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Schooling and Civic Behavior: A Global Perspective

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Schooling and Civic Behavior: A Global Perspective

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by

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Abstract

National governments confront different challenges to the goal of creating model citizens, as well as different ambitions in the type of citizen that they wish to create. The United States government faces a tension in determining the role of education in shaping the social order. As a liberal democracy that extols the virtue of individual liberty, the United States should allow educational pluralism to flourish. Paradoxically, however, a nation of immigrants might require an education system that turns students into "proper Americans" who honor the precepts of liberty, equality, and self-government. I draw from domestic and international studies to inform some of the drawbacks, strengths, and limitations of homogenizing centralized education versus decentralized pluralistic education.

The chapters that follow feature studies from regions in which a majority ascribes to a different Abrahamic religion: The United States, the Arab World, and Israel. In chapter one, I empirically examine whether non-government (i.e. private) schools undermine American civic health. Specifically, I examine how attending private school affects American voting behavior. I observe that private schooling has no association with the likelihood of voting, but that each additional year of private schooling is associated with a decreased likelihood of supporting Donald Trump in the 2016 election. In chapter two, I examine the root cause of low private returns to education in the Arab World, where education is highly centralized. I find suggestive evidence that common characteristics of Arab world political economy, including poor academic performance, economic reliance on natural resources, and corruption suppress private returns to education. I hypothesize that low returns to education might contribute to frequent waves of social unrest and upheaval. In chapter three, I examine how Israel's

pluralistic education system allows Haredi (i.e. ultra-Orthodox) Jews to teach values at odds with much of Israeli society. I further explain that other segments of the population express frustration over the subsidization of an education sector that provides no discernible benefit for a society with secular, materialistic visions of progress. Finally, I explain how Israel's parliamentary system limits the likelihood of meaningful reform to address the grievances of secular Israeli society.

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Dedication

To my daughter, Aliyah Rose Kingsbury, who will not remember Arkansas but will always pay homage to her birthplace through her initials.

Contents

List of Published Papers[1]

Chapter One:

Kingsbury, I. (2018). Silencing the seventh trumpet: Analyzing the effect of private schooling on voting behavior. *Education, Citizenship and Social Justice, 14*(3).

Chapter Two:

Kingsbury, I. (2018). Making sense of low private returns in MENA: A human capital approach. *International Journal of Educational Development, 61,* 173-183.

Chapter Three:

Kingsbury, I. (2018). Haredi education in Israel: Fiscal solutions and practical challenges. *British Journal of Religious Education*.

[1] Portions of the introduction chapter are used within a manuscript currently under consideration for publication in a peer-reviewed journal.

Introduction

Background: American Education

Legend has it that the British army band under the command of General Charles Cornwallis struck up “The World Turned Upside Down” as they capitulated at Yorktown. While that dramatic retelling of the siege is the source of scholarly debate, it is indisputable that the underlying subtext reverberated the world over. A ragtag army of farmers, fishermen, and craftsmen defeated the world’s preeminent military power and broke free from the bondage of overseas administration. More importantly, the notion of kings ruling by divine right was discarded in favor of government “deriving their powers from the consent of the governed.” No such project had been attempted on such a large scale since Antiquity. Truly, the world was turned upside down.

Defeating the British Army was an impressive feat, but perhaps even greater challenges lay ahead. While the flowery prose of the Declaration established fundamental principles of governance, the organization of the country quickly became a contentious dispute. Would states assume ultimate sovereignty in a confederated union, or would they relinquish considerable autonomy to a central government? How would power be divided across the government? Who would be considered a citizen, and who would be allowed to vote? These are contentious issues in the 21st century. One can only imagine how contentious they were when they were open-ended questions that would determine the republic’s destiny. It is no wonder that legend relays that when a group of Philadelphia citizens approached Benjamin Franklin to inquire about the type of government the constitutional delegates were creating, Franklin quipped “’a republic, if you can keep it.’” (Gilbertson, 2017)

Franklin was not the only founder to recognize the fragility of the new republic. Shays' Rebellion in Western Massachusetts, fomented by the perceived imposition of excessive taxes, laid bare the tension between maintaining order and protecting liberty (Kaestle, 1983). Anxiety surrounding the event convinced a previously tentative George Washington of the need for a constitution (Feer, 1969).

The Founders recognized that they would have to be proactive in other ways to fortify republican principles and maintain stability. In a rare display of consensus, Founders of all political stripes affirmed the importance of universal education (Hess, 2010), including bitter political foes Thomas Jefferson and John Adams (Kober, 2007). Jefferson was particularly vociferous in his advocacy for an education system that would instill future generations with adoration for the republic and the principles embedded therein. As Carpenter (2013) explains,

> If we couple Jefferson's fear or mistrust of anything that smacked of monarchy, aristocracy, or Great Britain with this sense of the fragile nature of the new government, then we contextualize his repeated expressions of the need to educate future citizens. For Jefferson, the major distinguishing characteristic of a republic was the protection of individual liberty. The ultimate line of defense in the preservation of this liberty against governmental encroachment was the individual citizen. To be properly armed to perform this duty, citizens must be educated.

Jefferson envisioned a universal elementary education for Virginia in which "the ultimate result of the whole scheme of education would be the teaching all the children of the state reading, writing, and common arithmetic." (Conant, 1961, p. 94) These schools would create students of "superior genius" who, alongside the children of elites, might go on to study at secondary school. A select few of those would go on to college to form a "natural aristocracy," the next generation of leaders.

Notably, Jefferson did not prescribe a specific curriculum to create model citizens. Rather, in the tradition of Enlightenment empiricist thinking, he felt that a broad education in classical languages, science, and humanities was conducive to the propagation of republicanism. While Jefferson advocated the virtues of a universal education system, he warned that compulsory education was anathema to the tenet of liberty. “It is better to tolerate the rare instance of a parent refusing to let his child be educated,” he extolled, “than to shock the common feelings and ideas by the forcible asportation and education of the infant against the will of the father.” (McDonald, 2017)

Benjamin Rush, signer of the Declaration and Surgeon General of the Continental Army, agreed with Jefferson that education was paramount to the success of the country. However, his prescriptions were different. Rush lamented an educational landscape which was then diverse in composition and in teachings (Hess, 2010), but believed that the system could be remedied through compelling schools to inculcate young men with proper republican values. “I consider it is possible to convert men into republican machines,” Rush wrote in 1798. “This must be done, if we expect them to perform their parts properly, in the great machine of the government of the state. That republic is sophisticated with monarchy or aristocracy that does not revolve upon the wills of the people, and these must be fitted to each other by means of education before they can be made to produce regularity and unison in government.” (Johnson, 2012, p. 153).

Rush notes that a proper republican education was especially important in his native Pennsylvania, where “our citizens are composed of the natives of so many different kingdoms in Europe. Our schools of learning, by producing one general, and uniform system of education,

will render the mass of the people more homogeneous, and thereby fit them more easily for uniform and peaceable government." ((Kurland & Lerner, 1986, ch. 18, document 30) Finally, Rush disagreed with Jefferson on the matter of compulsion, believing that the welfare of the republic demanded that all citizens receive the proper training to become "republican machines." (Brodsky, 2004)

Rush and Jefferson shared the same concern; they recognized that the United States could be a short-lived project due to the failure or erosion of its institutions, factional conflict, or foreign invasion. Moreover, they both recognized that education could have an important role to play to safeguard the republic. However, they reached markedly different conclusions about what that type of education system would look like. Whereas Jefferson advocated for a secular public school system and generally advocated a curriculum grounded in the humanities, Rush sought a compulsory, uniform education system replete with theological instruction as to "render the mass of the people more homogeneous and thereby fit them more easily for uniform and peaceable government." (Kurland & Lerner, 1986, ch. 18, document 30)

Philosophical Underpinnings

How did two men who extolled the benefit of education as a bulwark against internal and external threats reach such notably different conclusions about American education? The short answer is that ideological consensus among the Founders only went as far as the issue of independence from Britain. Their disparate views of ideal government were largely colored by contemporary political philosophers, especially Hobbes, Locke, and Montesquieu (Padover, 1958; McDowell, 1993). For Rush and other Federalists, the Hobbesian dystopia in which life was "nasty, brutish, and short" in the absence of adequately coercive government motivated

the notion that a highly functioning society demanded an education that would instill principles needed for the maintenance of democracy, among them religious observance and "subordination" to the law. Jefferson and other anti-Federalists, on the other hand, were not willing to compromise on the conservation of liberty, for in true Lockean fashion they believed that natural rights preceded government. As far as Jefferson was concerned, "under the law of nature, all men are born free, every one comes into the world with a right to his own person, which includes the liberty of moving and using it as his own will. This is what is called personal liberty." (Adler, 2003, p. 56) So important was this condition, "our attachment to no nation on earth should supplant our attachment to liberty." (Levander, 2006, p. 37)

Educational pluralism exists on a spectrum. In extreme cases such as China, education is highly centralized and regulated. In Belgium, on the other hand, many students attend privately operated, publicly subsidized schools, though the state assumes regulatory responsibilities (Van Raemdonck & Maranto, 2018). The United States lies somewhere in the middle of the spectrum. The Hobbesian view that government should manufacture consent through exclusively public education was constitutionally rejected in *Pierce v Society of Sisters* (1926). In a unanimous vote, the Supreme Court struck down an Oregon statute mandating public school education for all students on the grounds that children are not "the mere creature[s] of the state" (268 U.S. 510, 535). On the other hand, John Paul Stevens' opinion in *Zelman V Simmons-Harris (2002)* that public funding for religious schools would "increase the risk of religious strife and weaken the foundation of our democracy" highlights jurisprudential skepticism toward Lockean government restraint regarding shaping the public sphere. Like Madison and many of

his contemporaries, the American education system reflects skepticism toward the nature of both man and government (Padover, 1958).

Tension between Liberty and Democracy

The disagreement between Jefferson and Rush marks the beginning of a debate that has ebbed and flowed but continues to echo into the present: Should the government curtail liberty to mandate a uniform education that instills values conducive to democracy, including tolerance, civic participation, and patriotism? Or should the government defer to the wisdom and discretion of parents, who could potentially elect for an education that teaches values not conducive to democracy? This dispute is situated within a broader debate about the balance between liberty and democracy. To what extent should people be allowed to do as they please (or in this case, do what they please for their children)? At what point does individual liberty jeopardize the common good?

Concerns Regarding Educational Liberty

When it comes to education, the trend in the United States over the past two centuries has been increasing education "for democracy" (i.e. delivering an increasingly uniform education that instills democratic principles) at the expense of liberty (i.e. letting parents do as they please). Horace Mann's vision of the common school in the mid-19th century represented an enduring pendulum swing. Whereas education in the colonial era and in the new republic was elective and nominally diverse, Mann's vision for education was compulsory schooling in which "the state was conceived as ultimate guardian and guarantor of a social order in which individuals would be liberated from intermediate traditions and loyalties, in the interest of progress, enlightenment, and national integration." (Glenn, 1988, p. 236) In an age of religious

and moralistic revivalism, Mann believed that the common school would serve as a safeguard against "fraud, intrigue, corruption and violence." (Kaestle, 1983, p. 49) As Tyack (1974) explains

> the 19th century was an age of institutionalization when agencies separated the insane into asylums, the poor into almshouses, the criminal into prisons. Fear of disorder, of contamination, of the crumbling of familiar social forms such as the family, prompted reformers to create institutions which could bring order into the lives of deviant persons and, perchance, heal the society itself by the force of an example.

The common school would not only serve as an engine of economic industrialization, but as a force to restore order, righteousness, and bonds of kinship to a population in the throes of rapid economic and demographic changes.

Church Versus State

Though the battle for educational autonomy ostensibly occurs between citizens and the state, within Western societies the dispute is often over whether children ought to be educated by the state or their church, the two entities engaged in a bitter, millennia-long dispute for mastery over the souls and loyalties of the masses. The conflict was particularly pronounced in the First French Republic, where the Jacobins repudiated Catholic traditions and canon and "regarded the Catholic Church of this period not only as one of the most powerful enemies of the republic, but also as an enemy of 'modern civilization, progress, industrialism, capitalism, urbanization and almost every new phenomenon, which were denounced as a sources of temptations, degradation, and immorality.'" (Meuret, 2004, p. 239)

The Catholic Church in France had enjoyed centuries of nearly exclusive license to educate French youth, and Rome's official position was that the Church was the sole legitimate

proprietor of education. Unsurprisingly, churches were not a neutral bystander in the social conflict and lobbied vociferously for the right to provide education. Many French youth continued to receive schooling through churches even after such practices were legally outlawed (Glenn, 1988).

While France represents the most salient example of schools as battlegrounds between church and state, similar conflicts have played out elsewhere, including the United States.[2] Such conflict is inevitable under a centralized system, for as Berner (2017) explains, the state cannot create an ideologically neutral space, and the secular humanism that guides current educational practices quashes the role of religion in public education. Truly, "there is simply no way to honor a Catholic way of seeing the child in our current public education structure." (p. 20)

In the United States, conflict over schooling plays out through evolutionary rather than revolutionary means, specifically democratic lawmaking and litigation (Carpenter II & Kafer, 2012). As a result, the dispute between church and state over the right to schooling is ongoing. The history of Blaine Amendments underscores the enduring nature of the conflict. Nearly 150 years ago, Congress narrowly failed to pass a constitutional amendment outlawing the establishment of religion (Carpenter II & Kafer, 2012). Forty states went on to pass so-called Blaine amendments to their state constitutions, and the interpretation of the amendment typically prohibits public funding of religious schools. This year, the United States Supreme Court will hear *Espionza v Montana Department of Revenue* to determine whether tax credit

[2] Notably, no church in the United States has ever enjoyed the same political influence as the Catholic Church in France, a reality reflecting our founding ethos of separation of church and state as well as the comparatively modest political power that Protestant churches historically held compared to the Catholic Church.

scholarship programs can fund parochial schools in states with Blaine Amendments (Shapiro et al., 2019).

Schooling and Civic Outcomes

Governments across the globe typically expend significant resources to make formal schooling available to all residents. Government subsidization of education is surely a display of compliance with international norms. After all, the basic right to education has been codified in international law multiple times, most famously through Article 26 of the Universal Declaration of Human Rights, which affirms that elementary education should be free and compulsory. The provision of education holds other benefits for governments beyond optics alone. Economic modernization and growth represent an important benefit, as participation in a 21st century economy typically requires at least basic numeracy and literacy. Most importantly, the provision of education allows governments to supervise or control the process which ostensibly shapes the norms, values and knowledge base of the next generation of citizens.

The United States government assumes a greater role than other liberal democratic governments in ensuring that schools inculcate students with desirable civic values. Proponents of a plural education system, however, argue that a centralized, homogenizing schooling model is unnecessary and unhelpful for sustaining democracy. Of course, history does not provide the benefit of counterfactuals. There is no way of knowing how our station would be different if the United States had maintained a pluralistic education system instead of supposedly homogenizing common schools. However, there is an evidence base which can help inform how a pluralistic education system would shape our future if adopted.

First, the civic outcomes of students who attend private schools offer insight into whether non-government schools typically impede or foster the republican virtues conducive to the flourishing of a liberal democracy. Wolf (2007) succinctly summarizes the literature on the topic, indicating that private schools appear as adept as public schools, if not more so, at promoting desirable civic values. Chapter two of this dissertation further contributes to the literature to show that private-school educated adults are as likely as public school-educated adults to vote in national elections, even after controlling for individual-level covariates.

Second, the United States can draw lessons from other countries. For example, proponents of educational pluralism often endorse Holland's diverse government-funded education landscape as proof of concept for the feasibility of a pluralistic education system in a liberal democratic society. Chapter two highlights that centralization offers no guarantee of social reproduction or stability.

> In most Arab states, senior state officials and bodies determine an authoritative set of truths and a codified national and/or religious identity. The educational bureaucracy translates such authoritative determinations into the curriculum. Teachers transmit that to students, who are then examined on how well they have absorbed it. For instance, "national education" is a subject in Egypt, Jordan, and Palestine, and the texts rely on a single, official version of history and politics. (Muasher et al., 2018)

Despite such efforts, Arab governments have failed to deliver a quality education system that assists citizens with gainful employment. That failure has contributed to unrest and upheaval (Brookings Institution Arab World Learning Barometer, 2014). On the other hand, chapter three exposes some of the drawbacks or limitations of educational pluralism and decentralization in a liberal democracy. Specifically, Haredim in Israel use education for

spiritual, religious and cultural purposes. Secular Israeli society plausibly experiences minimal financial return to their tax investment in Haredi education.

Research in Context

This endeavor is not the first attempt to use comparative studies to inform educational pluralism in the United States (see, for example, Wolf & Macedo, 2004; Chakrabarti & Peterson, 2008; Fox & Buchanan, 2017). Extant comparisons typically draw perspectives from Europe or English-speaking countries, which are sensible insofar as American institutions, cultural heritage, and faith draw more influence from European Christendom than any other faith or region. However, much can be learned from studying other educational systems. For one, the United States is a nation of immigrants, and it continues to become more demographically diverse. The next generation of education policymakers might engage in more global perspective-taking as they look abroad for solutions at home. More importantly, comparative studies offer as much value in forcing introspection as they do in conferring knowledge about other systems. Examining dissimilar education contexts might allow us to recognize features of our system that we take for granted.

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Chapter One

Silencing the seventh trumpet: Analyzing the effect of private schooling on voting behavior

Abstract

The United States has one of the lowest election turnout rates in the developed world. Consequently, social scientists are perpetually seeking to expand upon their knowledge of what factors are associated with voting, or the lack thereof. Commonly identified factors including age, income, race, and educational attainment have been studied extensively. However, while quantity of education is deemed important, educational setting is overlooked. The limited literature that exists on the topic suggests that private schools have a positive impact on civic outcomes, including voter participation. In using a rich, nationally representative dataset of about 1,500 American adults—the Understanding America Study based out of the University of Southern California—this study reexamines whether attending a private school effects whether Americans vote. It also sheds light on a heretofore-unanswered question: How does private schooling affect which candidate an individual supports? Overall, the data indicate that private schooling appears to have no impact on voter turnout, but that attending some private school is associated with a lower likelihood of voting for Donald Trump in 2016.

Motivation

It stands to reason that childhood experiences influence whether and how people vote. Consequently, it should also be true that school experiences influence voting behavior, as individuals spend a significant amount of their formative years within schools, which help to form their attitudes about the world around them. I seek to understand the effect of private schooling on voting behavior because access to vouchers, which provide government funding

for underprivileged students to attend private schools, is set to increase during the Trump Administration (Brown et al., 2017). Rigorous research should inform the consequential effects.

After all, voting matters. From an abstract perspective, democratic societies ought to ascribe value to voting, an exercise in democracy that Alexander Hamilton labeled "'one of the most important rights of the subject… That right by which we exist as a free people'" (Hamilton, 1879: 30). From a policy perspective, low voter turnout has practical consequences. Because minorities and low-income voters turn out at disproportionately low rates in US elections, their policy objectives go unfulfilled and economic policy is less redistributive than those voters would desire (Hajnal, 2015; Meltzer and Richard, 1983). Moreover, President Trump secured a victory over Hillary Clinton with only 80,000 additional votes across three states while President Bush triumphed by 537 votes in Florida (Purdum, 2000). Simply put, small changes in who votes or how people vote can and do have dramatic consequences, even in presidential elections.

Literature Review

private schools and the likelihood of voting.

There is some high-quality instructive literature examining the effect of private school on the likelihood of voting in the United States. Dee (2005) uses a probit model and instrumental variable analysis to find that Catholic school enrollment is associated with an approximately 10% increase in an individual's likelihood of voting. Similarly, Dill (2009) finds that private school enrollment is associated with increased voting when using logistic regression and controlling for socioeconomic characteristics. Smith and Sikkink (1999) use the National Household Education Surveys Program (NHES) and conducted multiple-variable regression analysis and found that Catholic and Christian school-goers are significantly more

civically engaged, including voting in recent elections. Moreover, their study revealed that there are appreciable differences between parents who send their children to public school and parents who send their children to private school. Notably, parents of private-school-educated students were up to 15% more likely to have voted in recent elections. If civic-minded parents have civic-minded offspring, as one would expect, then these findings underscore the need for models to properly control for parent-level covariates.

Greene et al. (1999) use logistic regression and find that among Texas adults, attending some private school is associated with a higher probability of voting. Interestingly, however, they find that adults who received all of their education in a private school did not have a statistically significant increased probability of voting. That curious finding squares with other literature concerning the effect of private schooling on civic values. For example, Greene and Kingsbury (2017) report that private schooling had a statistically and practically significant positive effect on anti-Semitic attitudes but that the dosage effect became slightly negative after approximately 7 years of private education. In other words, an adult who received half of their K-12 education in a private school would be less anti-Semitic than an adult who received none of their education there and also less anti-Semitic than an adult who attended for 12 years. Whatever the cause, these findings underscore the need for flexibility in modeling the relationship between voting outcomes and private school enrollment.

Fleming et al. (2014) employ a matching design to investigate the impact of estimate the impact of Milwaukee's voucher program on civic outcomes. They poll currently enrolled high-school students and find that after controlling for parent-level covariates, 66% of voucher lottery winners claimed they would vote in the future compared with 55% of lottery losers, a

spread closely resembling Dee's (2005) instrumental variable estimate. Their dependent variable raises some concerns regarding measurement error, as self-prediction of voting is notoriously unreliable. Indeed, a large share of people who claim that they intend to vote will not do so. More surprisingly, up to half of those who claim that they will not vote do in fact vote (Rogers and Aida, 2012). Asking high-school students about their intention to vote years in the future likely only compounds the measurement error.

In addition to these studies, there is one instructive experimental study. Carlson et al. (2017) compared the civic outcomes of winners and losers of the New York Choice Scholarships Foundation Program lottery by matching the treatment and control groups to official voting records and found no distinguishable differences in outcomes in recent elections. Of course, experiments come with a caveat regarding external validity: Private schools in New York City are not necessarily representative of private schools nationwide, and it would be unsound to assume that the effect is universal.

private schools and partisanship.

There is scant literature informing how attending a private school might affect political affiliation or partisanship. However, an examination of the differences in curriculum and school composition can provide some clues. Paterson (2000) performs a content analysis of textbooks used at Christian parochial schools (which constitute the majority of private schools in the United States) and reports that they espouse ideologically conservative viewpoints by means of integrating religious and nonreligious material and citing conservative thinkers with approval while omitting or downplaying more progressive thinkers. Paterson (2000) predicts that a conservative curriculum might influence later-in-life outcomes, opining "such training might

increase the Balkanization of our society" (p. 1). Meanwhile, Lerner, Nagai, and Rothman (1995) as well as Zimmerman (2010) argue that American history in public schools is often taught from a critical perspective that discards a culturally hegemonic perspective in favor of one that emphasizes the experiences of subaltern groups. In other words, public school history curriculum is typically consistent with liberal perspectives, although there is significant variation across states.

Several studies have considered the impact of school racial integration on personal attitudes. These studies generally find that higher levels of diversity within a school is associated with increased racial tolerance and empathy for other groups (Stephan & Rosenfield, 1978; Wells & Crain, 1994; Wells et al., 2009), at least in the long run (Schofield & Hausmann, 2004). Given lower levels of integration in the private school sector (Reardon & Yun, 2003), to the extent that increased empathy for minorities is associated with liberal, Democratic ideology (Loewen et al., 2017), one might expect that private schools produce more conservative, Republican-leaning voters.

Hypothesis

The compilation of extant literature indicates that the effect of private schooling on voter participation is in the null-positive range. This is not surprising. Sikkink (2013)notes that "public schools are performance-oriented bureaucracies, which have organizational imperatives of individual achievement, conformity, and order" (p. 347). Therefore, "teachers tend to avoid normative discussions with explicit content except in the sporadic and isolated cases in which classroom disruption or student conflict demands it" (p. 348). On the other hand, private schools are less concerned with strict apoliticism and are marked with higher levels of social

capital, which may be conducive to civic participation (Sikkink, 2013). Consequently, I anticipate observing a neutral to positive correlation between private school enrollment and voting.

Analyses of private and public school history curricula indicate that private schools might on balance produce more conservative students. Moreover, private schools, especially parochial schools, might consciously promote moral foundations that are associated with conservative ideology, specifically, in-group loyalty, deference to authority, and sanctity (Haidt, 2012). Finally, lower levels of integration might also be associated with conservative attitudes. Sikkink (2013), however, provides cause to suspect that the effects of private schools on partisanship may be limited, noting that "the picture of religious schools as sectarian, counter-cultural institutions is overdrawn…The most conservative Christian schools absorb much of the surrounding cultural milieu" (p. 342). In other words, private and public schools alike might simply reinforce the political sensibilities of communities rather than change them. That the majority of American teachers, the would-be agents of change, work within driving distance of their hometown certainly lends credence to that argument (Boyd et al., 2005). Consequently, I anticipate that private school attendance may be positively correlated with Republican affiliation and conservative ideology, but that the magnitude of any association would be small.

Data

Data are drawn from the Understanding America Study (UAS) based out of the University of Southern California. The UAS is a nationally representative rolling dataset that polls 6000 American adults completing surveys on a wide variety of topics, from knowledge about the Ebola virus to sleeping patterns.

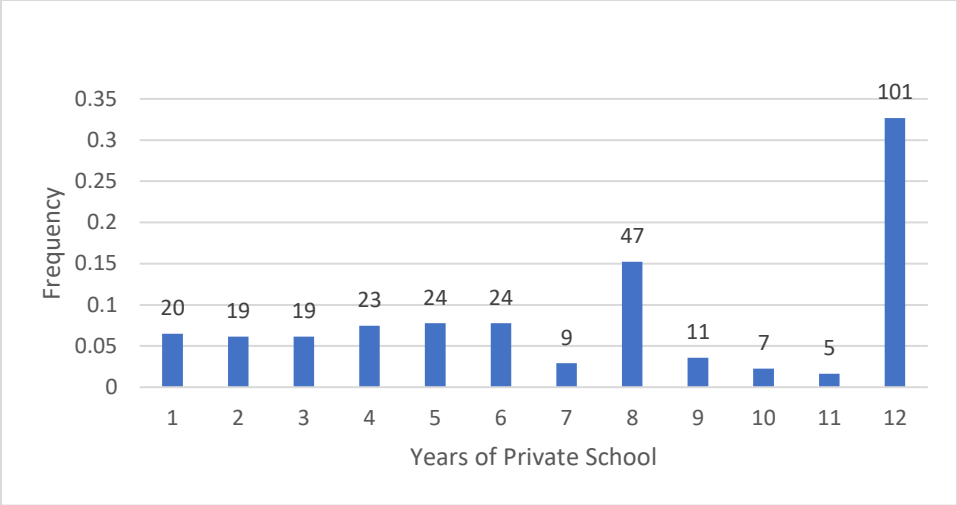

Figure 1: Years of private schooling for students with at least one year of private schooling

Surveys began in May 2014 and are ongoing as of May 2018. To ensure that the sample is in fact nationally representative and to mitigate concerns about nonresponse bias, respondents with unreliable computer or Internet access received tablets. Moreover, surveys remunerated on a per-minute basis (up to US$20) to ensure an acceptably high response rate.

This study combines several UAS datasets[3] that together contain the variables necessary to model whether there are differences in the likelihood of voting between private-school-educated adults and public-school-educated adults after controlling for a variety of background characteristics. These datasets range from 1760 to 6422 observations and from a response rate of 74.25% to 95.34%. One of these datasets, labeled UAS 1, was dispensed to every individual participating in UAS surveys, and contained post-stratification weights to ensure that the survey

[3]Certain data (e.g. demographic information) are cross-sectional. For those datasets that are longitudinal (e.g. the 2016 election survey), the model utilizes responses captured immediately preceding the 2016 election.

was representative of the US population with regard to sociodemographic composition. I have used that weight in the models that follow.

Note that the dependent variable is self-reported voting in a post-election poll; respondents were asked whether they voted in the 2012, 2014, and 2016 national elections and who they voted for. At first glance, the high percentage of respondents who claim to have voted—92.5% in 2016, 63% in 2014%, and 77% in 2012—could generate concerns about whether the sample is in fact nationally representative. However, there are two sensible explanations to mostly allay such fears. First, deceit about voting is a well-known phenomenon in social science research (Clausen, 1968–1969; Hanmer et al., 2014), as "people tend to over-estimate the likelihood that they performed a socially desirable behavior in the past and to over-estimate the likelihood that they will perform a socially desirable behavior in the future" (Rogers and Aida, 2012, p.3). Estimates of over-reporting range from about 8% to 14% (Belli et al., 2001) to as high as 20% (McDonald, 2003; Martinez, 2003). Second, it is likely that respondents within the UAS experienced something akin to Hawthorne effects in experimental research, in which members of the experiment modify their behavior because they are being observed. Specifically, it is likely that being repeatedly polled about the election increases interest in the outcome and one's likelihood of voting, a situation exacerbated by the fact that the rolling poll gained national attention in the summer of 2016 because it was one of the few national election polls to predict a Trump victory. Unless private-school-educated adults and public-school-educated adults are misrepresenting their voting history at different rates, something that is not intuitively expected, then overestimates should not introduce bias. However, overestimates increase the likelihood of a false positive finding.

Methods and Results

likelihood of voting

Unadjusted voting comparisons confirm the original hypothesis that private-school-educated adults are more likely to vote. Each additional year of private school is associated with a 0.25–0.75 percentage point increase in voting within the past three national elections. Moreover, unadjusted voting comparisons indicate that private-school-educated adults closely resembled the rest of the population during the 2012 presidential election vis-à-vis partisan divide, but in 2016, each additional year of private school was associated with a 1.1% decrease in the likelihood of voting for Trump, contrary to the original hypothesis.

Of course, unadjusted results are not a particularly useful measure of the effect of private schooling on voting, as enrolling in a private school is not random but correlated with factors predictive of voting. In the UAS dataset, an adult with any private education is 10.5% less likely to have reported financial struggles during childhood and 40% more likely to identify as Catholic. Given that those characteristics positively correlate with voting, it is readily apparent that the unadjusted results do not render a meaningful look at the effect of private school vis-à-vis voting. Several models are introduced to estimate the effect of private schooling on turnout and which candidate or party a voter supports[4]. First, a probit model to estimate the effect on turnout

$$\Pr(Vote_i=1|X)=\Phi(\beta 0+\beta 1Priv\_Years_i+\beta 2Priv\_Years^2{}_i+\beta 3Age_i+\beta 4Age^2{}_i+\beta 5Relig\_Affil_i+\beta 6Stateborn_i$$
$$+\beta 7Econ\_Charac_i+\beta 8Parental\_Educ_i+\beta 9Born\_US_i+\beta 10Race_i+\beta 11Female_i+e_i$$

[4] These models and the displayed results utilize the full sample of respondents. 6.4% of the sample did not obtain a high-school diploma, so in some cases the counterfactual is no education rather than equivalent years of public or private education. When the sample is restricted to individuals with a high-school diploma, statistical significance of coefficients of interest do not change in any model.

These controls are intended to attenuate the endogeneity in the decision to enroll a child in a private school. Consequently, I control for childhood characteristics rather than adult ones. This has two benefits. First, they are more meaningful in terms of mitigating endogeneity. An adult's income or educational attainment should have no predictive power of whether that individual's parents decided to enroll them in a private school as a child. Rather, the parents' income and educational attainment has explanatory power. Moreover, characteristics such as religiosity, cognitive abilities[5], income, or educational attainment could plausibly be a part of the treatment of attending a private school, so controlling for them may be problematic. Illustratively, if private schools are better at promoting intelligence (as defined by numerical and verbal literacy), which is positively correlated with voter turnout (Henderson & Chatfield, 2011; Mayer, 2011), then controlling for attainment biases the estimated effect toward zero.

Yet, post-educational covariates are not entirely without merit. Considering that individuals tend to vote the same way as their parents (Lyons, 2005), controlling for political ideology in voting turnout models does have some benefit, as it proxies for the political beliefs of their parents, which is perhaps the most obvious omitted variable. Measuring religiosity serves much the same purpose. Consequently, I also offer models that control for income using household income brackets, religiosity (proxied by how often the individual attends religious services), intelligence (using combined scores from numerical and literacy tests), and political ideology (measured on a 1–10 Likert-type scale). Including these covariates also adds the

[5] The intelligence variable is a composite measure of the Lipkus numeracy test and the cognitive reflection test. The former is a reliable, internally consistent measure of statistical numeracy (Cokely et al., 2012). The latter 'is a widely used measure of the propensity to engage in analytic or deliberative reasoning in lieu of gut feelings or intuitions' (Bialek and Pennycook, 2017).

benefit of illuminating potential causal pathways. Returning to the previous example, if a positive voting effect becomes null once controlling for numeracy and literacy scores, it might suggest that private school enrollment begets critical thinking, which in turn increases voting.

Note that the 2012, 2014, and 2016 elections outcomes are not pooled but treated as unique phenomena, as each election is indeed distinctive, and effects vary from election to election. A glance at Appendix 1A illustrates the rationale: African Americans were about 20 percentage points more likely to vote in Obama's 2012 reelection campaign, all else being equal, but practically indistinguishable from other groups in the subsequent midterm election.

Overall, I find no statistically significant correlation between private schooling and the likelihood of voting in any election year, a finding that is not sensitive to model specification (see Appendix 1A). However, that is not proof that there is in fact no effect, but rather that the estimated effect is not distinguishable from zero. As figure 2 illustrates, there is some evidence to support Greene et al.'s (1999) finding that there is a positive effect derived from a few years of education vis-à-vis voting, but returns diminish or even become negative over time.

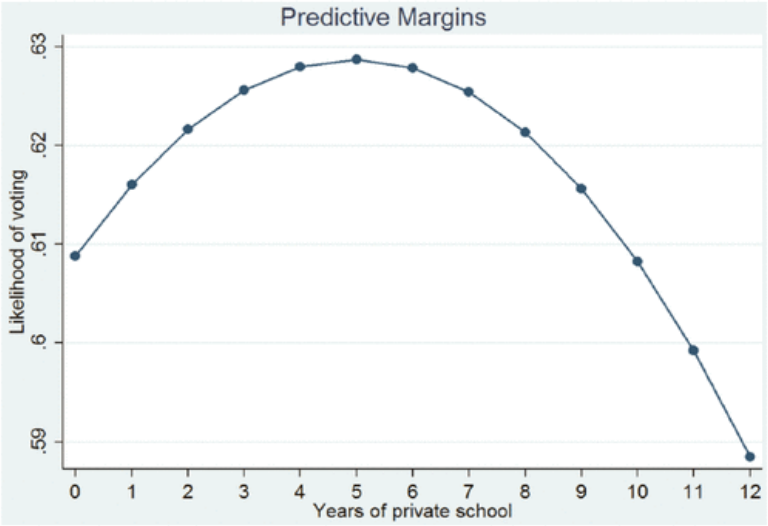

Figure 2: Likelihood of voting in 2014 election.

The model would ideally consider subgroup effects for several groups, including Catholics, African Americans, and particularly those who report a disadvantaged childhood, as it is plausible that disadvantaged students might experience a larger positive effect from private schooling. Placement in a safe school environment with strong community involvement and openness to political discourse might spur civic engagement relative to comparable public school peers, or so the thought goes. Unfortunately, however, power limitations preclude such analysis. The only subgroups for which the model can meaningfully derive a unique effect are men and women, whom the models estimate are practically indistinguishable with regard to a private schooling effect.

party and candidate support.

A similar probit model explores the relationship between private schooling and party affiliation. Notably, the model eliminates the Likert-type scale partisanship variable, as this would wash out other effects. Moreover, age appears as a linear variable within these models, as American voters tend to become more conservative as they age (Maniam & Smith, 2017).

These models produce some interesting and perhaps surprising results. While private schooling did not have any practical or statistical significance in explaining how individuals cast their vote in the 2012 election, it did affect voting in the 2016 election, specifically with respect to President Trump. As figure 3 illustrates, adults who attended some private schools were significantly less likely to vote for Donald Trump (compared with all other candidates) than adults who only attended public schools.

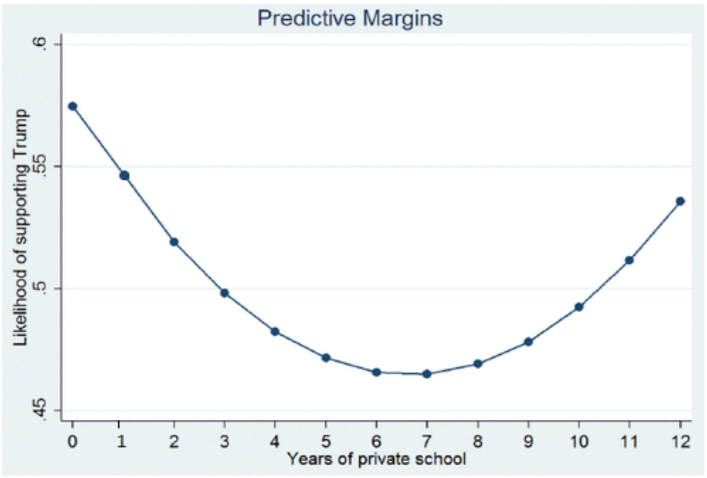

Figure 3: Likelihood of voting for Donald Trump in 2016 election.

Specifically, an adult who attended 1 year of private school had a 5 percentage point decrease in the likelihood of voting for Trump, all else being equal, compared with someone exclusively educated in a public school. Meanwhile, an adult who attended 7 years of a private school had a 10 percentage point decrease in the likelihood of voting for Trump, all else being equal. Those with 12 years of private education are more likely to vote for Trump than individuals with only some private education, but still less likely than those with 12 years of public education. Note that joint significance tests show some sensitivity to model specification, as controlling for educational attainment and intelligence lower the confidence level of the joint significance test below the 90% confidence level. However, this may capture a mediating effect. It is likely that private schools deliver a better or tailor-made education that promotes higher intelligence or educational attainment. Because intelligence and attainment are negatively correlated with supporting Trump (see Appendix 2D), controlling for them decreases the magnitude of the effect.

Interestingly, there is no practically or statistically significant effect of private schooling with respect to support for Hillary Clinton (see Appendix 2D), as many private-school-educated adults opted for a third party candidate. These findings call into question whether there is in fact a private school liberalizing effect, or whether private-school-educated adults simply rejected Trump. An illustrative way to consider this is to employ the same probit model and examine the effect on individuals who claim to identify with the Republican platform.

As figure 4 illustrates, the results are basically replicated: a few years of private school has a large effect on identifying as Republican while those with 12 years of private schooling closely resemble individuals with no private education. As figure 5 illustrates, the effect of private schooling on Democratic alignment roughly mirrors it, though the model is more sensitive to model specification.

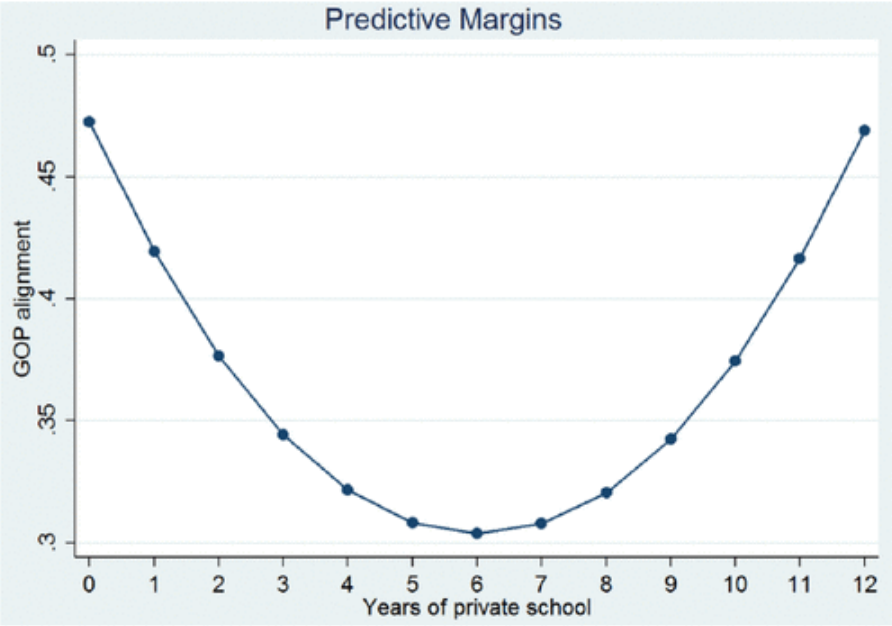

Figure 4: Likelihood of aligning with the Republican platform.

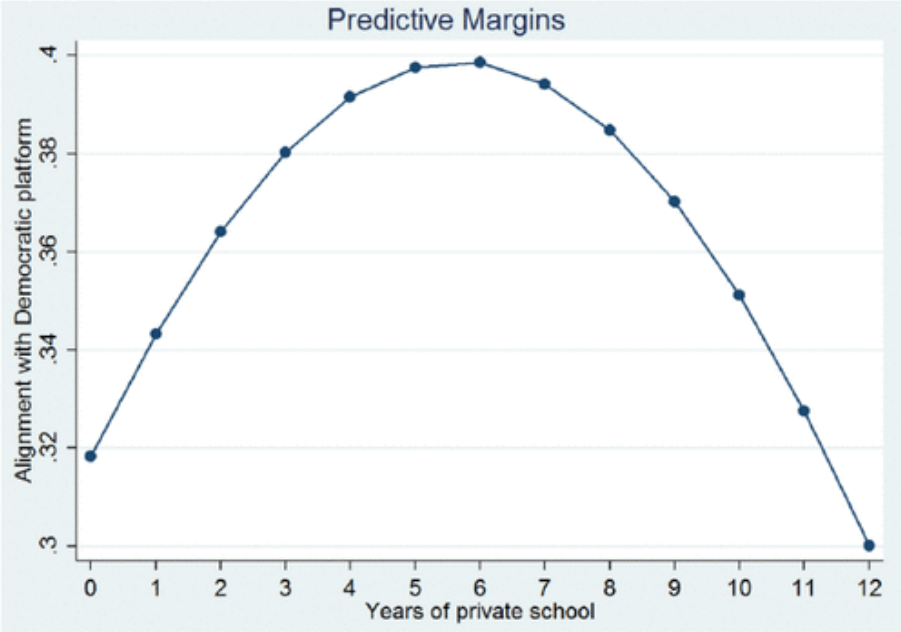

Figure 5: Likelihood of aligning with the Democratic platform

The hypothesized nonlinear relationship between private schooling and voting outcomes is predicated on an assumption that students with exclusively private education might have fundamentally different backgrounds from students with some private education, and that controls within the model fail to capture these potentially meaningful differences. I explore this hypothesis further by assuming a linear relationship between voting outcomes and private years of schooling while omitting those with exclusively private schooling from the sample. When utilizing this approach, estimates once again indicate no practical or statistically significant correlation between private schooling and the likelihood of voting. Meanwhile, each additional year of private schooling is associated with a 1.29 percentage point increase in the likelihood of aligning with the Democratic platform, all else equal, in the most pared down model. The estimate is statistically significant at the 95% confidence level. In the fully specified model, each additional year of private schooling is associated with a 1.21 percentage point

increase in the likelihood of aligning with the Democratic platform, all else equal. The estimate is statistically significant at the 90% confidence level.

Linear models that omit those with exclusively private education suggest that private schooling is not only associated with more liberal values, but specific repudiation of President Trump. In the 2012 election, private schooling is associated with a .33 percentage point decrease in the likelihood of supporting Mitt Romney in the simplest model and a .54 percentage point decrease in the fully specified model, all else equal. Neither estimate is statistically significant. In 2016, however, the most pared down model estimates that each additional year of private schooling is associated with a 2.25 percentage point decrease in the likelihood of supporting Donald Trump while the most specified model estimates that an additional year of private school is associated with a 2.19 percentage point decrease, all else equal. Both estimates are statistically significant at the 99% confidence level.

To test the Trump repudiation hypothesis further, I create an indicator variable for individuals who voted for Mitt Romney in 2012 but a candidate other than Donald Trump in 2016, as most of those individuals plausibly have centrist or conservative political views but specific objections to Donald Trump. Using the same linear model that omits those with 12 years of private education, each additional year of private schooling is associated with a .59 percentage point increase in defecting from the GOP in 2016 in the pared down model and a .50 percentage point increase in the fully specified model, all else equal. Both estimates are statistically significant at the 95% confidence level.

Further exploration appears to confirm the hypothesis that students with exclusively private education are fundamentally different from students with some private education.

Compared to the general population, receiving exclusively private education is associated with a 5.1 percentage point increase in the likelihood of supporting President Trump in the full model and a 6.9 percentage point increase in the pared down model. Neither estimate is statistically significant, plausibly because of the limited number of individuals to receive exclusively private education. Compared to adults with some private education, those with exclusively private education have a 14.5 percentage point increase in the likelihood of supporting Trump in the simple model and 15.3 percentage point increase in the fully specified model, all else equal. Both estimates are significant at the 95% confidence level.

Overall, modeling a linear relationship between private schooling and voting outcomes appears to confirm the original findings: Additional years of private schooling have no discernible impact on turnout but a modest positive correlation with Democratic Party alignment. Moreover, additional years of private schooling are associated with repudiation of Donald Trump. Finally, there appear to be nonlinear dosage effects from private schooling vis-à-vis voting behavior. Specifically, while more private schooling overall is associated with more liberal voting behavior, adults who received all of their education in a private school buck that trend and display conservative voting tendencies relative to adults with only some private school education.

Discussion

Evidence presented in this study is descriptive and correlational. After all, attending a private school is not random, and it would be impossible to fully control for everything that distinguishes private-school-educated adults from public-school-educated adults. Nevertheless,

it does offer suggestive evidence that private schooling has no observable effect on voting turnout, but an appreciably large effect on how individuals cast their vote.

At first blush, the observation that some private schooling is associated with progressive ideology is surprising. Paterson's (2000) content analysis of Christian parochial school textbooks would give one the impression that private schools should produce conservative graduates. A cursory consideration of the modern politics of school choice only reinforces that belief. After all, advocacy for market-based education reform can be traced to the vanguards of the Old Right, whose anti-statist views led them to caution, in the words of Frank Chodorov, that "What is known as 'free education' is the least free of all, for it is a state-owned institution; it is socialized education." (Demarrais, 2006, p. 218) Promotion of market-based solutions (and by extension, opposition to monopolistic government control) also became tenets of libertarian and religious right policy. Schools were one of the main battlegrounds in Patrick Buchanan's 'cultural war for the soul of America', for public schools were, according to Pat Robertson, "'destroying democracy in America… (Their leaders) a group of ideological extremists who are so fixated with their illogical educational theories that they have lost touch with reality.'" (Edwards, 1998, p. 9)

Logically, many religious or anti-statist parents opposed to public school politics and curricula would place their children in private institutions where pedagogy and practice (e.g. school prayer) align with their values. Given the frequency with which children adopt the views of their parents, it seems that private-school-educated adults *should* be disproportionately conservative, their education notwithstanding.

So why is attending a private school associated with liberal voting? This phenomenon might be explained in part by school composition. Although public schools are more diverse than private schools, the latter appear more adept at promoting racial harmony within classrooms and lunchrooms, perhaps because class distinctions are mostly neutralized or religious morality changes student behavior (Greene and Mellow, 1998). Racial harmony may foster more liberal, Democratic-leaning ideology. Moreover, Catholic Schools, composing a majority of private schools nationally, often have explicit social justice themes. In *Catholic Schools and the Common Good*, Byrk et al. (1993) explain that with the election of President Kennedy in 1960, the perceived importance of Catholic Schools to protect and nurture Catholic students in a hostile new world faded. However, in the tumult of the era they found a *new* raison d'être: social justice. Catholic Schools openly and sometimes even defiantly embraced pluralism, a clear affirmation of the spirit of the recently convened Vatican II, which asserted that schools should be 'enlivened by the spirit of freedom and charity' (Byrk et al., 1993,p. 51).

While Catholic Schools' commitment to social justice might explain the overall private school liberalizing effect, an intriguing question remains: Why do adults with a few years of private education appear to be more progressive than those with none, while adults who spend their entire educational career in one setting closely resemble one another? One potential explanation is that those who are observed to have some years of private education have been exposed to a diverse range of settings, which might give them more progressive sensibilities, especially if the demographics of their public and private schools were unique from one another. Another is that parents who send their children to private school for 12 years are

fundamentally different in some unobservable way. For example, parents might seek a few years of private education due to concerns about the quality of public schools, but parents who invest in 12 years of private education perhaps have strong value-based motivations on which they are unwilling to compromise. In seeking to explain their finding that some private school exposure increases measures of tolerance but an exclusively private school setting does not, Greene et al. posit 'those whose families chose to send them to private school for all 12 years did so for clear and purposeful reasons. They may have an ideological opposition to the type of educational experience they believe that the government-run public schools provide, for example' (p. 441).

Perhaps the most sensible explanation is that the liberalizing effect is driven by students who were enrolled in a private school during their elementary schools but not later during their academic years, as it is plausible that the politics of private elementary schools and private secondary schools are quite distinct. Indeed, many private elementary schools boast high levels of integration and engage students with social justice themes at a young age (Miller, 2015). Private high schools, on the other hand, are perhaps comparatively more religious and conservative (Paterson, 2000). However, evidence does not back this theory. Changing the Republican affiliation probit model to years of private high school instead of overall private years and a quadratic term indicates that each additional year of private high school is associated with a 1.2 percentage point decrease in the likelihood of aligning with the Republican platform and a 1.9 percentage point increase in aligning with the Democratic platform, all else being equal. Meanwhile, taking the same approach but using a private elementary school dosage variable also fails to support the hypothesis: each additional year of

elementary school is associated with a 0.3 percentage point decrease in the likelihood of aligning with the Democratic platform and a 1.9 percentage point decrease in the likelihood of aligning with the Republican platform, all else being equal. All of these estimates are statistically insignificant and must be interpreted with caution, as there are only 205 adults in the sample with any private high-school education and 294 with any private elementary education.

Conclusion

Progressives winced when President Trump appointed Betsy Devos as Secretary of Education. Parroting her call that market-based education reforms would 'advance God's Kingdom', they successfully fashioned a narrative that school choice is driven by conservative and corporate machinations and that private schools are factories of future conservative voters (Segar, 2017). Empirical evidence casts doubt over that narrative: spending a few years in a private school is associated with decreased support for Donald Trump while spending 12 years in one makes an individual practically indistinguishable from their exclusively public-school-educated counterparts vis-à-vis support for Trump. This does not mean that increased access to vouchers would have been the difference in the 2000 or 2016 elections; drawing generalizations from 2016 is tenuous given that it was such an unusual election year. Moreover, it is impossible to say whether the correlation would be the same in magnitude or even direction with a different population. One should therefore be cautious in concluding that increased access to vouchers in the future will shrink the Republican voter base. However, it does provide evidence that private schools are not the path to God's Kingdom as Devos and likeminded allies hope, nor the road to political ruin that Democrats fear.

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Appendix[6]

1A.

2012 Voter turnout							
	I	II	III	IV	V	VI	VII
Private years	0.011 (0.016)	0.012 (0.016)	0.010 (0.016)	0.007 (0.015)	0.015 (0.016)	0.007 (0.015)	0.010 (0.015)
Private years^2	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Age	0.022*** (0.004)	0.022*** (0.004)	0.020*** (0.004)	0.018*** (0.004)	0.020*** (0.004)	0.019*** (0.003)	0.016*** (0.004)
Age^2	-0.000*** (-0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)
Female	-0.013 (0.023)	-0.011 (0.023)	0.009 (0.024)	0.005 (0.022)	-0.013 (0.023)	-0.024 (0.022)	-0.005 (0.022)
Black	0.200*** (0.049)	0.208*** (0.050)	0.230*** (0.049)	0.221*** (0.049)	0.175*** (0.050)	0.191*** (0.050)	0.184*** (0.051)
Catholic	0.072** (0.032)	0.072** (0.032)	0.071** (0.032)	0.051* (0.030)	0.069** (0.032)	0.046 (0.030)	0.034 (0.029)
Protestant	0.073*** (0.028)	0.072*** (0.028)	0.056** (0.028)	0.055** (0.027)	0.066** (0.028)	0.051* (0.027)	0.034 (0.026)
Not enough money	-0.086* (0.045)	-0.088** (0.044)	-0.079* (0.044)	-0.061 (0.045)	-0.087* (0.045)	-0.064 (0.045)	-0.056 (0.046)
Liberalism	-	-0.004 (0.005)	-	-	-	-	-0.001 (0.005)
Intelligence	-	-	0.019*** (0.005)	-	-	-	0.004 (0.005)
Household Income bracket	-	-	-	0.022*** (0.003)	-	-	0.015*** (0.003)
Church attendance	-	-	-	-	0.054*** (0.014)	-	0.045*** (0.014)
Educational attainment	-	-	-	-	-	0.102*** (0.012)	0.079*** (0.013)
Prob>chi2 (private years and private years^2)	0.591	0.578	0.687	0.813	0.5199	0.899	0.799
Observations	1,644	1,643	1,644	1,641	1,610	1,644	1,606

[6] For all tables, *p<.10, **p<.05, ***p<.01.

1B.

2014 Voter turnout							
	I	II	III	IV	V	VI	VII
Private years	0.008 (0.019)	0.009 (0.019)	0.006 (0.018)	0.005 (0.018)	0.007 (0.018)	0.000 (0.017)	0.001 (0.017)
Private years^2	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.000 (0.002)	-0.001 (0.002)
Age	0.024*** (0.005)	0.024*** (0.005)	0.023*** (0.005)	0.022*** (0.005)	0.023*** (0.005)	0.023*** (0.005)	0.021*** (0.005)
Age^2	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000** (0.000)
Female	-0.058** (0.027)	-0.056** (0.027)	-0.040 (0.028)	-0.042 (0.027)	-0.066** (0.027)	-0.073*** (0.026)	-0.067** (0.027)
Black	0.077 (0.058)	0.086 (0.059)	0.102* (0.060)	0.088 (0.059)	0.073 (0.060)	0.068 (0.059)	0.072 (0.064)
Catholic	0.055 (0.040)	0.055 (0.040)	0.055 (0.040)	0.038 (0.039)	0.053 (0.040)	0.026 (0.038)	0.017 (0.038)
Protestant	0.083** (0.033)	0.081** (0.033)	0.069** (0.033)	0.068** (0.033)	0.076** (0.033)	0.053* (0.032)	0.043 (0.033)
Not enough money	-0.074 (0.054)	-0.071 (0.054)	-0.066 (0.053)	-0.044 (0.055)	-0.054 (0.055)	-0.040 (0.054)	-0.013 (0.056)
Liberalism	-	-0.005 (0.006)	-	-	-	-	-0.002 (0.006)
Intelligence	-	-	0.016*** (0.005)	-	-	-	-0.000 (0.006)
Household Income bracket	-	-	-	0.022*** (0.004)	-	-	0.013*** (0.004)
Church attendance	-	-	-	-	0.065*** (0.017)	-	0.052*** (0.017)
Educational attainment	-	-	-	-	-	0.110*** (0.014)	0.092*** (0.016)
Prob>chi2 (private years and private years^2)	0.905	0.877	0.895	0.869	0.866	0.629	0.502
Observations	1,532	1,531	1,532	1,529	1,506	1,532	1,502

1C.

2016 Voter turnout							
	I	II	III	IV	V	VI	VII
Private years	0.009 (0.010)	0.009 (0.009)	0.010 (0.009)	0.006 (0.009)	0.011 (0.010)	0.008 (0.009)	0.009 (0.010)
Private years^2	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Age	0.006** (0.003)	0.006** (0.003)	0.006** (0.003)	0.005* (0.003)	0.006** (0.003)	0.006** (0.003)	0.005* (0.003)
Age^2	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Female	-0.004 (0.017)	-0.005 (0.017)	0.004 (0.017)	0.001 (0.017)	-0.004 (0.017)	-0.005 (0.017)	-0.002 (0.017)
Black	-0.004 (0.029)	-0.007 (0.030)	0.006 (0.029)	0.002 (0.028)	0.009 (0.030)	-0.003 (0.029)	0.005 (0.032)
Catholic	0.016 (0.021)	0.017 (0.021)	0.015 (0.021)	0.012 (0.021)	0.017 (0.021)	0.011 (0.021)	0.011 (0.021)
Protestant	0.053*** (0.020)	0.054*** (0.020)	0.047** (0.020)	0.047** (0.020)	0.044** (0.020)	0.046** (0.020)	0.036* (0.020)
Not enough money	-0.007 (0.029)	-0.008 (0.029)	-0.006 (0.029)	-0.000 (0.029)	-0.015 (0.029)	-0.006 (0.030)	-0.011 (0.029)
Liberalism	-	0.002 (0.003)	-	-	-	-	0.005 (0.003)
Intelligence	-	-	0.007* (0.003)	-	-	-	0.003 (0.003)
Household Income bracket	-	-	-	0.007*** (0.002)	-	-	0.004* (0.002)
Church attendance	-	-	-	-	0.037*** (0.010)	-	0.038*** (0.011)
Educational attainment	-	-	-	-	-	0.024*** (0.009)	0.016 (0.010)
Prob>chi2 (private years and private years^2)	0.611	0.632	0.569	0.735	0.411	0.618	0.458
Observations	1,369	1,368	1,369	1,367	1,312	1,369	1,309

2A.

Supported Obama in 2012						
	I	II	III	IV	V	VI
Private years	0.003 (0.017)	0.003 (0.017)	0.006 (0.017)	0.006 (0.017)	0.000 (0.017)	0.006 (0.017)
Private years^2	-0.001 (0.002)	-0.000 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.000 (0.002)	-0.001 (0.002)
Age	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Female	0.124*** (0.027)	0.125*** (0.029)	0.115*** (0.028)	0.132*** (0.027)	0.121*** (0.027)	0.110*** (0.029)
Black	0.770*** (0.089)	0.771*** (0.090)	0.749*** (0.090)	0.758*** (0.084)	0.777*** (0.090)	0.734*** (0.086)
Catholic	0.062 (0.042)	0.062 (0.042)	0.064 (0.042)	0.080* (0.042)	0.053 (0.042)	0.071* (0.041)
Protestant	-0.080** (0.035)	-0.081** (0.036)	-0.073** (0.035)	-0.052 (0.035)	-0.093*** (0.035)	-0.057* (0.034)
Not enough money	-0.042 (0.057)	-0.042 (0.057)	-0.064 (0.056)	-0.035 (0.056)	-0.031 (0.056)	-0.052 (0.053)
Intelligence	-	0.001 (0.006)	-	-	-	-0.006 (0.006)
Household Income bracket	-	-	-0.013*** (0.004)	-	-	-0.019*** (0.005)
Church attendance	-	-	-	-0.079*** (0.017)	-	-0.086*** (0.017)
Educational attainment	-	-	-	-	0.051*** (0.014)	0.081*** (0.014)
Prob>chi2 (private years and private years^2)	0.865	0.864	0.887	0.910	0.752	0.868
Observations	1,295	1,295	1,292	1,276	1,295	1,273

2B.

Supported Romney in 2012

	I	II	III	IV	V	VI
Private years	-0.007 (0.020)	-0.008 (0.020)	-0.011 (0.020)	-0.011 (0.019)	-0.005 (0.019)	-0.014 (0.019)
Private years^2	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)
Age	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Female	-0.150*** (0.030)	-0.145*** (0.032)	-0.139*** (0.030)	-0.159*** (0.030)	-0.148*** (0.030)	-0.130*** (0.032)
Catholic	-0.012 (0.048)	-0.012 (0.048)	-0.018 (0.047)	-0.030 (0.048)	-0.005 (0.047)	-0.0267 (0.046)
Protestant	0.152*** (0.039)	0.150*** (0.040)	0.141*** (0.039)	0.123*** (0.039)	0.162*** (0.039)	0.120*** (0.039)
Not enough money	-0.005 (0.065)	-0.002 (0.065)	0.028 (0.064)	-0.011 (0.065)	-0.018 (0.065)	0.0169 (0.063)
Intelligence	-	0.004 (0.006)	-	-	-	0.009 (0.006)
Household Income bracket	-	-	0.017*** (0.005)	-	-	0.022*** (0.005)
Church attendance	-	-	-	0.081*** (0.019)	-	0.088*** (0.018)
Educational attainment	-	-	-	-	-0.040** (0.016)	-0.076*** (0.017)
Prob>chi2 (private years and private years^2)	0.788	0.787	0.789	0.793	0.725	0.699
Observations	1,217	1,217	1,215	1,201	1,217	1,199

2C.

Supported Clinton in 2016						
	I	II	III	IV	V	VI
Private years	-0.000 (0.016)	-0.003 (0.017)	0.002 (0.016)	0.001 (0.016)	-0.004 (0.017)	-0.001 (0.017)
Private years^2	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.001)	0.000 (0.002)	0.000 (0.002)
Age	0.002** (0.001)	0.002** (0.001)	0.002** (0.001)	0.002** (0.001)	0.002* (0.001)	0.002** (0.001)
Female	0.107*** (0.025)	0.124*** (0.027)	0.101*** (0.026)	0.115*** (0.026)	0.105*** (0.025)	0.113*** (0.027)
Black	0.779*** (0.076)	0.798*** (0.078)	0.768*** (0.076)	0.808*** (0.081)	0.778*** (0.077)	0.808*** (0.086)
Catholic	0.057 (0.038)	0.059 (0.037)	0.058 (0.037)	0.063* (0.038)	0.046 (0.037)	0.053 (0.036)
Protestant	-0.007 (0.032)	-0.015 (0.032)	-0.004 (0.032)	0.000 (0.032)	-0.016 (0.032)	-0.008 (0.031)
Not enough money	0.017 (0.051)	0.025 (0.050)	0.001 (0.050)	0.017 (0.050)	0.034 (0.051)	0.013 (0.048)
Intelligence	-	0.015*** (0.005)	-	-	-	0.009 (0.005)
Household Income bracket	-	-	-0.008** (0.004)	-	-	-0.015*** (0.004)
Church attendance	-	-	-	-0.073*** (0.016)	-	-0.079*** (0.016)
Educational attainment	-	-	-	-	0.060*** (0.013)	0.074*** (0.014)
Prob>chi2 (private years and private years^2)	0.893	0.922	0.817	0.829	0.963	0.925
Observations	1,455	1,455	1,452	1,430	1,455	1,427

2D.

Supported Trump in 2016						
	I	II	III	IV	V	VI
Private years	-0.032* (0.018)	-0.030* (0.018)	-0.036** (0.018)	-0.033* (0.017)	-0.030* (0.018)	-0.033* (0.018)
Private years^2	0.002 (0.002)	0.002 (0.002)	0.003 (0.002)	0.002 (0.002)	0.002 (0.002)	0.003 (0.002)
Age	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
Female	-0.111*** (0.026)	-0.132*** (0.028)	-0.104*** (0.027)	-0.119*** (0.027)	-0.108*** (0.026)	-0.119*** (0.028)
Black	-0.805*** (0.093)	-0.825*** (0.095)	-0.796*** (0.094)	-0.804*** (0.091)	-0.805*** (0.095)	-0.808*** (0.097)
Catholic	-0.085** (0.038)	-0.086** (0.038)	-0.086** (0.038)	-0.087** (0.039)	-0.074* (0.038)	-0.079** (0.038)
Protestant	-0.026 (0.033)	-0.016 (0.034)	-0.030 (0.033)	-0.029 (0.033)	-0.018 (0.033)	-0.017 (0.033)
Not enough money	-0.028 (0.054)	-0.035 (0.053)	-0.011 (0.053)	-0.008 (0.054)	-0.043 (0.054)	0.002 (0.052)
Intelligence	-	-0.018*** (0.006)	-	-	-	-0.013** (0.006)
Household Income bracket	-	-	0.010** (0.004)	-	-	0.017*** (0.004)
Church attendance	-	-	-	0.070*** (0.017)	-	0.075*** (0.016)
Educational attainment	-	-	-	-	-0.059*** (0.014)	-0.070*** (0.014)
Prob>chi2 (private years and private years^2)	0.114	0.175	0.071	0.090	0.203	0.133
Observations	1,438	1,438	1,435	1,414	1,438	1,411

3A.

Democratic affiliation						
	I	II	III	IV	V	VI
Private years	0.029* (0.016)	0.029* (0.016)	0.030* (0.016)	0.028* (0.016)	0.027 (0.017)	0.029* (0.017)
Private years^2	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)
Age	0.000 (0.001)	0.000 (0.001)	0.001 (0.001)	0.001 (0.001)	0.000 (0.001)	0.001 (0.001)
Female	0.070*** (0.024)	0.071*** (0.025)	0.063** (0.025)	0.075*** (0.024)	0.067*** (0.024)	0.058** (0.026)
Black	0.558*** (0.054)	0.559*** (0.055)	0.543*** (0.054)	0.557*** (0.055)	0.555*** (0.056)	0.533*** (0.058)
Catholic	0.036 (0.035)	0.036 (0.035)	0.040 (0.035)	0.041 (0.036)	0.029 (0.035)	0.035 (0.035)
Protestant	-0.040 (0.029)	-0.041 (0.030)	-0.036 (0.029)	-0.037 (0.029)	-0.048 (0.029)	-0.040 (0.030)
Not enough money	0.054 (0.049)	0.055 (0.049)	0.041 (0.048)	0.057 (0.049)	0.064 (0.049)	0.052 (0.049)
Intelligence	-	0.001 (0.005)	-	-	-	-0.003 (0.005)
Household income bracket	-	-	-0.009** (0.003)	-	-	-0.013*** (0.004)
Church attendance	-	-	-	-0.040*** (0.015)	-	-0.043*** (0.015)
Educational attainment	-	-	-	-	0.034*** (0.013)	0.056*** (0.013)
Prob>chi2 (private years and private years^2)	0.195	0.201	0.144	0.191	0.257	0.207
Observations	1,686	1,686	1,683	1,651	1,686	1,648

3B.

Republican affiliation						
	I	II	III	IV	V	VI
Private years	-0.058*** (0.017)	-0.055*** (0.017)	-0.062*** (0.017)	-0.058*** (0.017)	-0.055*** (0.017)	-0.058*** (0.017)
Private years^2	0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)
Age	0.002** (0.001)	0.002** (0.001)	0.002* (0.001)	0.002** (0.001)	0.002*** (0.001)	0.002* (0.001)
Female	-0.080*** (0.026)	-0.104*** (0.027)	-0.067** (0.026)	-0.086*** (0.026)	-0.077*** (0.026)	-0.086*** (0.026)
Black	-0.584*** (0.080)	-0.608*** (0.078)	-0.564*** (0.084)	-0.576*** (0.080)	-0.590*** (0.080)	-0.583*** (0.085)
Catholic	-0.035 (0.038)	-0.034 (0.033)	-0.047 (0.037)	-0.050 (0.038)	-0.022 (0.038)	-0.049 (0.037)
Protestant	0.036 (0.032)	0.049 (0.033)	0.025 (0.032)	0.019 (0.032)	0.048 (0.032)	0.031 (0.032)
Not enough money	-0.033 (0.053)	-0.040 (0.053)	-0.010 (0.052)	-0.018 (0.053)	-0.046 (0.054)	-0.010 (0.051)
Intelligence	-	-0.019*** (0.005)	-	-	-	-0.017*** (0.005)
Household Income bracket	-	-	0.019*** (0.004)	-	-	0.025*** (0.004)
Church attendance	-	-	-	0.103*** (0.016)	-	0.106*** (0.015)
Educational attainment	-	-	-	-	-0.050*** (0.013)	-0.070*** (0.014)
Prob>chi2 (private years and private years^2)	0.002	0.005	0.000	0.001	0.004	0.002
Observations	1,686	1,686	1,683	1,651	1,686	1,648

3C.

Liberal self-identification

	I	II	III	IV	V	VI
Private years	0.083** (0.039)	0.083** (0.039)	0.090** (0.039)	0.075* (0.040)	0.080** (0.039)	0.078* (0.041)
Private years^2	-0.009** (0.004)	-0.009** (0.004)	-0.009** (0.004)	-0.008** (0.004)	-0.009** (0.004)	-0.008** (0.004)
Age	-0.002 (0.002)	-0.002 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.002 (0.002)	-0.001 (0.002)
Female	0.205*** (0.062)	0.207*** (0.064)	0.184*** (0.062)	0.237*** (0.064)	0.200*** (0.062)	0.201*** (0.065)
Black	0.895*** (0.125)	0.897*** (0.125)	0.850*** (0.125)	0.975*** (0.130)	0.892*** (0.127)	0.920*** (0.136)
Catholic	0.017 (0.094)	0.017 (0.094)	0.028 (0.094)	0.047 (0.094)	0.003 (0.094)	0.036 (0.094)
Protestant	-0.133* (0.077)	-0.134* (0.077)	-0.122 (0.077)	-0.116 (0.077)	-0.147* (0.077)	-0.125 (0.078)
Not enough money	-0.037 (0.144)	-0.037 (0.144)	-0.069 (0.144)	-0.075 (0.149)	-0.023 (0.145)	-0.093 (0.150)
Intelligence	-	0.001 (0.012)	-	-	-	-0.001 (0.012)
Household income bracket	-	-	-0.023*** (0.009)	-	-	-0.032*** (0.009)
Church attendance	-	-	-	-0.210*** (0.041)	-	-0.211*** (0.041)
Educational attainment	-	-	-	-	0.059* (0.031)	0.109*** (0.036)
Prob>chi2 (private years and private years^2)	0.035	0.035	0.032	0.074	0.029	0.055
Observations	1,689	1,689	1,686	1,654	1,689	1,651

Chapter Two

Making sense of low private returns to education in the Arab World

Motivation

Several scholars and media outlets have identified the low rate of return to education in the Arab World as a root cause of unrest and upheaval (Fargues, 2011; Adams & Wintrhop, 2011;Rhoads & Liu, 2009; Shafiq & Vignoles, 2015). Yet, a closer inspection of literature reveals that the theoretical or practical understanding of why returns in the region are so low remains under-researched, with some exceptions (e.g. Tzannatos et. al. 2016). This paper aims to begin filling that void by empirically examining the association between four salient features of Arab World political economy and returns to education. Specifically, I examine the association of returns with religiosity, natural resource reliance, school quality, and corruption. My findings are not causal, nor are they exhaustive or conclusive. Rather, they are suggestive, and hopefully intriguing. It is my hope that this analysis might serve as a roadmap for those who might drill down into an understudied regional issue with global consequences.

Background

On the morning of December 17, 2010, Mohammed Bouazizi set out on the streets of Sidi Bouzid, Tunisia, to peddle produce just as he had done for the past seven years. What transpired that day – harassment, abuse, shutdown at the hands of local law enforcement (ostensibly for failing to carry a permit), and Bouazizi's resultant self-immolation in front of the municipal building – proved to have global consequences (Abouzeid, 2011). As video of the event spread on social media, protests erupted in Sidi Bouzid and within weeks engulfed the

Arab World, from the Western Mediterranean to the Persian Gulf. Regimes toppled with millions displaced. Hundreds of thousands were killed as protests gave way to insurgency in Libya, Iraq and Syria.

Pundits took to the airwaves to explain what factors other than the immediate catalyst had precipitated the wave of revolutions, routinely identifying both political factors (i.e. government repression and corruption) and economic factors, namely a lack of opportunity. Simply put, Arab laborers, including well-educated ones, perceived limited opportunities for upward mobility (World Bank, 2015; Mazarei & Mirzoev, 2015). The accuracy of the low opportunity hypothesis rests upon one or more of three assumptions as they relate to education: that access to education is constrained, that education systems are failing to deliver leverageable skills, or that characteristics of political economy suppress returns to education. Given that access to education and attainment have increased dramatically in the region over the past four decades (Barro & Lee, 2000; Young, 2016) and that the Middle East has the highest skilled emigration rate in the world (Ahad and Tzannatos, 2016), characteristics of political economy appear determinant vis-à-vis the perception of limited opportunity.

Review of Literature

While there is abundant literature relaying the frustration of the region's middle class there is only a scant literature that attempts to understand the problem through the lens of human capital theory. Ahad and Tzannatos (2016) offer a cursory introduction to the topic, elucidating that part of the low returns in the Gulf countries might be explained by the preponderance of foreign labor. Expatriates occupy most lucrative jobs in the private sector

thereby pushing citizens into the comparatively wage-compressed public sector, where promotion is rarely meritocratic. In short, those measured to evaluate national returns to education are largely confined to a sector that does not properly reward human capital.

Ahad and Tzannatos (2016) hypothesize that the observance of low returns is not only a function of who is entering countries, but also who is leaving. Indeed, Arab states may suffer from the highest skilled emigration rate in the world. While emigrating individuals might be frustrated with the lack of opportunity or mobility in their local economy, they likely would have been high wage earners, so their departure arithmetically lowers returns. Of course, emigration is both a cause and symptoms of low returns. Supply side issues including skill mismatches and demand side issues including protectionism and corruption that are forcing emigration are suppressing the returns of those who remain behind.

Pissarides (2005) asserts that the region's inflated public sector and laborer preference for public sector jobs suppresses private and therefore overall returns to education. Specifically, preference for the public sector "explains the low skill composition of the private sector and the skill mismatches in the region. There is evidence that the distortions in relative wages have increased the private rate of return to skill, without a corresponding increase in its social rate of return. So although highly-skilled workers who get public sector jobs are rewarded for their educational investment, labor productivity in the private sector does not rise to match the private rewards." (p. 4)

Other scholars have posited that the low returns to education in the region are not limited to earnings. Diwan (2016) finds that the region also suffers from low social and political returns. Concisely, "educated Arabs are much less emancipated by their education on political

and social values compared to their peers…Emancipation (referring to) a higher preference for democracy, more civic action, and a lower preference for patriarchy, authority and social conservatism" (p. 1-2). It seems that Arab schools are not only failing to deliver adequate labor market outcomes, but also what we would perceive to be desirable social and political outcomes. Simply put, the failures and shortcomings of Arab education systems are multifaceted.

Quantifying returns to education

Estimated pecuniary returns to education from each country are derived from a simple Mincerian equation in which the log of an individual's earnings are a function of their years of education, their experience, and a quadratic term of the latter. Formally,

$$\ln(earnings)_i = \beta_0 + \beta_1 educ_i + \beta_2 exp_i + \beta_3 exp_i^2 + \varepsilon_i$$

The rate of return is sensitive to how education is quantified. While most models use years of education, so-called "extended-earnings functions" use level of educational attainment (e.g., a high school diploma or bachelor's degree). The degree to which one specification is preferable gets to the heart of a foundational topic in economics: Whether human capital accumulation (measured by years of education) or signaling theory (measured by attainment) is more determinant of wages. This analysis will utilize both models, as the debate is unsettled (Kjelland, 2008).

Table One: Returns to Education

Region	Primary	Secondary	Tertiary	Average Returns to Schooling
Middle East	16.0	4.5	10.5	7.3
High Income Economies	4.9	6.6	11.1	10.0
East Asia & Pacific	13.6	5.3	14.8	9.4
Europe & Central Asia	13.9	4.7	10.3	7.4
Latin America and Caribbean	7.8	5.4	15.9	9.2
South Asia	6.0	5.0	17.3	7.7
Sub-Saharan Africa	14.4	10.6	21.0	12.4
All Economies	11.5	6.8	14.6	9.7

Source: Montenegro & Patrinos (2014)

In examining returns to education in the Arab World, the specification does have implications. Montenegro and Patrinos (2014) estimate that the return to schooling in the Arab World is 5.6% when using years of education, lagging appreciably behind the rest of the globe. However, using attainment shows that primary returns to schooling are not far from the global average, but that secondary and tertiary returns lag woefully behind.

Methods and Data

I examine the relationship between the rate of return to education and several factors that might explain the region's low returns, specifically religiosity, poor academic performance, economic reliance on natural resources, and rule of law, measured by corruption and property rights. Rate of return estimates come from several different sources. Primarily, I use Montenegro and Patrinos' (2014) *Comparable Estimates of Returns to Schooling Around the*

World. They estimate returns for dozens of countries using a simple Mincer equation. In several cases, there are more than a dozen estimates for a single country as they update estimates as new waves of data become available. I defer to their most recent estimates.

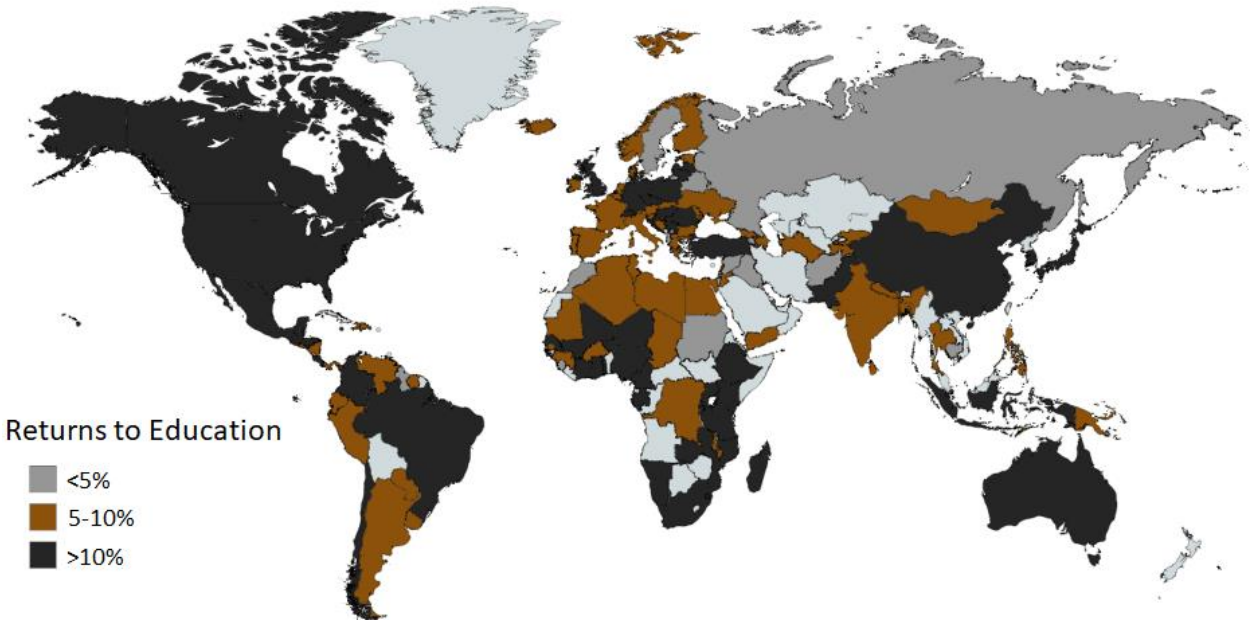

Figure 1: Montenegro and Patrinos return to education estimates

The Montenegro and Patrinos dataset (2014) has the advantage of including estimates for dozens of countries using the same method. Including non-Arab countries in my analysis of the relationship between these national characteristics and returns to education is desirable, as drawing inference from 22 countries is difficult. Missing data within independent and dependent variables further compounds the issue. Importantly, my hypothesis about what might be causing the region's low returns to education are not exclusive to the Arab World. Rather, those forces are a particularly salient feature of Arab World political economies.

Montenegro and Patrinos (2014) estimate returns to education for only 10 of 22 Arab countries, a notable drawback given the purpose of this analysis. I fill this gap with estimates from other sources. All estimates derive from basic Mincer equations, so while the sources of data are different, the methods to calculate returns to education are the same.

Table Two: Availability of data from Arab states

Country	RoR Source (simple earnings function)	RoR Source (extended earnings function)	PISA Math Score	% of GDP from natural resources	Religiosity Index Score	Corruption Index Score
Algeria	Boutayeba, 2017		2011	2015		2016
Bahrain				2015		2016
Comoros	Montenegro and Patrinos, 2014	Montenegro and Patrinos, 2014		2015		2016
Djibouti	Montenegro and Patrinos, 2014	Montenegro and Patrinos, 2014		2015		2016
Egypt	Rizk, 2016	Said, 2015		2015	2013	2016
Iraq	Montenegro and Patrinos, 2014	Montenegro and Patrinos, 2014		2015	2013	2016
Jordan	Montenegro and Patrinos, 2014	Montenegro and Patrinos, 2014	2002	2015	2013	2016
Kuwait	Alqattan et al., 2012			2015		2016
Lebanon	Montenegro and Patrinos, 2014		2011	2015	2013	2016
Libya	Arabsheibani, 2001					2016
Mauritania	Montenegro and Patrinos, 2014	Montenegro and Patrinos, 2014				2016
Morocco	Montenegro and Patrinos, 2014	Montenegro and Patrinos, 2014		2015	2013	2016
Oman				2015		2016
Palestinian Territories	Montenegro and Patrinos, 2014			2015	2013	
Qatar			2011	2015		2016
Saudi Arabia				2015		2016
Somalia				2015		2016

Table Two: Availability of data from Arab states (Cont.)

Country	RoR Source (simple earnings function)	RoR Source (extended earnings function)	PISA Math Score	% of GDP from natural resources	Religiosity Index Score	Corruption Index Score
Sudan	Rizk, 2016	Barouni & Broecke, 2014		2015		2016
Syria	Montenegro and Patrinos, 2014	Montenegro and Patrinos, 2014				2016
Tunisia	Rizk, 2016	Montenegro and Patrinos, 2014	2001	2015	2013	2016
United Arab Emirates			2015	2015		2016
Yemen	Montenegro and Patrinos, 2014		2015		2016	

There is one notable methodological concern in using non-Arab countries within the analysis. Arab states have high levels of religiosity, corruption, inequality and natural resource reliance. They also have poorly performing schools and low returns to education. Therefore, including non-Arab countries alongside Arab states within a regression increases the likelihood of detecting spurious relationships. Illustratively, a correlation between returns to education and corruption is likely to find a negative association simply because Arab states have high levels of corruption and low returns to education. Whether corruption is actually causing the low returns is questionable.

Using OLS estimates mitigates these concerns but does not dispel them altogether. As a sensitivity test (when sufficient data allows for it), I perform a separate analysis that considers the relationship between those characteristics and returns to education exclusively in Arab states. For that portion of the analysis, simple Mincerian estimates are derived from Tzannatos et al. (2016),who estimate the rate of return to education for all 22 Arab countries using recent

Gallup data. Note that their estimates cannot be used within the global analysis, as they estimate returns for men and women separately whereas Montenegro and Patrinos' (2014) derive a single simple earnings function estimate for each country.

Unfortunately, no earnings function estimates, no matter how well specified, are precise or causal. After all, the decision to procure additional education is not by chance, but associated with a number of factors that affect earnings, including conscientiousness, intelligence, and perhaps most importantly, socioeconomic background. Moreover, the degree of bias will invariably change depending on national context. To illustrate this point, consider a country that provides free, highly accessible college education compared to a country in which tertiary education is generally reserved for the wealthy or the family of political elites. In the former, socioeconomic background will appear in the error term in some capacity, as familial networks surely influence the decision to enroll in college and labor market outcomes. In the latter, however, the bias might be orders of magnitude larger. In such contexts, returns to education could be significantly overestimated.

The possibility of differences in the degree of bias across countries casts some doubt over whether private returns to education in the Arab World are in fact low, as it is possible that the low estimates reflect differences in educational access rather than differences in returns. However, there is good reason to trust that returns are low. For one, anecdotal and empirical evidence overwhelmingly indicates that highly educated individuals in the region are plagued by unemployment and underemployment. Indeed, college graduates in Egypt are just as likely to be unemployed as those who have not completed elementary school (Kashef, 2014). Discontent among college-educated Egyptians is so acute that Egyptian protestors burnt their

MBAs and PhDs in front of the Egyptian Ministry of Higher Education (Habibi & El-Hamidi, 2016). Moreover, access and attainment in the Arab World are roughly equivalent to access and attainment in other developing nations. Barro and Lee estimate that in 1995, 64% of Arab World inhabitants had received any formal education compared to 61.7% from all developing countries and that average educational attainment in the Arab World was 4.98 years whereas all developing nations had an average of 4.79 years. Though it remains possible that those who access education are different in the Arab World from the rest of the developing world, that the Arab World looks like the rest of the developing world in terms of overall educational procurement offers some indication that estimated differences in returns are not primarily driven by differences in access to education. Finally, research indicates that more sophisticated techniques to model returns to education (e.g. regression discontinuity designs) produce similar estimates to Mincerian models (Lemieux, 2003). In summation, there is good reason to believe that returns to education in the Arab World are in fact low.

Subgroup Effects

Estimates of returns to education reflect national averages. However, they could vary significantly by subgroup. Indeed, returns to education in the Arab World appear to be at least 3 percentage points higher for women than for men (Montenegro & Patrinos, 2014). The region's traditional gender roles plausibly explain this phenomenon (Ahad & Tzannatos, 2016)); women who do pursue education face significant cultural barriers and therefore tend to be of high ability or motivation. Moreover, most of the region's students are segregated by gender during their teens, and females appear to have access to higher quality teachers (Ripley, 2017).

Unfortunately, data limitations restrict this analysis to considering unique returns for men and women only. Thinking critically, however, there are other subgroups for whom returns might be appreciably different from the national average. Alawites in Syria, for example, receive preferential treatment for government and security jobs (Oweis, 2011). Meanwhile, the millions of Palestinians residing in Jordan and Lebanon face systemic prejudice that might limit their ability to leverage education or skill into higher earnings (Toameh, 2012; Monahan, 2015). Religious minorities in other countries are similarly afflicted. Shia Muslims in Saudi Arabia and Christian Copts in Egypt are denied access to certain careers and face little prospect of promotion (Clarkson, 2014; (International Labour Office, n.d.), a reality which almost certainly suppresses returns to education.

Discussion

Hypothesis #1: Religious orthodoxy suppresses returns to education

One plausible explanation for the region's low returns that has not been explored in the literature is religious (ie Islamic) orthodoxy. Weber (1930) famously posits that faith traditions ascribe different values to material wealth and industry. If Islamic religious texts assign low priority to or repudiate commercialism, then stricter religious observance might compel citizens and governments to favor education systems that deprioritize human capital accumulation. More recently, Van Hoorn (2016) uses an epidemiological approach to study cultural factors explaining the accumulation of human capital and found compelling evidence that culture affects an individuals' propensity toward human capital accumulation. Political scientist Samuel Huntington (1993) famously argues that Islam itself is a culture, "defined by both common

objective elements, such as language, history, religion, customs, institutions, and by the subjective-self-identification of people." (p. 23) Practicing Muslims who avow the importance of Ummah, or religious community, (al-Ahsan, 1986), may not disagree. However, even if Islam is not a culture, it is not farfetched to believe that Islamic faith could influence attitudes towards human capital. After all, Islam is an all-encompassing faith that prescribes individual, economic, cultural, and moral conventions.

Islamic theology and practices do potentially help to explain the region's low returns. Chapra (1992) noted:

> "Islam envisages an economic system fundamentally different from the prevailing systems. It has its roots in the Shari'ah (Islamic teachings) from which it derives its worldview as well as its goals and strategy. The goals of Islam (maqasid alShari'ah), unlike those of the predominantly secularist systems of the present-day world, are not primarily materialist. They are rather based on its own concepts of human well-being (falah) and good life hayat tayyibah) which give utmost importance to brotherhood and socio-economic justice and require a balanced satisfaction of both the material and the spiritual needs of all human beings." (p. 6)

This worldview could limit returns to education in several ways. If material wealth is in fact less important within Islamic societies and Muslims abide by the Quranic belief that "resources are for the benefit of all and not just a few" (Qur'an, 2: 29) then perhaps individuals are simply less inclined to maximize educational returns. Going further, Islamic societies may conceive of education differently. According to Daun and Arjmand (2002), "education is a twofold process dealing with the acquisition of external knowledge that improves the faith, and the internal realization of intrinsic meaning…a way of approaching the absolute values represented by G-d" (p. 214)

If the conception of education is in fact different, then logically so too is its purpose. Certainly, the assumption that the chief reason to pursue additional education is to procure higher earnings might be a Protestant sensibility that does not hold true

across the globe. Evidence regarding Arab attitudes toward education is mixed. Diwan and Tzannatos (2017) argue that the Arab World is no less materialistic than other regions. On the contrary, responses to the World Values Survey indicate that Arabs were 23 percentage points more likely than the global average to offer an economic motivation to education rather than a holistic one, "as if educated Arabs perceive education as a ticket to the 'good life.'" (p. 8) Conversely, Daun and Arjmand (2002) offer strong evidence of different educational motives in relaying that the "goals of post elementary education (in the Arab World) are to create experts in, first and foremost, Muslim law, the Islamic religion and Arabic language." (p. 214) Whereas Western educational systems focus on maximizing individual earnings and macroeconomic growth, the purpose of education systems in at least some Islamic countries appears to be altogether different, such that each additional year of school might be conceived of as an accumulation of spirituality rather than human capital.

Table Three: Percent of school instructional time allocated toward subjects

Country	Koran and Islamic Studies	Arabic	Foreign Languages	Math	Science
		Grades 1-2			
Oman	20	36	0	17	7
Yemen	28	31	0	17	10
Egypt	11	36	0	22	7
Morocco	18	50	0	20	4
Lebanon	0	26	26	16	6

Table Three: Percent of school instructional time allocated toward subjects (Cont.)

Saudi Arabia	50	-	-	-	-
		Grades 3-4			
Oman	18	27	0	17	10
Yemen	28	31	0	17	17
Egypt	10	31	0	20	20
Morocco	14	25	36	15	15
Lebanon	0	27	27	17	17
		Grades 5-6			
Oman	17	20	0	17	10
Yemen	27	30	0	17	10
Egypt	8	23	0	15	10
Morocco	15	25	38	16	4
Lebanon	0	25	28	18	11
Saudi Arabia	31	30	0	-	-

Source: Daun and Arjmand (2002)

Note that the teaching of Islamic theology comes at the expense of topics that would have a greater impact on human capital accumulation, including math, science, and foreign language. Consequently, the differences in the purpose of education notwithstanding, it is likely that the time spent on religious topics within schools is having a direct and negative effect on the accumulation of human capital, and therefore on returns to education. In short, it is plausible that Arab students demand education as "a ticket to the good life" but that Arab governments have a different vision.

Empirically testing the relationship between returns to education and Islamic orthodoxy requires the operationalization of the latter. To do this, I create an index composed of three

questions that were included in a Pew 2013 survey, which asked Muslim respondents across several nations whether they believe that Sharia is the revealed word of God, whether they are in favor of making Sharia the law of the land, and whether the support stoning as punishment for adultery. For each country, I add the percentage of respondents who answer affirmatively to these questions to generate an index score.

To analyze the relationship between religiosity and returns to education I begin with the simple model:

$$\text{Returns}_c = \beta_0 + \beta_1 religiosity_c + \beta_2 GDP + \varepsilon_i$$

Where returns are simple earnings function estimates from the Montenegro and Patrinos (2014) study, religiosity is the index score and GDP is the country's per capita gross domestic product. I control for GDP in all models to allow for sensible "apples-to-apples comparison." This simple model indicates that a one standard deviation increase on the religiosity index is associated with a .045 standard deviation decrease in returns (appendix 1A). The direction of the relationship is consistent with my hypothesis, though with only 18 observations it fails to meet the threshold of statistical significance.

A model that only controls for GDP per capita is surely under-specified. Consequently, for all hypotheses I also posit a more robust model that controls for the other economic characteristics tested within this analysis, formally,

$$\text{Returns}_c = \beta_0 + \beta_1 religiosity_c + \beta_2 GDP + \beta_3 PISA\_Math_c + \beta_4 Corruption + \beta_5 resources_c + inequality + \varepsilon_i$$

Whereby PISA math is the country's average 2015 math PISA score for 15-year-olds, resources denotes the percent of the country's GDP that comes from natural resources, and inequality is

their Gini coefficient[7], a statistical measure of income inequality values ranging from 0 (perfect income equality) to 100 (perfect income inequality). The more sophisticated model flips the relationship between returns and religiosity, as a one standard deviation increase in Islamic orthodoxy is associated with a .401 standard deviation increase in returns. With only 13 observations, it fails to meet the threshold of statistical significance. In short, it is difficult to make much sense of the association between religiosity and returns to education when the latter are simple earnings function estimates.

Using the extended earnings function tells a more nuanced story. For the pared down model, a one standard deviation increase in religiosity is associated with a -.188 standard deviation decrease in returns to primary education, which is not statistically significant. Meanwhile, the more sophisticated model estimates that a one standard deviation increase in Islamic orthodoxy is associated with a -.610 decrease in returns to primary education, which is both practically and statistically significant at the 90% confidence level (appendix 1B). On the other hand, the association between secondary and tertiary returns to education and religiosity is positive (though not statistically significant) for both variations of the model (appendix 1C & 1D).

Table three might help explain this phenomenon. Students at the primary level spend comparatively more time studying Islam and Arabic, which largely focuses on texts from the Quran and Hadith rather than modern language skills (Faour, 2012). This comes at the expense

[7] Note that I do not hypothesize inequality as a root cause of low returns in the Arab World. However, the Gini Coefficient is a good proxy for disparities in access, perhaps the largest potential source of endogeneity. Tertiary returns and Gini Coefficients are moderately correlated (r=.542) and a cursory cross-referencing of both lists indicates that the countries with the greatest inequality (predominantly in sub-Saharan) Africa have the highest returns.

of subjects that are more meaningful for human capital accumulation, such as math and science. Religious orientation at the primary level is particularly salient in religiously observant countries; conservative Saudi Arabia allocates 50% of primary education toward Islamic studies while comparatively liberal Lebanon allocates none. Though a low number of observations make it difficult to draw strong inference (an issue compounded by the fact that the low number of observations preclude analysis limited to the Arab World), these results offer cautious evidence that religiosity does not affect individual attitudes toward leveraging human capital. However, it may suppress primary returns to education because of how it influences curriculum.

Hypothesis #2: The region's endemically poor-performing schools limit returns to education.

The notion that educational quality might affect returns to education is not a novel concept. Card and Kreuger (1992) posit the notion in some of their seminal work, and Heckman, Layne-Farrar and Todd (1995) uncover compelling evidence of a relationship between school quality and returns to education. While there is not a consensus (see: Hanushek, 1986), it is theoretically and practically sensible that a lower-quality education might limit returns. After all, it is not years of educational attainment that capture human capital accumulation, but the skills and knowledge that were imparted in those years. If less human capital occurs within Arab schools, then insofar as there is a relationship between human capital and earnings, the returns from Arab schools will be lower.

There is no doubt that Arab educational systems are failing. A look at the Trends in International Mathematics and Science Study (TIMMS) clearly illustrates the issue: Of the ten-

lowest performing countries in 4th grade mathematics, only Iran is not in the Arab World. Results from PISA are not much better. More startling is that high-income economies including Kuwait, Bahrain, Saudi Arabia, and the United Arab Emirates are among those low performers, indicating that the issue is not one of overall development.

Beyond the time allotted to religious studies, there are several plausible explanations for poor performance. Daun and Arjmand note that the two defining characteristics of the region's education systems are religiosity and centralization. The latter may explain poor educational outcomes as much as the former. Students and administrators, it would seem, are limited in their ability to tailor an education toward the needs of students. At the classroom level, teachers are failing to teach the skills or critical thinking that a globalized economy demands. Rote memorization remains a common teaching technique and passive student performance is the norm (Rindermannet al, 2014). The dean of an internationally recognized Saudi Arabian University corroborated that professors generally need about two years to expunge their students of a superficial learning mindset (Rinderman et al., 2014).

The poor quality of education not only manifests itself on international standardized tests, but on other measurable later-in-life outcomes. Psychometric intelligence tests indicate that the regional average IQ score is about 83, firmly in the "low average" range according to Woodcock Johnson parameters (Rinderman et al., 2014). The problem of poor education is so acute that some Egyptian employers have articulated a preference for hiring young, non-diploma holders who have not gone through the technical secondary system (which has a well-known reputation for poor quality), preferring to train them themselves (Moreno,2012). The poor perception of the system underscores one way in which a low-quality education might

affect returns to education. Whereas educational credentials generally hold a strong and positive signaling value in the West (the GED being a notable exception), the quality of Arab education is so poor as to sometimes hold neutral or even negative signaling value, thereby depressing returns (Moreno, 2012).

To test the relationship between educational quality and returns to education, I begin with the simple model:

$$\text{Returns}_c = \beta_0 + \beta_1 PISA\_Math_c + \beta_2 GDP + \varepsilon_i$$

I have selected math scores to operationalize quality because of the common supposition that STEM learning has a larger impact on labor market outcomes than other core subjects, such as reading. PISA results are preferable to TIMMS results because more countries take the latter within a given year.

Simple earnings function estimates indicate that there is a positive association between PISA math scores and returns to education. The pared down model estimates that a one standard deviation increase in math scores is associated with a .416 standard deviation increase in returns to education when holding GDP constant while the more sophisticated model bumps that estimate to .424 standard deviations, all else equal. The former is statistically significant at the 99% confidence level and the latter at the 90% confidence level.

Unfortunately, extended earnings function estimates do not help to elucidate the story. Rather, they obfuscate it. A one standard deviation increase in math scores is associated with a -.122 (pared down model) or -.416 (sophisticated model) standard deviation decrease in returns, all else equal. Meanwhile, increases at the secondary model are associated with

modest increases in returns while the direction of the relationship vis-à-vis tertiary returns is sensitive to model specification. None of the results are statistically significant.

It is not clear that the quality of K-12 education should affect tertiary returns, so I direct my attention to the primary and secondary level. Still, it remains a complicated story. There is some indication of a positive relationship at the secondary level, but the direction flips and the magnitude of the estimated effect is larger at the primary level. Logically, one expects a positive relationship at both levels, especially given that the simple earnings function indicates a large, statistically significant effect. Overall, the relationship between K-12 quality and returns to education in the Arab World remains classified as "plausible".

Hypothesis #3: The region's reliance on natural resource exports limits returns to education.

It is not immediately intuitive that natural resource exports might negatively affect returns to education. After all, Persian Gulf states have enjoyed staggering macroeconomic growth over the past half-century almost entirely because of petroleum exports, and it might be expected that this macroeconomic growth would lead to stronger education systems, begetting higher returns to education. However, a glance at international standardized test scores offers no such evidence: Wealthy Arab countries appear to perform no better than their poor neighbors.

This may not be a coincidence. It is commonly posited that rentier states- those which derive a large portion of their revenue from the rent of natural resources to external clients- suffer from a democracy deficit (Gray, 2011; Kuru, , 2014). This deficit is caused by external rents enabling governments to self-fund government operations and placate the population

with generous social welfare programs, or even lump sum cash transfers (Araji & Mohtadi, 2014). Consequently, the normal linkages of social contract theory are broken, and governments are less accountable to citizens.

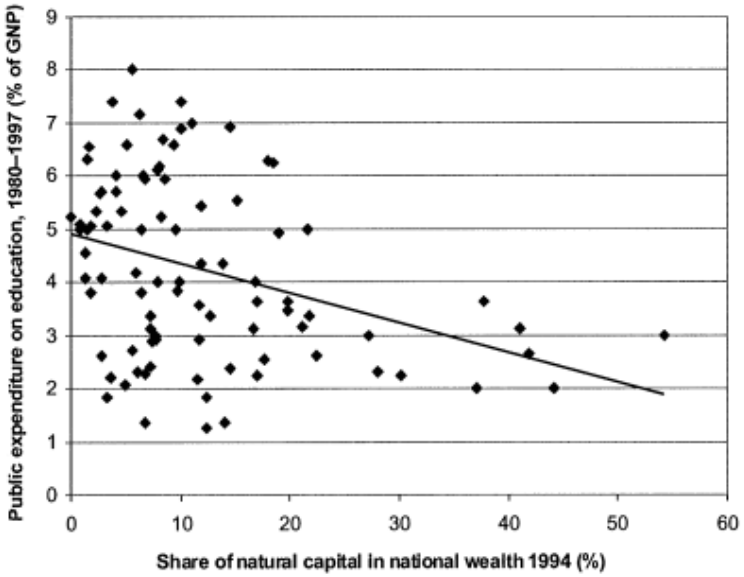

Figure 2: Public expenditure on education and natural resource abundance. Reprinted from Gylfason, 2001, p. 849.

If it is in fact true that rentierism restricts democratic growth, then it might similarly restrict oil-funded Arab regimes from providing a quality education for two reasons. First, if the government can self-fund operations through an external rent, then the functions of the government and personal prosperity of heads of state (who are often dynastic leaders) do not rely upon the creation of a middle class possessing strong human capital stock. In short, self-interested motivation on the part of Arab governments is lacking, and benevolence should not be assumed for regimes that rank among the world's worst offenders of human rights. Going further, there may in fact be a disincentive to promote the growth of a knowledgeable, modern middle class. Indeed, education is associated with political participation, and some

(Campante & Chor, 2012) have even suggested that increases in educational attainment across the Arab World contributed to the Arab Spring. If educational quality is similarly related to political participation, then deliberately poor education might be a regime survival strategy.

Rentierism can affect returns to education through another mechanism. Dutch Disease is the phenomenon in which resource booms result in currency appreciation, rendering other exports less competitive on the global market. If those involved in the production and export of other goods experience stagnation or decline in their wages, then that could arithmetically lower returns to education, especially if the individuals involved in the production and export of those goods have above-average levels of education.

Finally, low returns might be explained in part by the fact that while rent-seeking behavior can augment national coffers, it creates a relatively limited number of jobs (Karl, T. 2007), many of which are occupied by foreigners (Lindsey, 2010). Whereas a country that develops more organically might expect the well-educated to be the greatest beneficiaries of growth, that is less clear in rentier states.

To test the relationship between educational quality and returns to education, I begin with the simple earnings function model:

$$\text{Returns}_c = \beta_0 + \beta_1 resources_c + \beta_2 GDP + \varepsilon_i$$

Whereby resources is the total annual sum of rents from oil, natural gas, coal, minerals and forests in 2015 divided by 2015 GDP. This model estimates that a one standard deviation increase in natural resources as a share of economic output is associated with a -.122 decrease in returns when holding GDP constant. The estimated magnitude falls marginally to -.093 when

controlling for property rights, inequality, corruption, and school quality. It balloons to -.524 when controlling for religiosity, though none of the estimates are statistically significant.

These estimates are suggestive of an issue, and they become particularly compelling when restricted to the Arab World. The simple pared down earnings function estimates that a one standard deviation increase in natural resources as a share of economic output is associated with a -.538 standard deviation decrease in returns for men and a -.624 standard deviation decrease for women when holding GDP constant. Both estimates are statistically significant at the 95% confidence level.

Not surprisingly, Arab World estimates indicate that natural resource abundance is more detrimental to women. As table four highlights, the oil-rich GGC (Gulf Cooperation Council) region is the only sub region in which the rate of return to education is higher for men. This is plausibly explained by the region's conservative gender roles and prevailing attitudes toward women working in the historically male-dominant oil sector. In Saudi Arabia, for example, women are forbidden from working with petroleum derivatives (Arab News, 2016). Elsewhere, the relatively few jobs that the industry creates disproportionately go to men who, on average, possess lower academic credentials (Young, 2016).

Table 4: Rates of return by gender and share of GDP from natural resources

Country	Rate of return (men)	Rate of return (women)	Natural resources as share of GDP
		GCC	
Saudi Arabia	2.0%	1.0%	23.4%
Kuwait	2.0%	3.0%	39.1%
UAE	3.0%	5.0%	12.0%
Qatar	5.0%	5.0%	11.3%
Bahrain	8.0%	7.0%	5.0%
Oman	9.0%	5.0%	23.0%
GCC	4.8%	4.4%	-
		Middle East	
Syria	1.0%	0.0%	-
Iraq	3.0%	3.0%	28.6%
Palestine	4.0%	7.0%	0.0%
Yemen	5.0%	6.0%	2.3%
Jordan	6.0%	7.0%	1.2%
Lebanon	7.0%	7.0%	0.0%
Middle East	4.2%	5.1%	-
		North Africa	
Algeria	4.0%	5.0%	12.0%
Tunisia	5.0%	5.0%	3.0%
Egypt	5.0%	7.0%	3.9%
Libya	5.0%	7.0%	-
Morocco	10.0%	13.0%	2.6%
North Africa	5.9%	7.3%	-
		Other	
Comoros	5.0%	7.0%	4.6%
Mauritania	5.0%	5.0%	-
Sudan	6.0%	7.0%	4.2%
Somalia	7.0%	6.0%	17.8%
Djibouti	9.0%	11.0%	0.9%
Other	6.3%	7.1%	-

Source: Tzannatos et al (2016)

Examining the country rankings vis-à-vis natural resource income offers some indication why the relationship between natural resources and returns to education might be particularly acute in the Arab World. The top of the list features wealthy Arab countries (e.g. Kuwait, Iraq, and Saudi Arabia) and Sub-Saharan African countries (DR Congo, Togo, Guinea) that are among the poorest in the world. While those Arab states have the wealth to offer generous social

welfare programs and can self-fund government operations (in the case of Saudi Arabia and Kuwait), those African states retain a vested interest in human capital growth and middle class expansion.

Extended earning function estimates more-or-less approximate what one might expect to see. The relationship between resources and returns is positive at the primary level, mixed (i.e. sensitive to model specification) at the secondary level, and negative at the tertiary level. While it is difficult to make sense of a positive relationship at the primary level, it makes sense that the effect becomes more pronounced with additional years of education, as it will disproportionately affect secondary and postsecondary graduates aspiring to become members of the middle class.

Hypothesis #4: Corruption, nepotism, and non-meritocratic government policy (ie rule of law, or lack thereof) reduce returns to education.

While the region has generally shifted toward economic liberalization in recent decades, "reforms have not, on the whole, loosened central control over people's careers. The only change was that under socialist-leaning systems, this control was exercised by governmental agencies, while in the recent systems it is exercised by 'private' companies run by the ruling regimes." (Ammous & Phelps, 2011) To be sure, there remain vestiges and sensibilities from a socialist past that may continue to harm the ability of individuals to leverage human capital. As Henley and Ereisha (1987) demonstrate, stifling bureaucracy is clearly visible within the Egyptian textile industry. Although it has been an ostensibly free-market enterprise since Sadat's 1974 "open door policy," it persists with hiring and promotion practices that are not

meritocratic, and do not reward skill. These types of practices may help to explain why the Arab World has the region's highest skilled emigration rate (Kawar & Tzannatos, 2013).

Similarly, the failure of Arab states to embrace basic democratic norms, particularly respect for property rights, might also decrease returns to education. This hypothesis has a theoretical underpinning that dates back to Adam Smith, who wrote that "Commerce and manufactures can seldom flourish long in any state which does not enjoy a regular administration of justice, in which the people do not feel themselves secure in the possession of their property, in which the faith of contracts is not supported by law" (Irwin, 2014, p. 11) Simply put, individuals might be less inclined to procure and leverage human capital if they are not assured of the fruits of their labor.

Yet another feature of Arab World political economy that might diminish returns to education is widespread corruption, defined by Transparency International (2017) as "the abuse of entrusted power for private gain." Whereas unmeritocratic systems of promotion might limit the abilities of individuals already situated within an industry to leverage human capital into promotion or higher earnings and whereas poor property rights might disincentivize the leveraging of human capital, nepotic hiring practices may altogether prevent highly-educated individuals from finding a suitable job. Moreno's (2012) corroboration of a young Moroccan man that opined "If they don't know you or your family, they will never trust you with a job", accurately captures the plight of the region's legions of unemployed college-educated adults. Startlingly, the problem is so severe that in several Arab states the percentage of individuals claiming that "jobs are only given to connected people" surpasses the number

who claim that “there are no good jobs available” when asked to identify constraints to getting a job (Moreno, 2012).

To test these hypotheses I use national property rights scores provided by the Heritage Foundation’s Index of Economic Freedom, which is derived from a mix of survey data and independent assessments providing a measure of the degree to which a country’s laws protect private property. I also use corruption scores (measured by perceived levels of corruption, as determined by “expert assessments” and opinion surveys) provided by Transparency International.

The simple earnings function uncovers mixed evidence for a relationship between returns to education and property rights and corruption. Both have a large, positive, statistically significant relationship with returns when holding GDP constant (.362 SD increase in returns for one SD improvement in property rights and .544 SD increase in returns for one SD improvement in corruption score) but are sensitive to model specification. Limiting the sample to the Arab World leaves the relationship intact for corruption but casts doubt over the importance of property rights. That finding dovetails well with Diwan and Tzannatos’ (2017) supposition that Arabs are in fact highly materialistic. In short, poor property rights are not enough to deter them from attempting to leverage education as a “ticket to the good life,” but corruption poses a serious obstacle to punching the ticket.

Conclusion

I have offered some preliminary evidence of how characteristics of Arab World political economy explain the region’s endemically low returns to education. If the reasons posited here are believed to matter, then it becomes easy to make sense of why returns are so low. After all,

surely these factors do not reduce returns in a vacuum, but interact with and compound one another as to make the region's returns approximately half of the international average (Montenegro and Patrinos, 2014).

While the descriptive nature of this work does not allow for much in the way of specific policy prescriptions, this research does indicate that returns to education could be improved through political democratization, economic diversification, strengthened rule of law, and improved educational outcomes. The stakes, of course, are high. Former Dubai Emir Sheikh Rashid bin Saeed Al Maktoum's foretold that "My grandfather rode a Camel, my father rode a Camel, I drive a Mercedes, my son drives a Land Rover, his son will drive a Land Rover, but his son will ride a Camel." (Fosu,2013, p. 492) Pending reforms that reward bright and capable entrepreneurs and stem the flow of their emigration, his prophecy looms large.

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Appendix

1A.

Standardized coefficients of global returns to an additional year of education

	I	II	III	IV	V	VI	VII	VIII	IX
GDP per capita	.740 (.87)	-.188 (-.74)	-.033 (-.39)	-.077 (-.87)	-.300** (-2.45)	.158* (1.67)	-.442*** (-3.54)	.301 (1.16)	-.187 (-1.28)
Natural resources as % of GDP	-.524 (-.90)	-.093 (-.66)	-	-.122 (-1.39)	-	-	-	-	-
Property rights	.457 (.61)	-.002 (-.01)	-	-	.362*** (2.96)	-	-	-	-
Gini Coefficient	.079 (.12)	.510*** (3.44)	-	-	-	.369*** (3.92)	-	-	-
Corruption index	-.816 (-.85)	.240 (.89)	-	-	-	-	.544*** (4.36)	-	-
Islamic orthodoxy	.401 (.90)	-	-	-	-	-	-	-.045 (-.17)	-
PISA math score	-	.424* (1.99)	-	-	-	-	-		.416*** (2.85)
Observations	13	56	140	133	137	123	135	18	60

Note: t-ratios in parentheses
*p < .10, **p < .05, ***p < .01.

1B.

Standardized coefficients of global returns to primary education

	I	II	III	IV	V	VI	VII	VIII	IX
GDP per capita	-.632 (-1.13)	.345 (.53)	-.261** (-2.45)	-.240** (-2.01)	-.198 (-1.34)	--.284** (-2.51)	-.387** (-2.44)	-.025 (-.08)	-.091 (-.21)
Natural resources as % of GDP	.631 (1.76)	.113 (.39)	-	.046 (.40)	-	-	-	-	-
Property rights	.350 (.62)	.379 (1.04)	-	-	-.081 (-.55)	-	-	-	-
Gini Coefficient	.248 (.52)	-.441 (-1.45)	-	-	-	-.038 (-.34)	-	-	-
Corruption index	.161 (.32)	-.587 (-1.56)	-	-	-	-	-.184 (1.16)		
Islamic orthodoxy	-.610* (-1.99)	-	-	-	-	-	-	-.188 (-.64)	-
PISA math score	-	-.416 (-.71)	-	-	-	-	-	-	-.122 (-.28)
Observations	13	21	84	79	82	75	81	16	22

Note: t-ratios in parentheses
*p < .10, **p < .05, ***p < .01.

1C.

Standardized coefficients of global returns to secondary education

	I	II	III	IV	V	VI	VII	VIII	IX
GDP per capita	.622 (1.24)	-.039 (-.08)	-.043 (-.43)	-.007 (-.07)	-.072 (-.45)	-.022 (-.20)	-.368** (-2.05)	.442 (1.73)	.096 (.33)
Natural resources as % of GDP	-.400 (-1.24)	.246 (1.10)	-	.171 (1.60)	-	-	-	-	-
Property rights	-.227 (-.45)	-.003 (-.01)	-	-	.027 (.17)	-	-	-	-
Gini Coefficient	.753 (1.75)	.089 (.38)	-	-	-	.162 (1.49)	-	-	-
Corruption index	-.413 (-.91)	.116 (.29)	-	-	-	-	.384** (2.14)	-	-
Islamic Orthodoxy	.328 (1.18)	-	-	-	-	-	-	.228 (.90)	-
PISA math score	-	.269 (.79)	-	-	-	-	-	-	.155 (.53)
Observations	13	31	93	96	100	92	98	16	33

Note: t-ratios in parentheses
*p < .10, **p < .05, ***p < .01.

1D.

Standardized coefficients of global returns to tertiary education

	I	II	III	IV	V	VI	VII	VIII	IX
GDP per capita	.405 (.81)	-.201 (-.82)	-.287 (-3.32)	-.334*** (-3.52)	-.447*** (-3.10)	-.108 (-1.25)	-.486*** (-2.94)	.191 (.71)	-.096 (-.47)
Natural resources as % of GDP	-.509 (-1.59)	-.65 (-.50)	-	-.041 (-.43)	-	-	-	-	-
Property rights	.307 (.61)	-.021 (-.09)	-	-	.186 (1.29)	-	-	-	-
Gini Coefficient	.758 (1.78)	.644*** (4.51)	-	-	-	.499*** (5.79)	-	-	-
Corruption index	-.951* (-2.12)	.165 (.68)	-	-	-	-	.226 (1.36)	-	-
Islamic Orthodoxy	.301 (1.10)	-	-	-	-	-	-	.113 (.42)	-
PISA math score	-	.048 (.25)	-	-	-	-	-	-	-.173 (-.85)
Observations	13	53	125	119	123	115	121	17	56

Note: t-ratios in parentheses
*p < .10, **p < .05, ***p < .01.

2A.

Standardized coefficients of Arab World returns to an additional year of education

	I	II	III	IV	V	VI
GDP per capita	-1.396 (-.89)	-.212 (-.81)	-.070 (-.22)	-.013 (-.04)	.122 (.27)	-.695* (-2.12)
Natural resources as % of GDP	.696 (.85)	-	-.357 (-1.14)	-	-	-
Property rights	-.904 (-2.36)	-	-	-.382 (-1.13)	-	-
Gini Coefficient	-.367 (-.62)	-	-	-	.219 (.48)	-
Corruption index	1.587 (1.54)	-	-	-	-	.660* (2.02)
Observations	7	16	14	15	8	15

Note: t-ratios in parentheses
*p < .10, **p < .05, ***p < .01.

2B.

Standardized coefficients of Arab World returns to an additional year of education (men only)

	I	II	III	IV	V	VI
GDP Per Capita	-.950 (-.53)	-.330 (-1.44)	-.228 (-1.02)	-.390 (-1.15)	-.890** (-2.73)	-.685* (-2.04)
Natural resources as % of GDP	.008 (.01)	-	-.538** (-2.40)	-	-	-
Property rights	-.244 (-.42)	-	-	.070 (.21)	-	-
Gini Index	.478 (.93)	-	-	-	.565 (1.73)	-
Corruption index	.321 (.50)	-	-	-	-	.469 (1.40)
Observations	8	19	17	18	9	18

Note: t-ratios in parentheses
*p < .10, **p < .05, ***p < .01.

2C.

Standardized coefficients of Arab World returns to an additional year of education (women only)

	I	II	III	IV	V	VI
GDP Per Capita	-.629 (-.32)	-.284 (-1.22)	-.148 (-.68)	-.214 (-.62)	-.845** (-2.45)	-.626* (-1.82)
Natural resources as % of GDP	-.190 (-.11)	-	-.624** (-2.89)	-	-	-
Property rights	-.291 (-.46)	-	-	-.090 (-.26)	-	-
Gini Index	.308 (.54)	-	-	-	.370 (1.08)	-
Corruption index	.250 (.36)	-	-	-	-	1.39 (.476)
Observations	8	19	17	18	9	18

Note: t-ratios in parentheses
*p < .10, **p < .05, ***p < .01.

Chapter Three

Haredi education in Israel: Fiscal solutions and practical challenges

Abstract

With a fertility rate that nearly triples the national average and increased political power that accompanies demographic growth, Haredi (ultra-Orthodox) Jews in Israel are becoming an increasingly important piece of the country's diverse national mosaic. Their growth raises economic concerns: Haredi women earn low wages, while most Haredi men do not work (The Economist, 2015). Meanwhile, like all Israeli citizens, Haredim receive expensive government services, including funding for ultra-Orthodox schools.

Haredi schools focus on religious instruction at the expense of core subjects, and comprise a barrier to economic and social integration. Whether other Israelis should be responsible for financing an education that provides limited positive externalities is debatable. More importantly, Haredi population growth and attitudes toward work and education might jeopardize Israel's long-term economic outlook (OECD, 2018). Potential policy solutions include decentralization of government services, including education, or financial incentives for curricular modernization.

Israel's Growing Tent

When Theodor Herzl laid out his vision for the global Jewish diaspora to return to the land of Zion, he was equivocal about the state's secular nature. His model state was to be built and inhabited by the "New Jew…that would serve as a corrective to the image of the Diaspora Jew as weak, timid and afraid. The new Zionist Jew would be strong, confident and effective." (Firestone, 2012). Consequently, these Jews would shun the religious lifestyle which had failed

to protect the Jewish community from wanton violence and oppression in Europe. Whereas the old Jew studied Torah, the new Jew would study engineering. Instead of spending the day in prayer, the new Jew would spend the day working the land.

This imagery persisted among most Zionist organizations through the decades following Herzl's death. However, the Holocaust marked a notable turning point. For one, it fomented a paradigm shift within the European Orthodox community. Whereas many Orthodox Jews had previously eschewed or altogether opposed a political or diplomatic solution to what was supposed to be a divine affair, the atrocities of the Holocaust compelled European Jewry to coalesce around the notion of Jewish self-determination (Swirski, Konor & Yecheskel, 1998).

The Zionist Movement was from then on a larger tent that would have to accommodate the aspirations of the old Jew. Moreover, those who favored the new Jew model were wary about impeding the rights or desires of observant coreligionists in the wake of the greatest calamity to ever befall the Jewish people. "After the Holocaust, out of guilt and nostalgia, along with a sense of moral obligation, Ben-Gurion and his secular comrades understandably felt a need to indulge the surviving practitioners of the separatist Judaism that kept Diaspora Jews afloat for centuries." (Schoffman, 2011)

Although Israel does not have a formal constitution, the rights of observant Jews were largely codified by a 1947 status quo agreement that was intended to shore up broad support across the Yishuv in anticipation of independence (Stern, 2017). The letter guaranteed that certain state practices would be undertaken with deference to Jewish law, including assurances that religious school systems would receive educational autonomy. The agreements are traditionally upheld as binding.

The founders of the Israeli state made a political bargain for which they did not anticipate long-term consequences. On the contrary, they imagined that as the desert bloomed, so too would the orientation of Israeli Jews; the ultra Orthodox sector would fade away as the nation collectively spurned the lifestyle of the shtetl and embraced secular nationalism (Gordis, 2016).

Why Predictions Proved Wrong

Predictions proved wrong for several reasons. First, the status quo agreement was reached at a time when the Yishuv was primarily comprised of Jewish European refugees. In the proceeding decades, Israel underwent massive demographic changes as nearly 700,000 primarily Sephardi and Mizrahi Jews fled to Israel to escape persecution and violence from Arab and Muslim countries. Sephardi and Mizrahi Jews now collectively account for about half of the Jewish population in Israel (Israeli Central Bureau of Statistics, 2009). Herzl's vision of the secular Zionist state was a vision and an idea for which they were largely not a party to and heeded no sense of obligation (Gordis, 2016).

Perhaps equally importantly, Ben Gurion may have underestimated the insularity of Haredi Jews. In Israel, as elsewhere, Haredi Jews exhibit strong patterns of residential self-segregation (Alfasi, Ashery & Benenson, 2013). Within those segregated communities, they tend to handle affairs internally, including legal matters, law enforcement, and education (Katzir & Perry-Hazan, 2018). Their educational independence might be a particularly robust barrier to societal integration. Referring to their education as "'the flask of pure oil,' recalling the pure oil used to relight the menorah in the Temple after it was liberated during the

Hasmonean revolt," Haredi society uses schools to "bequeath unadulterated Haredi values to the next generation." (Rabinowitz, 2017)

Demographic Changes

The Haredi population hasn't simply endured: It has thrived. Largely thanks to a fertility rate which peaked at 7.5 children per family in 2005, the Haredi sector now accounts for 12 percent of the Israeli population. Despite a modest decline in fertility rate—it now stands at 6.9 children per family—population growth models predict that the Haredi sector will account for one third of Israeli citizens and forty percent of Israel's Jewish population by 2065 (Sharon, 2018). If demographics are destiny, then Israel must prepare for what President Rivlin called the "new Israeli order." (Stern, 2017)

Israeli Education: History and Organization

The Israeli state education law was signed in 1953. While it promised to uphold "the values of Jewish culture and scientific achievement, love of the homeland and loyalty to the State of Israel and the Jewish People," (Zameret, 1998) it was sparse on details. Rather than creating a cohesive, uniform educational system, it created four streams of education: Three for Jews (secular, religious, "ultra-orthodox" (Haredi) and one for native Arab speakers (Wolff & Breit, 2012). Secular schools, officially called public state schools, offer a curriculum that closely resembles other nations of the developed world with the notable exception of instruction in "bible study." The religious schools are somewhat similar, although they draw from a different population (namely, Modern Orthodox Jews) and devote more time to bible studies (Wolff & Breit, 2012). Arab school curriculum also largely resembles secular schools, with the notable exception that the primary language of instruction is Arabic.

Table One: Primary school enrollment by sector (%)

	2000	*2015*	*2020 (Projected)*
Secular	45.5	39	39.4
Religious	14.5	13.9	14.5
Haredi	15.4	22.2	23.5
Arab	24.6	24.9	22.6

Source: Wolff, 2017, p. 7.

Haredi schools are markedly different from the other streams. First, it is not a monolithic system, but four separate subsystems, including two operated under the auspices of predominantly Haredi political parties: Agudat Yisrael and Shas (Zameret, 1998; Rabinowitz, 2017). Second, Haredi schools enjoy curricular autonomy that empowers them to practice strict adherence to Jewish law and custom and rejection of modernity. Rather than learn core subjects such as math, English, and foreign language, Haredi boys spend a significant portion of the day in prayer and studying Torah. As a former member of the American Hasidic community explains

> Education isn't meant to line up a job; if it did, there wouldn't be so many college graduates in our greater society who are struggling, with college debt to boot. One thing I think the Hasidic education gets right is that it exists for the sake of learning itself (albeit religious learning), not a means to an end. Whereas my twelve-year-old in public school is told that all he does, from start to end, is to prepare him for the workforce, Hasidic kids don't make any connection between fifth grade Gemarah and a future job. Secular education has devolved into a myth of jobs as the reward for education, and some seem hellbent on imposing this myth on Hasidim. But Hasidim have myths of their own, and they're no better or worse. (Vizel, 2018)

Girls also receive religious instruction, but some of their day is spent studying more traditional subjects. Whereas Haredi men are expected to devote their lives to prayer, Haredi women

enroll in more traditional classes in preparation for becoming the primary bread-winner (Katzir & Perry-Hazan, 2018).

Haredi Education

Enrollment growth in the Haredi sector has largely mirrored broader demographic changes in Israeli society. Whereas 6% of Israeli primary school students attended an ultra-Orthodox school in the 1990s, 25% of Israeli primary students currently attend an ultra-Orthodox school. Haredi school secondary enrollment is appreciably lower at 10.7% mostly owing to the large number of Haredi children who do not continue a formal education past primary school (Wolff & Breit, 2012). There are indications that Haredi school enrollment is slowing, but further growth is anticipated into the foreseeable future (Grave-Lazi, 2016). Students are free to move between educational streams, but only about 2% of students move from one stream into another (Wolff & Breit, 2012).

An education that focuses on religion rather than core subjects likely puts individuals at immediate economic disadvantage. Rejection of secular education might be a particularly acute problem in Israel. “Military service in the Israel Defense Force (IDF) plays a major role in building intellectual discipline, emphasizing achievement, and encouraging creativity and risk-taking. After youth leave the army they are more mature and career-oriented, become more serious in furthering their education, and are perhaps better able to link the practical with the theoretical in their studies.” (Wolff & Breit, 2012, p. 5) Haredim, however, are exempted from conscription and overwhelmingly avoid military service, thereby rejecting a plausible alternative pathway to gainful employment.

As the Israeli economy continues to modernize, disparities in education will become even more salient. Though Haredi education has scarcely changed in recent decades, "the fact that Israel's economy has evolved in a direction requiring better education and greater skills has translated into a declining employment share among Haredi men who are increasingly being left behind. Over 80% of them were employed in 1979. By the last decade, this share fell to less than 40%." (Ben-David and Kimhi, 2017, p. 13)

There are some indications that Haredi attitudes toward work and education are shifting once again. Between 2009 and 2011, male Haredi participation in the labor market grew to 48% from below 40% (Wolff & Breit, 2012). Moreover, growth in enrollment in the Haredi sector slowed in recent years, likely because of Haredi families opting for a more secular education (Cahaner, Malach and Choshen, 2017). More Haredi students are taking matriculation exams; the number of girls taking the exams rose from 31% to 51% between 2005 and 2015. Most strikingly, Haredi enrollment in the higher education system grew more than ten-fold over the past decade (Cahaner, Malach & Choshen, 2017), a phenomenon that may reflect changing Haredi sensibilities about the merit of secular studies (Cohen, 2018) amidst government-imposed austerity measures (Rosenblum, 2012).

Recent trends in Haredi education are marked by divergence. Despite the dramatic increase in college enrollment, Haredi children receive, on average, less education than their parents (Taub Center Staff, 2015). Strikingly, the proportion of Haredi men ages 35-54 having no more than a primary school education rose from under one-third to nearly half between 2005-2015 (Taub Center Staff, 2015). The degree to which less education might suppress wages among the Haredim is unclear—that so little school instruction is devoted to topics that might

lead to gainful employment suggests the effect might be limited—but it is nonetheless a signal that shifting attitudes alone may not solve issues of low labor participation rates and low wages. Moreover, there is reason to believe that Haredim are responsive to economic incentives or disincentives and that policy changes can make a meaningful difference. As the Israel Democracy Institute (2017) reports, Haredi employment rates for men and women increased through the new millennium before stagnating in 2015 and 2016. "It would seem likely that the policies of the current government, which has reduced incentives to enter the workforce and increased support for full-time yeshiva students, have played a role in this slowdown."

Haredi School Funding

Haredi schools receive funding from several different sources. The Ministry of Education is the largest sponsor of Haredi schools, and allocations from that source are supposed to depend upon the percent of core curriculum subjects taught in the school. For example, schools in the Independent Education System as well as those affiliated with Ma'ayan Hahinuch Hatorani are expected to teach all core curriculum subjects and in return receive 100% of the per pupil funding provided to state schools. Moreover, per clause 3(c) of the State Education Law, "the basic program of a recognized institution will constitute 75 percent of the total hours of study in an official educational institution, but the minister is authorized to approve percentages different from these, on the condition that the students of the institution will attain, according to tests and examinations, the level of achievement that is customary in an official educational institution." (Shiffer, 1999) 57% of Haredi students are enrolled in such schools. Recognized but unofficial schools are expected to teach 75% of core curriculum

subjects in exchange for 75% of per pupil funding provided to state schools. 17% of Haredi students are enrolled in such schools. Exempt schools are mandated to teach 55% of core curriculum subjects for 55% of the per pupil funding provided to state schools. About one quarter of Haredi students are enrolled in exempt schools (OECD, 2018).

Schools within the independent stream—those affiliated with Agudath Israel and Shas--also receive support from the Ministry of Religious Affairs, whose support for the system is "ostensibly justified by the fact that they train rabbis, religious judges, and other religious functionaries." (Swirski, Konor & Yecheskel, 1998) That justification notwithstanding, it is unclear how those allocations are used.

> The ministry indeed employs an array of supervisors, but they are representatives of the different Haredi streams. It emerges from conversations with workers at the ministry that these supervisors are far from representing the Ministry of Education's stance toward the Haredi institutions; on the contrary, their main concern is to prevent, as far as possible, the ministry's interference in the workings of "their" system. Not infrequently, disputes arise between supervisors and other officials in the ministry, and sometimes the political leaders of the Haredi sector are even called in to prevent, for example, enforcement of standards in the area of teacher training. (Shiffer, 1999)

As Swirski et al. (1998) note, "it is reasonable to surmise that at least some of the monies are used to cover costs that are not necessarily educational."

The budgeting process is not formulaic and rigid but discursive and political. Rather than schools receiving what they "need," they receive whatever money ultra-Orthodox parties can secure in the Knesset (Swirski, Konor & Yecheskel, 1998). Money is then doled out to schools on a per-capita basis. Information on the Haredi education sector is scarce (Wolff & Breit, 2012) and there is little to no data available regarding financing, graduation rates, and demographics (Ben-David and Kimhi, 2017). Opaqueness appears to be by design: Data could be leveraged as

the casus belli for those seeking reform either in budgetary allocations or curriculum (Shiffer, 1999).

The discursive budgetary process coupled with increasing Haredi political power have enabled allocations to the Haredi sector to grow quickly. Between 1980 and 1998, Ministry of Religious Affairs allocations for ultra-Orthodox schools and yeshivas increased by more than 600%. Meanwhile, in the same period appropriations from the Ministry of Education increased by 111% for schools affiliated with Agudath Israel and by 305% for schools affiliated with the Shas school network (Swirski, Konor & Yecheskel, 1998).

Note that other education streams often supplement central government appropriations. Municipalities provide about 6.8% of total education funding, though that number might be appreciably higher in wealthier areas such as Tel Aviv. Meanwhile, private funds (ie households, individuals, and non-profits) account for 22.2% of total educational expenditures (Wolff & Breit, 2012). As Haredi municipalities are, on average, significantly poorer than other Jewish municipalities, they tend to provide little in the way of additional funding.

Policy Challenges

The Haredi lifestyle and education system poses significant challenges to the Israeli state. On one hand, Ben-Gurion allowed rabbis to rebuild yeshivas (religious schools) which had been decimated across Europe. Although he dreamed of building a secular state, the exigency for coalition-building and the fear of repressing Jewish observance in the wake of the Holocaust was at the forefront of the founders' minds.

On the other hand, the Haredi lifestyle and the education system that propagates it poses financial challenges. As an increasingly large share of the population does not participate in a formal economy or assumes low-wage jobs, the ratio of welfare contributors to welfare recipients threatens to become untenable. The problem is particularly acute in a society that offers generous government services, including universal healthcare and financial assistance for recent arrivals. A 2009 study predicts that Haredim, who account for approximately 10% of the population currently, will account for 27% in 2059. (The Economist, 2015) Currently, "the ministry says that 45.7% of Haredi men are in the labor force, far less than the national employment rate of 60.4% and lower than for any group except for Arab women. Moreover, those who work tend to be low wage earners. Largely owing to growth within the Haredi sector and low-earning Arab sector, "a study recently completed by the finance ministry predicts that on current trends Israel's public debt, currently 67% of GDP, will spiral to 170% over the next 50 years…Israel cannot afford to keep paying them (Haredim) not to work." (The Economist, 2015)

The current arrangement has unsurprisingly generated frustration and concern within mainstream Israeli society. Non-Haredi Israelis are frustrated that they are taxed to fund a school system that offers limited prospects of gainful employment and even actively lobbies against it. Indeed, many Haredi rabbis are vociferously opposed to Haredi students taking the *Bagrut* college entrance exam (Chizhik-Goldschmidt, 2017). Moreover, mainstream Israelis are worried that they will feel continually squeezed by the growing number of Israeli citizens dependent upon state welfare. This squeeze is already felt in education services, where austerity measures have resulted in "larger class sizes, fewer weekly class hours, a heavier burden on the teacher, a loss of pedagogical flexibility in the schools, a cessation of the trend

toward school autonomy and self-management, and fewer resources for advancing disadvantaged populations, including the Arab sector." (Volansky, 2007)

Policy Solutions

Should the state intervene to remedy this increasingly unsustainable system? If so, to what extent? This is perhaps first and foremost a difficult philosophical question. The regulation of religiously orthodox schools poses a challenge for liberal democratic states, requiring "a delicate balance between children's right to adaptable education" that in accordance with the Convention on the Rights of the Child, is "compatible with their cultural affiliations, and their right to acceptable education that fosters the development of personality, talents, and mental and physical abilities." (Katzir & Perry-Hazan, 2018) The proper balance must also consider "parental rights as well as public interest in democracy and community conflicts regarding the adequate balance between these often conflicting rights and interests, such as in the case of teaching secular studies in Haredi schools." (Katzir & Perry-Hazan, 2018)

The state cannot simply mandate that Haredi schools adopt a more comprehensive curriculum geared toward the Bagrut exams. This would be infeasible for two reasons. First, Israel prides itself on adherence to democratic principles, and is sensitive to the challenges of being both a democratic and Jewish state. Compelling the Haredi sector to change their education system would likely not pass muster. Even if such a move were legally possible, it would be politically tenuous. Haredi political parties have been a member to recent coalition governments, including the current Likud-led government which features both United Torah Judaism and Shas within their coalition. The latter is particularly important. As the BBC reports, Shas has pledged support to every Labour and Likud government since the party was

established in 1984, and is firmly entrenched as a political "kingmaker" (BBC, 2013). Their influence has been especially salient in recent months, as opposition to reforms to mandate Haredi conscription into the Israeli Defense Forces contributed to the collapse of a Likud government in 2019. Notably, education is a core issue for Shas: They have signaled that austerity budgets should not impact education, welfare or health services without a reduction to the defense budget (BBC, 2013). Their warnings are taken seriously; four coalition crises between 2000 and 2012 were due to disagreements regarding Haredi education (Lipshits, 2015).

Complicating matters further, any attempt to reform the Haredi education system will almost certainly be met not only with political resistance from Haredi parties but broad opposition and defiance from Haredi families. The community often laments that their lifestyle is under assault from more secular Jews. "It's why the language they use to discuss this issue includes words like *meshimed*, or a Jew who seeks to hurt his own people, or *gezeyrah*, an evil decree by the government, both loaded and theological." (Vizel, 2018) Concerningly, even internal efforts toward education reform are met with hostility. A Hasidic educator who opened a school that teaches Haredi boys math and science has been assaulted and derided as a Haredi impostor (Chizhik-Goldschmidt, 2017).

Still, Israeli society and government should try to address this increasingly untenable issue. Israel is, according to national ethos, a nation that was formed from the ashes of the Holocaust and, like David versus Goliath, survived against sometimes insurmountable odds (Gordis, 2016). Metaphorically, they always choose to go to the moon.

One seemingly attractive option is employing a Tiebout model and shifting the primary education finance responsibility from the central government to localities, thereby neutering the influence of Haredi political parties over education appropriations. This has several benefits. First, while the low wages among the growing Haredi sector is the paramount policy concern, the financial burden that high-earning Israelis must incur to pay for the government services of others could be modestly alleviated. This has both fiscal and philosophical appeal. It is not clear that citizens should pay for the education of others when that education appears to offer no positive externalities. And whereas Israel spends 7.3% of GDP on education, higher than the OECD average (Grave-Lazi, 2014), the financing of Haredi schools is a non-negligible expense.[8]

Admittedly, this too would be politically difficult. Localized funding would mark a betrayal of Israel's strong collectivist tradition, which has eroded in recent decades but remains embedded within Israeli consciousness (The Jewish Agency for Israel, 2015). More importantly, in addition to Haredi parties opposing such a move, the Arab sector would also likely stand in opposition, as Israeli Arabs are, on average, significantly less wealthy than Israeli Jews and would stand to lose under such an arrangement. Whether any Israeli government could have the political capital to draw the ire of both Arabs and Haredim is dubious.

Another potential reform to encourage Haredi workforce participation is already underway.

> In 2013, the Israeli Ministry of Education initiated a reform scheme allowing Haredi schools to change their status from private unofficial schools to official

[8] It is not clear what percentage of education appropriations go to Haredi schools, as appropriations are not uniform between streams (Wolff & Breit, 2012). Ben-David and Kimhi estimate that ultraorthodox schools receive about 60% of the funds that would be received by an equivalent mainstream school. Haredi schools comprise 17% of the Israeli school system, the majority of those enrolled in a primary school.

> public schools and affiliate with a new public education stream—the National Haredi Education (NHE). The reform was innovative in that it established a new stream of governmental schools and was implemented through a radical organizational change in the Ministry of Education. In NHE schools, students are expected to study a full core curriculum, parallel to that of other public schools. The NHE reform provided financial incentives to the Haredi schools who chose to affiliate with the public school system. (Katzir & Perry-Hazan, 2018)

The program has received buy-in from the Haredi community and politicians due to financial incentives (Katzir & Perry-Hazan, 2018), which Haredim are responsive to despite their comparatively low prioritization of material rewards (Perelman, Yaish & Bental, 2019). Moreover, Haredi schools transitioning to "public" institutions is a legitimizing process for the community and their education system. The future of the NHE is uncertain, as it essentially relies upon handshake agreements but has not been codified into law. Whether the NHE will persist or become institutionalized remains an open question, but at the very least it provides a sensible framework for future reform. It is possible, it seems, to modernize Haredi education through democratic processes.

While this arrangement may demand greater financial allocations to Haredi schools, the investment holds the potential to pay for itself many times over. Unfortunately, reformed sensibilities is not a foregone conclusion. Scholars have noted that within an American context, schools are not social engineering machines so much as institutions that absorb the cultural milieu of the area (Meyer, 1977, Meyer & Rowan, 1977). This might be especially true in Israel given the four different educational streams. It is possible then that the NHE is an organic manifestation of shifting sensibilities among some Haredim rather than a radical social engineering project. Whether the Haredi sensibility shift is enduring and to what extent it might spread to the rest of the Haredi community is a source of question. Regulation and oversight

from the central government will only go so far if the community is not committed to economic independence.

Finally, Haredim could acquire useful technical expertise and refine their noncognitive skills through conscription. IDF service often serves a “double career” and gives officers the opportunity to network in the private sector. “Officers who are assigned to develop unmanned aerial vehicles form relationships with companies like Elbit and Israel Military Industries. Ordnance Corps officers maintain connections with IMI; Logistics Corps officers share ties with food companies; an officer responsible for the provision and maintenance of military vehicles works with leasing companies.” (Shtrasler, 2010) Haredim have historically missed out on such opportunities because they were long exempted from military service due to pressure from Haredi MPs. Those exemptions may expire in the near future, as disagreement over exemptions has become a political tinderbox and contributed to the collapse of previous governments.

The outcomes of Haredim who have served in the IDF help to inform the potential for universal conscription to improve Haredi labor market outcomes. Malchi (n.d.) reports that Haredi veterans experience profoundly improved labor market outcomes: 88% of veterans enter the workforce within two years of completing military service. By comparison, 24% of Haredi men aged 18 to 24 participate in the workforce. Moreover, among Haredi men who work, those who served in the IDF earn higher wages.

American history indicates that the military is a greater engine of social change than schooling, as strong sense of institutional mission, diverse demographic composition, engagement in combat, and round-the-clock time spent with platoonmates all contribute to the erosion of distinctions of race, class, and faith. The social change generated by the IDF should

be even greater, as the likelihood of experiencing combat is higher and "the military is both a central institution and a dominant cultural force…service is often considered a prerequisite for entering adult life and an initiation rite into Israeli-Zionist culture." (Kaplan & Rosenmann, 2012, p. 419-436)

Yet, despite the promise that conscription would appear to hold in ameliorating Haredi labor market outcomes, significant change is not a foregone conclusion. The improved outcomes of past volunteers offer no guarantees for the success of universal conscription, as those who volunteered hold fundamentally different attitudes from their peers. Even among Haredim volunteers, service produces tepid changes in attitudes; only 36% report that their attitude toward secular Israeli society improved as a result of their service (Malchi, n.d.).

Conclusion

Israel's long-term economic and democratic vitality is increasingly threatened by demographic changes in Israeli society. Education appears to be both an obstacle (insofar as it promotes the Haredi lifestyle and impedes gainful employment) and a potential antidote. Policy solutions will require democratic deliberation to ensure that the Haredi community buys into reform; top-down measures from a state that Haredim already sometimes perceive as oppressive is destined to end in failure.

The challenges that Haredi education poses for Israel raise universal questions about the regulation of publicly financed schools. Although self-interested schooling selections within a plural system are generally thought to benefit the common good, Haredi schools in Israel expose that an empirical claim about averages can mask significant variance. Future work should seek to understand precisely under what conditions school choice can undermine the

common good and how regulation might prevent such outcomes without unduly impeding the liberty of others.

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Conclusion

American public education confronts paradoxical goals. If the purpose of American education is to create virtuous, liberty- and equality-loving citizens, then schools should be the crucible through which citizens of all backgrounds become proper American citizens. Conversely, reverence for liberty should allow families to pursue education in accordance with their cultural or religious mores. The Founding Fathers squabbled over whether education should reflect liberty or instill it. The dispute was settled as a matter of policy in the 19th century when Progressive reformers-- catalyzed by nativist concerns and an authentic desire to improve the condition of urban areas—succeeded in their advocacy for the common school. In the end, "civic republicanism trumped liberal pluralism." (Berner, 2017, p. 40)

Although the common school won out as a matter of policy, it is not without its discontents. Some proponents of educational pluralism argue that liberty precedes all other principles, so families should have more power to pursue their preferred type of school. Others argue that educational pluralism doesn't harm the common good and might even positively contribute to the civic health of a liberal democracy. The studies featured herein inform the latter position with studies from the U.S. and around the globe. Chapter one examines the association between private schooling and voting behavior, finding that additional private schooling has no association with the likelihood of voting, but a negative correlation with support for President Trump in the 2016 election. Chapter two explores the root causes of low private returns to education in the Middle East and North Africa, ultimately indicting the influence of poor school quality, economic reliance on natural resources, and corruption. I argue that low returns to education contribute to social unrest, underscoring that centralization

does not guarantee the outcomes that the system is intended to propagate. On the other hand, chapter three exposes potential drawbacks of pluralism. The Haredi education system in Israel is publicly funded, but students plausibly experience minimal civic or private returns to education.

Policy Implications and Limitations

Each study contains limitations in testing hypotheses. The results from chapters two and three are simply descriptive, as the questions asked do not readily lend themselves to causal research design. The assertions in chapter three are predicated on an assumption that Haredim in Israel experience minimal returns to education, but to date no studies estimate Haredi returns to education in Israel or elsewhere.

policy implications and limitations: lessons from the Arab World

Causality notwithstanding, there is a practical limit to what can be learned from international studies to inform US policy. Arab governments are decidedly more corrupt and authoritarian than the US government, so their ambitions for public education are different (ie loyalty to the government is an absolute priority). As well, their capacity to support those ambitions is comparatively weak, as nepotistic and sectarian practices dominate the public service sector (El-Gammal, 2013; Fatafta, 2018), where “the private networks that glue people together stem from traditional tribal customs, which allow people in positions to bestow *wasta* (nepotism in Arabic).” (Dixon, Bhuiyan & Üstüner, 2018, p. 761)

Notably, Islamic or Jewish governments that wish to operate schools as a matter of social control perhaps face greater obstacles than majority Christian societies. Whereas Jesus

urged his followers to “render unto Caesar the things that are Caesar’s,” Judaism and Islam are both religions of law and do not demand such deference to sovereign governments. Consequently, whereas Christian educational institutions might experience friction with the government over values and mores, Jewish and Islamic schools run a greater risk of teachings that directly violate national laws or government interests. For example, in March 2019, Pakistani authorities seized control of 182 Islamic schools which were radicalizing students to perpetrate terrorist attacks in neighboring India, elevating the risk of catastrophic armed conflict between the two nuclear-armed nations (Reuters, 2019).

policy implications and limitations: lessons from Israel

Haredi education in Israel poses a challenging policy dilemma. However, while certain populations in the United States do not prioritize material wealth according to cultural custom (e.g. Haredim, Amish, Mennonite), such groups represent a tiny portion of the population compared to Haredim in Israel. If the United States implemented a pluralistic education system, most families would surely pursue schools that they believe would lead to gainful employment. Nearly 200 years ago De Tocqueville observed that Americans were more materialistic than Europeans (Lawler, 2010). In 2018, more Americans reported finding meaning in money than faith, friends, or hobbies (Kessel et al., 2018).

More importantly, history indicates that proponents of centralized democratic education should temper their expectations regarding the degree to which such schooling succeeds as a social engineering project. During the Reign of Terror, the Jacobins surveilled schools to ensure that teaching was aligned with republican virtues and morality. Successive governments also used schools to shape public consciousness, but “these efforts were a

complete failure… Parents launched a massive resistance to republican education, sending their children instead to alternative and illegal schools that provided religious instruction." (Glenn, 1988, p. 15) In the United States, efforts to use the common school to integrate Catholics spurred unintended consequences. Once Catholic families felt thwarted in their mostly failed attempts to effect change in nominally nondenominational Protestant common schools through court action and public protest, many withdrew from the system altogether to establish their own institutions (Tyack, 1974). Ironically, "the Catholic school system, which remained a powerful force well into the 1960s, traced its roots to the politics of 19th-century backlash against immigration." (Zeitz, 2015)

Notably, Hitler and Stalin were both successful in purging religious education, and in the former case success occurred despite the initiative conflicting with promises made in the Reichskonkordat and direct entreaties from Mussolini (Harrigan, 1966). That Hitler and Stalin succeeded where others failed speaks to the extreme coercion and state power required to fully reimagine and reinvent the relationship between citizen and government by seizing control of the institutions that mediate the relationship between them.

policy implications and limitations: lessons from the United States

Studying the association between private schooling and voting behavior also comes with important caveats and limitations. Voting in national elections is an imperfect measure of civic engagement, as rational adults may not vote due to the near statistical impossibility that a single vote will change the outcome of a national election (Downs, 1957). Indeed, voting behavior conveys more about the utility that individuals derive from voting as an act of rectitude than it does democratic engagement. Political self-efficacy—the "feeling that political

and social change is possible and that the individual citizen can play a part in bringing about this change" (Campbell, Gurin & Miller, 1954, p. 187) —represents a better measure of civic health, as it indicates whether individuals feel that their government is of the people, by the people, and for the people.

Final Takeaways

Does educational pluralism inhibit or buttress democracy? Champions of both the common school and educational pluralism suggest that there are obvious answers, though they reach opposite conclusions. An honest appraisal of the extant literature (including chapter one) reveals that, on average, private schools are at least as good if not better than public schools at promoting desirable civic outcomes. One potential explanation is that private schools are exceptionally good at cultivating proper Americans. Another explanation is that public schools are not exceptionally good at it. Chapter two highlights that centralized education can fail—sometimes spectacularly-- in fulfilling its intended mission.

Private schools might be incubators for democracy, but chapter three highlights potential limitations of publicly financed, privately operated schools. Haredim in Israel receive social services which they have little motivation or capacity to recompense. Consequently, they violate the terms of the Israeli social contract, which demands that Jewish citizens make certain sacrifices so that the nation may enjoy security and prosperity (Lavi, 2014). Without sensible oversight or abandonment of social safety nets (thereby alleviating negative externalities that occur because of poor human capital), a pluralistic American education system could enable similar breaches of our own social contract, which demands the pursuit of financial independence (Butler, 2009).

Future Research

Voting is an imperfect measure of civic engagement. Future research will explore the association between private schooling and political self-efficacy. Moreover, I will seek to understand why private schooling was associated with a decreased likelihood of supporting President Trump in 2016. It is possible that the finding is a false positive or an aberration. It is plausible, however, that private schools are better at instilling democratic values such as tolerance (Wolf, 2007), and that adults who attended private schools are more likely to repudiate intolerant or undemocratic rhetoric.

It would be valuable to conduct surveys in Israel to quantify Haredi returns to education. I would examine to what degree (if any) returns vary between Haredi youth in Haredi schools versus Haredi youth in other schools. If returns vary greatly, then the estimates could illuminate Haredi schools as a policy challenge. If estimated returns are similar, however, then education reform is a dubious solution to low Haredi wages.

Educational pluralism refers to differences in educational experiences as much as it refers to differences in who operates or funds schools. To that end, I am also interested in better understanding the conflict between local autonomy versus state or federal government control of public schools. Charter schools deserve special interest, as they are publicly funded and regulated but independently operated. Charter schools were explicitly established as laboratories of innovation, but their ability to innovate is increasingly threatened by tighter regulations imposed by states as a quality control measure. In ongoing research with Dr. Robert Maranto, we empirically explore how more stringent state regulation undermines local control. Specifically, we hypothesize and find evidence to suggest that tighter regulation

disproportionately and negatively impacts standalone operators as well as Black and Latino would-be charter entrepreneurs.

Future work will seek to understand the potential costs of discriminatory charter school regulation. One strain of that research should focus on academic outcomes. Greater autonomy is associated with better educational outcomes, at least in the developed world (Hanushek, Link & Woessman, 2012). Taken together with the fact that students perform better with teachers who look like themselves (Egalite, Kisida & Winters, 2015; Dee, 2001), it appears plausible that regulation that stifles autonomy and community control prevents the establishment of schools that would serve their students well, at least from an academic perspective. The other strain of research should address differences in civic outcomes as a function of regulation. If a robust regulatory regime is required to promote high achievement as proponents ostensibly believe, perhaps it is similarly required to ensure that charter schools—institutions in which "the state sanctions the pursuit not of the broad common good but of private interests" (Fuller, 2000, p. 20)--produce virtuous, democracy-loving Americans.

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UNIVERSITY OF ARKANSAS

Office of Research Compliance
Institutional Review Board

November 18, 2016

MEMORANDUM

TO:	Gema Zamarro Jay Greene Ian Kingsbury M. Danish Shakeel
FROM:	Ro Windwalker IRB Coordinator
RE:	New Protocol Approval
IRB Protocol #:	16-10-193
Protocol Title:	*Schooling Experiences and Non-Cognitive Skills*
Review Type:	☐ EXEMPT ☒ EXPEDITED ☐ FULL IRB
Approved Project Period:	Start Date: 11/14/2016 Expiration Date: 11/13/2017

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (https://vpred.uark.edu/units/rscp/index.php). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 6,000 participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or irb@uark.edu.