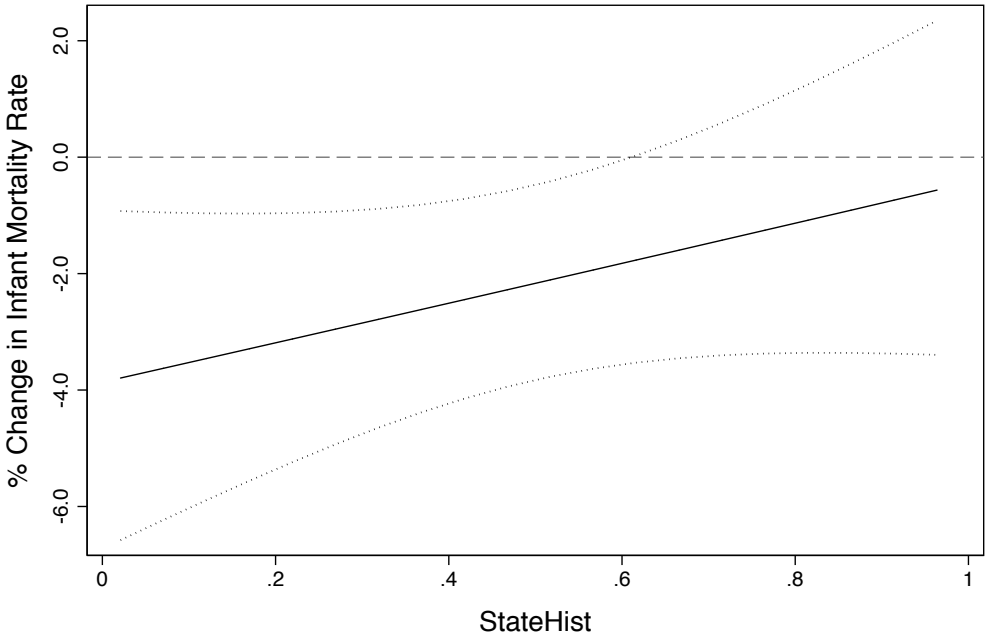


(a) This figure shows the predicted percentage change in secondary school enrollment from a one-unit change in Democracy at different levels of StateHist according to the estimates in Table 2, Model 1. The dotted lines represent the 95% confidence interval.

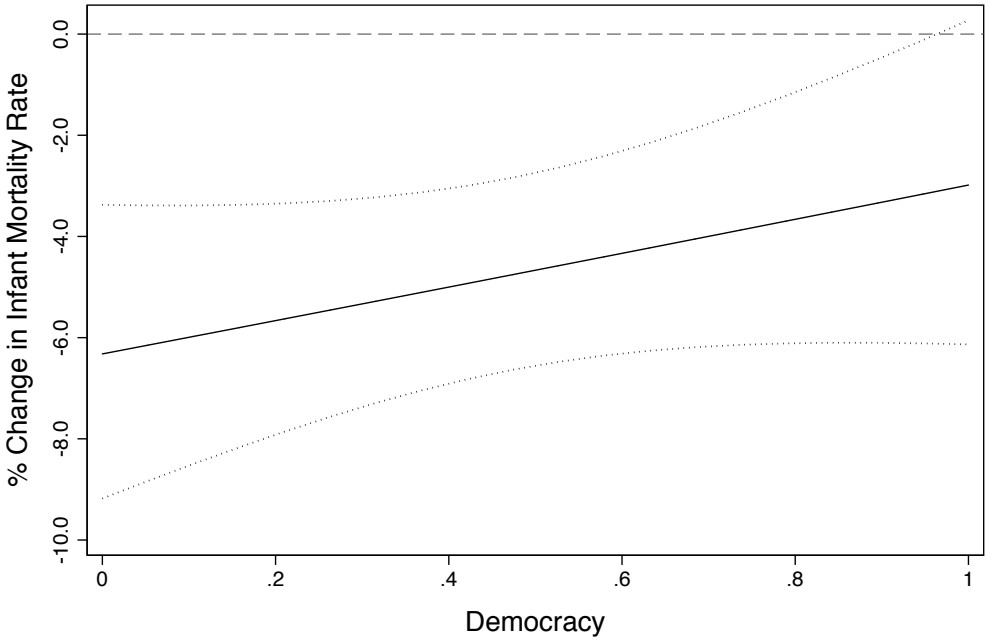


(b) This figure shows the predicted percentage change in secondary school enrollment from a one-unit change in StateHist at different levels of Democracy according to the estimates in Table 2, Model 1. The dotted lines represent the 95% confidence interval.

Figure 2: Marginal Effect Plots of Democracy and StateHist on Infant Mortality



(a) This figure shows the predicted change in the infant mortality rate from a one-unit change in Democracy at different levels of StateHist according to the estimates in Table 3, Model 1. The dotted lines represent the 95% confidence interval.



(b) This figure shows the predicted change in the infant mortality rate from a one-unit change StateHist at different levels of Democracy according to the estimates in Table 3, Model 1. The dotted lines represent the 95% confidence interval.

Figure 3: Level of Secondary Enrollment in Four Sample Countries

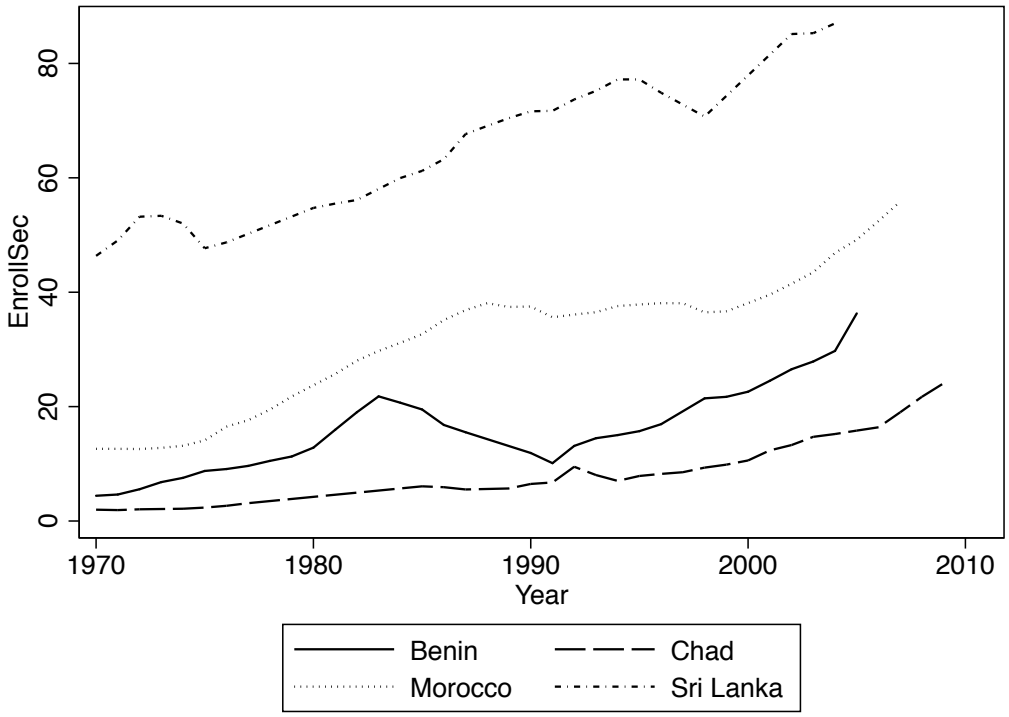


Figure 4: Level of Infant Mortality in Four Sample Countries