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Economics of Religion



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COVER IMAGE

Basilica de la Sagrada Família

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Editorial Introduction

Introduction to the Special Issue on the Economics of Religion

CLARA E. JACE

George Mason University

The riddles of God are more satisfying than the solutions of man.

– G. K. Chesterton¹

Religion and science—even social science—seem to have a tenuous relationship. One benefit of the economics of religion has been to show that this need not be the case. The economic approach, focusing on exchange and the institutions within which exchange takes place, bears fruit when applied to the observable aspects of religion: the production, specialization, and consumption of religious services; the organization of religious groups; and the incentive-compatibility of religious doctrines, for instance. A second benefit of this literature is that it brings economists to reckon with the limits of their discipline—How do we measure belief? How can we compare the various ways that religious belief informs political and economic behavior? Why is involuntary poverty to be avoided? Like cosmologists amongst physicists, economists studying religion occasionally find themselves shaking their heads in awe at the depth and breadth human experience.

In this short introduction, I want to take the chance to propose my explanation for why the economic approach is successful at clarifying so many features of the human experience, including religion. Most economists and religious people share three beliefs about the human person (and thus, how they are to be successfully modeled and/or converted). Though using different language, people are seen to be fallen, creative, and dependent.

1. **Fallen:** I refer to the fact that individuals are perpetually unsatisfied and must choose between competing ends. In economics this is the fundamental fact of scarcity or constraints, and for religion, this is finiteness or original sin.
2. **Creative:** I refer to the fact that individuals act in order to create more value, or good, or benefit than before.² In economics this may be called rational choice and entrepreneurship, and in religion this may be called free will.
3. **Dependent:** I refer to the fact that individuals acting alone are unable to fully satisfy themselves. In economics this is specialization and trade, and in religion, this is dependence upon God for existence or the sum of circumstances otherwise out of our control.³

I am pleased to present seven papers that apply the economic way of thinking to religious topics in unique and interesting ways. I am doubly pleased that these papers are not written by those with solely an economic training, nor from contributors at the same stage in their academic journey. Two papers are addressed more directly to the academic community: Bodeau (2020) and Klein et al. (2020). Three more papers deal explicitly with understanding religious events or social organizations with the tools of economics: Shera (2020), Bedi (2020), and Bose (2020). Finally, three papers deal with the relationship between the state and religious organizations: Thomas and Thomas (2020), Pakaluk (2020), and Jace and Herzberg (2020). May these fruits of our contemplation and labor be just the beginning.

NOTES

- 1 “Introduction to the Book of Job,” In *Defense of Sanity*.
- 2 It is worth noting that by rationality I mean purposive action; “Man’s most characteristic mark is that he never ceases in endeavors to advance his well-being by purposive activity,” as Ludwig von Mises writes in *Human Action*. A similar remark is found in Aquinas (ST Ia 82.1; QDV 3.22.12).
- 3 St. Catherine of Siena’s *Dialogue* puts this beautifully: “I [God] could easily have created men possessed of all that they should need both for body and soul, but I wish that one should have need of the other...Whether man will or no, he cannot help making an act of love” (I thank Catherine Pakaluk for calling my attention to this passage).

What Good is a Good Fit? Religious Matching and Educational Outcomes

CATHERINE RUTH PAKALUK

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Abstract: This paper introduces the notion of “fit” between students and schools. Fit is a student-school pairing with respect to intangible characteristics like culture, religion, or educational focus. Using NLSY97 data, I attempt to identify effects of fit along one observable vector: religious affiliation. I test whether students matched to schools of their own religion have outcomes different from their un-matched peers. OLS and IV estimates of religious match-effects range between +5 and +8 percentile points on standardized tests. The IV analysis relies upon a relative distance instrument previously unused in school studies. I discuss advantages and limitations of the instrument.

Keywords: Educational economics, human capital, productivity, school choice

Choice-based school reforms have been promoted on two grounds: first, on the supposition that school choice introduces a market-like competitive mechanism which may raise educational efficiency and productivity. Several studies, notably Hoxby (1994, 2000, and 2002) and Epple and Romano (1998), have examined whether various types of choice (intra- and inter-district, public or private) appear to provide these benefits.

The second motivation for choice-based school reform involves a common-sense notion of sorting according to student and school characteristics. It is supposed that in a given educational market there may be pairings of students and schools which are more or less productive. Under this assumption, efficiency gains can be made under constant school quality simply by re-assigning students to more productive pairings. The Utah legislature seemed to have had this in mind when it argued that parents are “best informed to make decisions for their children, including the educational setting that will *best serve* their children’s interests and educational needs” (emphasis added).¹ Likewise, parents who exercise school choice often use the language of goodness of fit, or “good fit” when selecting a school.² This second argument for school-choice, namely, that a good fit has value for educational outcomes, has not been studied explicitly.

There are two primary empirical questions: first, whether sorting according to “interests and needs” is productive *in itself*, independently of school quality; second, whether the magnitude of such an effect is sizeable enough to be of importance for school-reform policy. In this paper I address

these questions with respect to the most common type of sorting in the American school system—sorting by religious affiliation.

I. WHAT IS A GOOD FIT?

What exactly does it mean for a school to be a good fit? Let “fit” be a multi-dimensional interaction effect between students and schools. A good fit may occur along several vectors: educational focus, pedagogical method, religious tradition, cultural values, racial and ethnic identity, behavioral identity, and individualized personal characteristics. The following are some considerations regarding dimensions of fit:

1. *Multiplicity*.—A particular student-school pairing may exhibit a high quality of fit along some vectors, and a lower quality along others.
2. *Heterogeneity*.—Some vectors of fit may be highly individualistic. Consider the case of ethnic identity. A high degree of ethnic fit may be very productive for some groups of students (such as minorities) but not for others. On the other hand, some vectors may act upon all students with similar effect.

Overall, it is important to identify some of the most common vectors along which productive pairings are found (if any), and to see which ones might operate *in common* for many students. This will have implications for what kind of aggregation would be appropriate in measuring effects of fit.

Is a good fit productive per se, or is it orthogonal to outcomes of policy importance? To address this question empirically, a few challenges in particular loom large. First, there is the difficulty posed by limited types of schools. The available stock of schools clearly does not represent all the types of schools which could be conceived of as making good pairings with students along various vectors. For example, we observe schools which use the Montessori method, and those which don’t, but we may not observe schools which use the Montessori method, are in the Catholic tradition, and are single-gender.

A second difficulty is generated by the fact that some of the most productive vectors of fit may be unobservable, such as personality or self-identity. For example, consider the possibility that one aspect of a good fit may be pedagogical method. Some parents may discover, experimentally, as it were, that their child learns better in a Montessori program, but this knowledge is likely to be unobservable to policy makers and researchers. Further, due to the nature and magnitude of the default public school system, many parents will never observe that their children are better suited to a Montessori-method of instruction. Ultimately, the nature of this problem is two-sided: among those children in Montessori schools, researchers cannot distinguish between those who are there because their parents deemed it a better fit, and those who are there for other reasons. Similarly, among those children in public or other private schools, researchers cannot distinguish between those who are there because Montessori-method instruction was not a good fit for them, and those who are there because they have never been able to try Montessori-method instruction.

A third difficulty is the familiar identification problem resulting from the process of selection into good-fit schools. Correcting for this will involve many of the same techniques employed in the private and Catholic schools literature. Additionally, fit effects would need to be distinguished from school effects. This is highly doable given a rich data set and good instruments.

II. WHY RELIGIOUS MATCHING?

In this paper I pick just one vector of fit to test: religious affiliation. I ask whether students matched to schools by religion exhibit better outcomes than their unmatched peers.³ There are several reasons why this is a good place to start. To begin, values-matching is correlated with positive outcomes in many situations where relationships matter, such as counseling and prison programs (Hurst et al. 2008; LaVigne et al. 2007). In psychotherapy, values-matching helps establish a so-called “therapeutic alliance” between clinicians and patients (Bordin 1979; Horvath and Symonds 1991; Martin et al. 2000). Religious matching between students and schools seems to be a valid analog to that sort of values “fit”.

In addition to this, religious matching is a good vector of fit to test for many empirical reasons. First, religion is *observable* in both students and schools; we can readily measure whether there is a match. Second, religious affiliation is the *most common form of sorting* in the private school system—this allows for a reasonably large number of matches even within random samples drawn from the general population. As regards other types of matching (e.g. educational focus or pedagogy) we do not observe a meaningful supply of types of schools, so it would be hard to observe actual sorting with respect to these vectors.

Third, religion itself is *plausibly exogenous to academic outcomes*. Parents choose (or inherit) religious affiliation and typically affiliate their children with them; when children are young, affiliation is as if randomly assigned. As such, it will be easier to identify match-effects without a very serious concern over confounding with academic outcomes. In contrast, note the empirical challenge to estimating the effect on math scores of being matched to a math-science magnet school.

A fourth reason to study the effects of good fit through religious matching is that religious school attendance is often likely to be a *revealed-preference measure of a “good fit”* that includes more than one vector. To see this, consider that religious schools are chosen over competing (and cheaper) alternatives (public schools)—but more importantly, they are also chosen from among other possible religious or private schools in a given region. So unless parents pick a school randomly *solely* on the basis of religious preference, it is likely that religious matching may capture other types of fit that are less observable.

Fifth, for a large enough sample of students in religious schools we could *isolate school-effects from match-effects*. This possibility arises due to the fact that virtually all religious schools admit students of different creeds. So there is a small but potentially significant portion of students in religious schools that are not matched by religious affiliation (McDonald and Schultz 2008; Trivitt and Wolf 2011). The non-matched subgroup of students in religious schools will turn out to be very helpful (indeed critical) for identifying true match-effects and distinguishing them from school-quality.

Finally, and importantly, we know something about the *supply of religious schools*—at least enough to think about some ways of correcting for the selection problem in identifying the effects of a match.

III. RELATION TO OTHER WORK

This paper is related to a number of studies in the economic literature, most especially to the long line of work on the effects of Catholic schools beginning with Coleman, Hoffer, and Kilgore (1982), Coleman and Hoffer (1987), and Hoffer, Greeley, and Coleman (1985). These studies compared public and Catholic schools, often finding that Catholic schools outperformed public schools, even with the inclusion of extensive controls. Related early studies in sociology include Noell (1982), Lee, Bryk and Holland (1993) and Witte (1996).

Subsequent research in economics has aimed to clarify the character and magnitude of the effects of Catholic schools. One line of research (Evans and Schwab 1995; Eide et al. 2004; Dee 2004) has tended to relocate the effect away from quantitative outcomes (such as scores) and onto more qualitative outcomes, such as high school graduation, college matriculation, and civic participation. Another line has found quantitative effects, but only in terms of interactions with certain sub-populations (Neal 1997; Figlio and Stone 1999; Grogger and Neal 2000). Notably, Neal (1997) found real effects for urban minority students, with little to no effect for white suburban students. Given these idiosyncratic findings, it remains a puzzle whether and how Catholic schools affect students differently from other schools, public and private.

This paper diverges from previous research in that I attempt to measure an interaction effect between Catholic students and Catholic schools, but also between non-Catholic students and schools of their same religion. Effectively, I am asking a distinct question from the Catholic schools literature: whether religious schools have any special advantage for students of the same religion. If there is any sense in which this is true, religious matching itself has been an important omitted variable in studies of Catholic schools.

The literature beginning with Neal (1997) which identifies quantitative effects of Catholic schools only for certain sub-populations supports a generalized theory of “fit effects”. While it is clear that religious-fit is

not driving Neal's findings (since urban blacks are not typically Catholic), it is clear that Catholic schools appear to affect different groups of students differently. It would not be hard to suppose that another kind of fit may be identified as complementing, or competing with, interaction effects previously observed.

Regarding religious matching, the present investigation further complicates the question of how religious affiliation matters to studies of private schooling. First, there are those studies that take religious affiliation as a kind of instrument to predict Catholic school attendance—presuming (the identifying assumption) that religious affiliation matters more to attendance than to outcomes (Evans and Schwab 1995; Kim 2011). Second, there are those which take the opposite view, namely that religious affiliation is essentially endogenous to student outcomes and therefore useless as a reliable instrument (Altonji et al. 2005). But whereas Altonji et al. find the fault to lie in the possibility that the instrument is correlated to other variables which themselves effect outcomes, I raise the question here of whether religious affiliation as an instrument is unreliable more directly, that is, if matching itself is productive.

The question underlying my study, and the corresponding critique of religious affiliation as an instrument, share a basic intuition with Akerlof and Kranton (2002) in which a model of identity in schooling is presented which is closely related to the idea of match or fit. They postulate that student utility increases with proximity to a self-chosen social category. School administrators can try to influence social categories within a school in order to change the prescriptions that follow from students' chosen identities and consequent behavior. In contrast, my notion of matching supposes that the administrator's own categorization (and the consequent culture of the school, or "ideal student") is relevant to student outcomes. Despite this difference, the concepts of identity and match share the insight that the student's perception of familiarity and fit with the school environment (either at the level of the social group or at the level of the school) may have very strong influence over student outcomes—indeed possibly stronger than other traditionally studied variables. The critical intuition is to consider the student herself as a decision maker—whose choices and responses depend upon her school environment.

The remainder of the paper is structured as follows. I first describe my methodology, including measurement of the match variable, estimating equations, and presentation of the instrumental variables. In section three, I describe the NLSY97 data used in this study. In section four I present my findings which include estimates of the effect of religious matching which have never before been estimated. Finally, I include a discussion of the implications of the findings and directions for future research.

IV. METHODOLOGY

a. Religious Matching as a 0-1 Proxy for Fit

Although "fit" as described above is a conceptually rich variable, I do not attempt to measure a continuous level of religious matching, even though there may be "better" and "worse" matches with respect to this vector. Rather, I allow religious matching to be a simple binary variable, and measure it in the most intuitive way possible. I define an 'alpha' (or 'primary') match when a student of any particular religious affiliation attends a school of the same religious denomination in the academic year prior to the outcome measure (standardized test). Students who fit this description are coded '1'—and all students, including public school students, for whom the criteria fails are coded '0'.

I also define a second binary match variable, 'beta' (or 'broad') match, which includes all the alpha-match students, plus additional students who attend a school with a religious outlook *broadly similar* to their own religious affiliation. For example, Catholics in some Protestant schools and some Protestants in Catholic schools are coded as matched under this variable. I determined similarity according to the denominational family trees assembled by The Association of Religion Data Archives (www.thearda.com). More students are matched by the beta classification than the alpha, though the strength of religious identification under the beta-match is likely to vary more widely.

b. Empirical Strategy

I begin with the aim of estimating a standard linear outcomes production function (Equation 1) where y_i is test scores (age-adjusted), v_i is the 0-1 match variable, X_i is a vector of student characteristics, including demographics, income, family structure, religious affiliation, parent's education, and regional controls. θ_1 is the coefficient of interest.

$$y_i = \theta_0 + \theta_1 v_i + \Theta_2 X_i + e_i \quad (1)$$

Interaction effects between students and schools, or between particular sub-groups of students and types of schools, are suppressed here as I have only student-level data. In consequence, I am estimating a single interaction effect: the interaction between students and schools of the same religious affiliation. The coefficient of interest, θ_1 or the “match effect”, has never been estimated. For that reason, even the OLS estimates presented in this paper have real significance. A biased estimate is preferable to no estimate.

c. Non-random Selection into Matched Schools and a New IV Strategy

Clearly, the match variable v_i is somewhat troublesome as an explanatory variable. Students whose families select a matched school may differ in unobserved ways from those whose parents did not select a matched school, and these differences may correlate with outcomes (Altonji et al. 2005). For example, if families with an especially high level of commitment to education are more likely to choose a matched school, we could observe upward bias in the estimate.

Alternatively, estimates of matching could be biased downward for three important reasons: first, if parents choose matched schools especially in the case where children are struggling in a local public school, match effects could be biased downward. Second, families who choose a matched school may make other (unobservable) sacrifices to do so, such as working a second job, or giving up other amenities in favor of paying tuition. These sacrifices may have a negative effect on outcomes, offsetting the overall advantage of the match. Finally, most matched schools are small church-based schools with low per-pupil budgets, and inferior structures.⁴ If school-quality is not well identified in a given data set, then estimated religious match effects could be confounded with effects of school-quality.

In this study I use a new type of distance-based instrument—relative distance—which has been used in studies of hospital quality under the name “differential distance” (McClellan et al. 1994; Sloan et al. 2001) but never for private school studies. This instrument exploits variation in the *relative distance* between the nearest matched school and the nearest unmatched (public) school. The relative distance instrument compares an implicit cost of the good (travel distance) with the implicit cost of its substitute, and relies on the insight that students are not equally positioned with respect to local public schools. It is thus designed to be related to variation in *whether* students are matched, but plausibly unrelated to variation in student outcomes. Smaller relative distances should correlate with an increased likelihood of attending a matched school.

Earlier distance-based instruments used in private school studies were absolute distances (Tyler 1994; Neal 1997)—where the instrument measured the absolute distance between the home and the private school. Others have examined absolute distance interacted with some other factor (Altonji et al. 2005). All of these are, however, subject to a standard critique: that the choice of residence may be determined in part by proximity to a desired school. Therefore, living close to a private school can't be interpreted as a *random treatment* which affects the likelihood of attending private school. Rather proximity may capture exactly what one wishes to remove from the equation—the fact that a family chose the particular school in the first place (for unobserved reasons).

But the relative distance instrument should survive this critique somewhat more easily than an absolute distance instrument. Consider that if a family moves closer to a private school of choice, this may result

in a *smaller or larger relative distance*, depending on the location and supply of public schools in a given region. The logical question can be broken into two parts. For some families, choice of residence is unrelated to choice of schooling. For these families, both the relative and the absolute distance instruments should be valid. For the remaining families who choose a home based on proximity to a public or private school, the relative distance instrument should continue to be valid so long as we assume that public schools are randomly distributed *with respect to the residence choices of those families*. (While regional differences in the supply or density of public schools may moderate this assumption somewhat, district- or county-level controls should clear the remaining doubt.) Importantly, for this latter group of families, the instrument will have little to no meaning: for them, we cannot interpret large or small relative distances as influencing likelihood of matching. But this matters little—what matters is that these families will not generate systematic *spurious associations* between relative distance and matching.

Having considered the two major criteria for a sound instrument—relevance and validity—there is additionally the question of whether the instrument is plausibly monotonic (see Angrist and Krueger 2001; Murray 2006; and Bound et al. 1995). Does the relative distance instrument predict matching equally well for all subgroups? Given the strong existing differences between whites, blacks and Hispanics with respect to religious affiliation, and the disproportionate supply of Catholic schools among religious schools, it is worth questioning whether the relative distance instrument can perform equally well for these racial and ethnic subgroups. This will have consequences for the interpretation of the IV estimates. In the results section below I present some evidence on this question. Theoretically, however, the challenge here is unrelated to the *relative distance instrument per se*. This critique applies to an absolute distance instrument as well.

Methodologically the relative distance instrument was created as follows: for a student of religion X in zip code Y, I obtain the distance to the nearest matched school (of religion X) and the nearest unmatched (public) school in zip code Y. I take the difference between these two distances and call this the “typical relative distance” (TRD): so-called “typical” since it will be the same differential for every student of religion X in zip code Y. I would like to be able to use an “actual relative distance” (ARD) for each student—but with only zip-code level specificity, many of the obtained differentials are just zero. For example, if a student lives in the same zip-code as a local public school and a matched school, the TRD for this student-zip-code-religion combination is just zero. I show the incidence of the zero-TRDs below.

This lack of specificity, the zero-TRDs, is the chief limitation of the relative distance instrument employed in this paper. It generates plausible but imprecise IV-estimates, as I will show below. However, this is a limitation entirely driven by the data in this sample. A better data set with more precise geo data could overcome this problem quite easily. There are reasons to remain optimistic about the value and future use of relative distance instruments in the private schools literature.

In this paper, I employ two instruments—the plain TRD described above, and the square of the TRD which is meant to account for the exponential costs of very large relative distances.

Although the two stages are estimated simultaneously (to obtain the correct standard errors) Equations 2 and 3 below show the implied first- and second-stage regression equations, respectively.

First-stage equation

$$v_i = \pi_0 + \Pi_1 X_i + \Pi_2 Z_i + \varepsilon_i \quad (2)$$

The variable v_i is the match variable, X_i is a vector of student demographic and geographic controls, and Z_i is the vector of excluded instruments.

Second-stage equation

$$y_i = \theta_0 + \theta_1 \hat{v}_i + \Theta_2 X_i + e_i \quad (3)$$

Here, y_i is student scores, \hat{v}_i is the predicted probability of matching from the first stage, and X_i is again a vector of student demographic and geographic controls.

III. DATA

I employ data from the 1997 National Longitudinal Survey of Youth (first round), together with some limited data from the associated School Survey Files, the restricted access zip code files, 1997 Geocode Data, and the NCES Private School Universe Survey Data with the Common Core of Data. All the data is indexed at the student level.

Table 1 presents summary statistics for my sample. The original NLSY97 sample contains data on 8984 students who entered the survey in 1997. I dropped those for whom religion or school religion was unknown, for a total full sample of 8817 students. The 8817 students in my sample were 48.9% male, 52.0% white, 25.9% black, 21.2% Hispanic.⁵ 49.0% of the students in my sample lived in an MSA outside of the central city area. 32.2% lived in an MSA in a center city, and 17.7% lived outside an MSA. Of the students in my sample, 3.4% were matched to their school religion by the alpha-match indicator, and an additional 1.5% were matched by the beta-match indicator, for a total of 4.9% matched at all. A full 95.1% were not matched.

The mean typical relative distance was 15.09 miles (indicating the nearest matched school was on average 15 miles further than the nearest public school). The standard deviation in relative distance was 19.77 miles. The relative distance was capped at 50 miles in each direction. 22.4% of the students in my sample have a zero ‘typical’ relative distance—which means that they share a zip code with both the nearest matched and unmatched schools.

I have data from two standardized tests: the PIAT Math Percentile (updated) score (available for 5925 students), and an ASVAB Math-Verbal Composite Percentile score (available for 6963 students). Both sets of scores are age-adjusted to 3-month intervals to control for the age at which the test was taken.

Table 1
SUMMARY STATISTICS

		Matching				Typical Relative Distance		Mean Outcomes (Percentile)	
		Full Sample	Alpha-match	Beta-match	None	Mean (in miles)	Proportion Zero	PIAT-Math	ASVAB
	N=	8817	302	430	8387	8817	1972	5925	6963
Full Sample	8817	1.00	0.034	0.049	0.951	15.09 (19.77)	0.224	37.55 (27.37)	45.43 (29.18)
Sex									
Male	4312	0.489	0.033	0.048	0.952	15.48 (20.03)	0.213	37.04 (26.90)	46.39 (28.57)
Female	4505	0.511	0.036	0.050	0.950	14.71 (19.51)	0.234	38.02 (27.79)	44.5 (29.74)
Race*									
Black	2284	0.259	0.009	0.027	0.973	13.52 (17.25)	0.175	26.37 (23.85)	28.64 (23.77)
Hispanic	1866	0.212	0.025	0.030	0.970	8.47 (16.97)	0.271	29.68 (23.89)	35.60 (25.79)
White	4587	0.520	0.051	0.067	0.933	18.61 (21.15)	0.228	46.33 (27.31)	56.52 (27.59)
Geography*									
Rural	1564	0.177	0.018	0.026	0.974	27.01 (20.12)	0.155	37.77 (26.92)	43.39 (28.37)
Not in MSA									
Suburban	4322	0.490	0.039	0.054	0.946	13.34 (19.01)	0.220	40.72 (27.88)	50.17 (29.25)
MSA, not city									
Urban	2838	0.322	0.038	0.055	0.945	11.29 (18.29)	0.265	32.77 (26.28)	39.45 (28.38)
MSA, city									

Note. All statistics are sample or sub-sample means. Standard deviations are included in parentheses under the statistic for quantitative variables. Starred sections have category Ns that do not sum to 8817 because other categories are omitted.

Table 2 presents summary statistics on the type of school attended and religious affiliation of students in my sample. Of the 8817 students in my sample, 92.2% attended public schools, 3.5% attended Catholic school, 1.9% attended non-Catholic religious schools, and 0.8% attended other private schools with no religious affiliation.

Throughout the analyses I rely on student-reported religious preference, which allows me to have the fullest possible sample (since only about half of the parents report on religion). Of the 8817 students in my sample, 55.4% reported a Christian religion other than Catholic, 28.5% reported a Catholic religious affiliation, 3.2% reported another religious affiliation, including Jewish, Mormon, and various Eastern religions (Hindu, Buddhist, etc.), and 12.9% reported no affiliation.

Table 2
SUMMARY STATISTICS (STUDENT SCHOOLS AND RELIGIOUS AFFILIATIONS)

	Full Sample	Sex		Race*			Geography*		
		Male	Female	Black	Hispanic	White	Rural (Not in MSA)	Suburban (MSA, not city)	Urban (MSA, city)
N=	8817	4312	4505	2284	1866	4587	1564	4322	2838
School Type*									
Public	8131	0.922	0.922	0.941	0.948	0.903	0.947	0.921	0.911
Catholic	308	0.035	0.037	0.024	0.025	0.045	0.015	0.039	0.042
Other Religious	164	0.019	0.019	0.009	0.008	0.028	0.016	0.021	0.017
Non-Religious Private	75	0.008	0.010	0.004	0.004	0.013	0.012	0.007	0.009
Student Religion									
Catholic	2512	0.285	0.272	0.049	0.650	0.256	0.178	0.331	0.279
Other Christian	4880	0.554	0.580	0.812	0.257	0.545	0.685	0.511	0.541
Other	285	0.032	0.032	0.011	0.013	0.050	0.013	0.039	0.034
None	1140	0.129	0.115	0.128	0.080	0.149	0.125	0.119	0.146

Note. All statistics are sample or sub-sample means. Starred sections have category *N*s that do not sum to 8817 because other categories are omitted.

V. RESULTS

a. Matching

Who is matched by religion and how do they compare to their unmatched peers? My first set of results aims to characterize the matched population and highlight the differences between matched students and their unmatched peers. I present the raw findings instead of moving straight to the regression analysis because this is the first paper to examine religious matching directly. It is important to establish and characterize the size of the raw “match” effect before seeking to fully identify the effect in an econometric sense.

How do matched students compare to their unmatched peers? Table 3 provides descriptive statistics comparing matched and unmatched students.

Table 3
MATCHED STUDENTS COMPARED TO THEIR UNMATCHED PEERS
(BOTH MATCH CLASSIFICATIONS)

	Alpha-match N=302	Unmatched N=8515	Beta-match N=430	Unmatched N=8387
Demographics				
Male	0.464	0.490	0.481	0.489
Black	0.070	0.266	0.142	0.265
Hispanic	0.152	0.214	0.133	0.216
White	0.768	0.511	0.714	0.510
Family Background				
Mother's Education (<i>in years</i>)	13.2	11.4	13.0	11.4
Gross Family Income	67,251	44,536	67,932	44,154
Both Biological Parents	0.712	0.482	0.698	0.479
Single Biological Mom	0.156	0.287	0.153	0.289
Two parents, but Only Bio. Mom	0.060	0.112	0.060	0.113
Religiosity (<i>0-600</i>)	403	377	412	376
Geography				
Rural	0.093	0.180	0.095	0.182
Not in MSA				
Suburban	0.553	0.488	0.540	0.488
MSA, not city				
Urban	0.354	0.321	0.365	0.320
MSA, city				
Typical Relative Distance <i>in miles</i>	4.22	15.48	8.02	15.45
Outcomes				
PIAT Math Percentile	51.82	37.03	51.31	36.85
ASVAB Math-Reading	64.26	44.71	63.05	44.48
HS Graduation	0.992	0.862	0.989	0.861
Delinquency (<i>0-10</i>)	0.94	1.35	0.93	1.35

Note. Bold denotes statistically significant differences at the 95% level or higher.

There are several things to note in Table 3. First, matched students are more likely to be white and less likely to be either black or Hispanic. However, Hispanics are about twice as likely as blacks to be alpha-match students, while blacks and Hispanics are equally likely to be beta-match students. This is clearly because Hispanics are more likely to be Catholic, and most religious schools are Catholic.

Second, matched students of both classifications come from families with about 50% higher income than unmatched peers, and are significantly more likely to reside in an intact family. Interestingly, matched students are from families that are only moderately more religious than their unmatched peers.

Third, typical relative distance appears to correlate well with matching, which supports the relevance of the instrument. Alpha-match students average about 4.22 miles relative distance between matched and unmatched schools, while beta-match students average 8.02 miles relative distance. This means that for alpha-match students, the nearest matched school is about 4.22 miles further than the nearest local public school. For beta-match students the nearest matched school is 8.02 miles further than the nearest local public school. Unmatched students, by comparison, have a matched school that is on average about 15.5 miles further than the nearest local public school.

Finally, there is a significant raw “match effect”. For the PIAT, alpha-match students score about 14.8 percentile points higher than their unmatched peers, and beta-match students score about 14.5 points higher than their unmatched peers. For the ASVAB, alpha-match students score about 19.6 percentile points higher than their unmatched peers, and beta-match students score about 18.6 points higher. These are about one-half (PIAT) to two-thirds (ASVAB) of a standard deviation in scores respectively. This is the effect I am interested in exploring—does it remain after controlling for all the other significant differences between matched and unmatched students? In the tables that follow I try to put this effect in context, to see how it compares with effects that are more familiar, such as the Catholic-schools effect, and the private school effect.

Is the raw match effect the same as the Catholic schools effect? Table 4 first shows the raw “Catholic schools effect”, and then breaks this down to show the “match effect” within the Catholic schools effect.

Table 4
CATHOLIC SCHOOL EFFECTS COMPARED TO MATCH EFFECTS WITHIN CATHOLIC SCHOOLS

	Catholic School Effects		Catholic School: Matched vs. Unmatched	
	Catholic N=318	Non-Catholic N=8499	Alpha-match N=251	Unmatched N=67
Demographics				
Male	0.462	0.490	0.454	0.493
Black	0.173	0.262	0.080	0.522
Hispanic	0.160	0.214	0.175	0.104
White	0.660	0.515	0.737	0.373
Family Background				
Mother's Education (<i>in years</i>)	12.97	11.43	13.1	12.6
Gross Family Income	65,637	44,554	66,546	62,234
Both Biological Parents	0.714	0.481	0.737	0.627
Single Biological Mom	0.151	0.287	0.143	0.179
Two parents, but Only Bio. Mom	0.066	0.112	0.056	0.104
Religiosity (0-600)	384.4	377.9	380.9	401.3
Geography				
Rural	0.072	0.181	0.080	0.045
Not in MSA				
Suburban	0.550	0.488	0.578	0.448
MSA, not city				
Urban	0.377	0.320	0.343	0.507
MSA, city				
Typical Relative Distance <i>in miles</i>	4.47	15.48	2.12	13.25
Outcomes				
PIAT Math Percentile	50.27	37.09	52.00	41.69
ASVAB Math-Reading	62.29	44.78	64.43	53.08
HS Graduation	0.996	0.862	0.995	1.000
Delinquency (0-10)	1.06	1.34	1.03	1.16

Note. Bold denotes statistically significant differences at the 95% level or higher.

The raw Catholic schools effect is about 13 percentile points in the PIAT and 18 points in the ASVAB. These are very similar to the raw match effect. This is no surprise since the set of Catholic school students and the set of alpha-match students overlap significantly. Of the 318 Catholic school students, 79% are also alpha-match students, and of 302 alpha-match students, 83% are also in Catholic schools. Much more interesting are the outcome differences between alpha-match and unmatched students *conditional upon being in a Catholic school*. If the match effect from Table 3 were simply a Catholic schools effect, then we should not expect to see a large difference here. But in fact, conditional upon being in a Catholic school, there is a remaining 10 point percentile advantage in the PIAT and 11 point percentile advantage in the ASVAB for alpha-match students and these differences are statistically significant. Note also that there are almost no other statistical differences between these groups, with the exception of the percent black and white students. Income, parental education, religiosity and family structure variables are all highly similar. So, it appears that there is some effect which is different from a so-called “Catholic schools effect”—and this effect is experienced by matched students in non-Catholic schools to the same degree as Catholic students in Catholic schools.

Is the raw match effect some other kind of Catholic effect? Table 5 compares Catholic students by matching status, and then matched students by Catholic status.

The results here are quite striking. In the first two columns, we can observe the effect of matching *conditional upon being Catholic*: 15 points (PIAT) and 19 points (ASVAB) respectively. Note that this is the same as the “match effect for Catholic students”. Now consider the second pair of columns. The effect of being a Catholic student, conditional upon matching, is negligible. The difference is not even statistically significant. Therefore, there is no “Catholic effect for matched students”.

Table 5
MATCH EFFECTS FOR CATHOLIC STUDENTS AND CATHOLIC EFFECTS FOR MATCHED STUDENTS

	Catholic Students: Matched vs. Unmatched		Matched Students: Catholic vs. Non-Catholic	
	Alpha-match N=251	Unmatched N=2261	Catholic Alpha-match N=251	Non-Catholic Alpha-match N=51
Demographics				
Male	0.454	0.468	0.454	0.510
Black	0.080	0.041	0.080	0.020
Hispanic	0.175	0.517	0.175	0.039
White	0.737	0.437	0.737	0.922
Family Background				
Mother's Education (<i>in years</i>)	13.1	10.7	13.1	13.6
Gross Family Income	66,546	43,439	66,546	70,723
Both Biological Parents	0.737	0.585	0.737	0.588
Single Biological Mom	0.143	0.243	0.143	0.216
Two parents, but Only Bio. Mom	0.056	0.081	0.056	0.078
Religiosity (<i>0-600</i>)	380.9	346.7	380.9	501.2
Geography				
Rural <i>Not in MSA</i>	0.080	0.114	0.080	0.157
Suburban <i>MSA, not city</i>	0.578	0.569	0.578	0.431
Urban <i>MSA, city</i>	0.343	0.312	0.343	0.412
Typical Relative Distance <i>in miles</i>	2.12	7.29	2.12	14.52
Outcomes				
PIAT Math Percentile	52.00	36.76	52.00	50.94
ASVAB Math-Reading	64.43	45.57	64.43	63.45
HS Graduation	0.995	0.853	0.995	0.976
Delinquency (0-10)	1.03	1.29	1.03	0.490

Note. Bold notes statistically significant differences at the 95% level or higher.

Table 6
PRIVATE SCHOOL EFFECTS COMPARED TO MATCH EFFECTS WITHIN PRIVATE SCHOOLS

	Private School Effects		Private School: Matched vs. Unmatched		
	Private N=686	Public N=8131	Alpha-match* N=302	Beta-match* N=430	Unmatched** N=256
Demographics					
Male	0.490	0.489	0.464	0.481	0.504
Black	0.197	0.264	0.070	0.142	0.289
Hispanic	0.141	0.218	0.152	0.133	0.156
White	0.647	0.510	0.768	0.714	0.535
Family Background					
Mother's Education (<i>in years</i>)	12.6	11.4	13.2	13.0	11.9
Gross Family Income	63,234	43,802	67,251	67,932	55,344
Lives with Both Biological Parents	0.622	0.479	0.712	0.698	0.496
Lives Only with Biological Mom	0.201	0.289	0.156	0.153	0.281
Has two parents, but Only Bio. Mom	0.074	0.113	0.060	0.060	0.098
Religiosity (<i>ranked 0-600</i>)	399.7	376.2	402.7	411.7	377.6
Geography					
Rural (<i>Not in MSA</i>)	0.121	0.182	0.093	0.095	0.164
Suburban (<i>MSA, not city</i>)	0.499	0.489	0.553	0.540	0.430
Urban (<i>MSA, city</i>)	0.369	0.318	0.354	0.365	0.375
Typical Relative Distance (<i>in miles</i>)	9.88	15.53	4.22	8.02	13.01
Outcomes					
PIAT Math Percentile	46.09	36.86	51.82	51.31	36.31
ASVAB Math-Reading Composite	57.81	44.36	64.26	63.05	48.33
HS Graduation	0.942	0.861	0.992	0.989	0.860
Delinquency (<i>ranked 0-10</i>)	1.22	1.34	0.94	0.93	1.72

Note. Bold notes statistically significant differences at the 95% level or higher. *Significance is as compared to private school unmatched **Significance is as compared to private school beta-match

Is the raw match effect the same as the private schools effect? Finally, Table 6 presents descriptive statistics for private school effects, and the match effect *conditional upon private school attendance*. This is analogous to table 4.

There are two especially interesting things to note here. First, the “raw” private schools effect is not as big as the raw match effect. There is a 9 point advantage for private school students on the PIAT, and a 13.5 point advantage on the ASVAB. These are about 40 percent and 30 percent smaller than the match effects of 15 and 19 respectively. The second interesting thing is the match effect conditional upon being in a private school. For alpha-match students, the effect is 16 percentile points on both outcomes, and for beta-match students, the effect is 15 points on both outcomes. So, again, it does not seem that a “match” effect is the same as a private schools effect.

b. Match Effects: OLS Regressions

Full sample OLS findings Table 7 reports the OLS results for the alpha-match indicator (Panel A) and the beta-match indicator (Panel B), respectively, in two specifications for each outcome variable for a total of eight regressions. The categorical variables for race (white is baseline) are included to provide a reference for the magnitude of the effects.

Table 7
RELIGIOUS MATCHING AND EDUCATIONAL OUTCOMES
ORDINARY LEAST SQUARES

EXPLANATORY VARIABLE	Dependent Variable: <i>PIAT-Math</i>		Dependent Variable: <i>ASVAB</i>		
	Panel A	(1)	(2)	(3)	(4)
Alpha-match		5.662*** (1.987)	5.730** (2.665)	8.766*** (1.721)	5.983** (2.309)
Private school (dummy)		---	-0.071 (1.854)	---	2.937* (0.593)
Black		-12.994*** (1.087)	-12.995*** (1.088)	-17.740*** (1.014)	-17.734*** (1.013)
Hispanic		-8.900*** (1.141)	-8.901*** (1.141)	-11.821*** (1.089)	-11.817*** (1.089)
R ²		0.2394	0.2394	0.3299	0.3303
Root mean square error		24.177	24.179	24.148	24.143
Observations		5920	5920	6958	6958
	Panel B	(5)	(6)	(7)	(8)
Beta-match		6.457*** (1.629)	10.285*** (2.758)	8.632*** (1.428)	8.077*** (2.320)
Private School (dummy)		---	-3.973* (2.304)	---	0.577 (1.941)
Black		-12.972*** (1.086)	-12.998*** (1.086)	-17.763*** (1.012)	-17.760*** (1.012)
Hispanic		-8.840*** (1.139)	-8.877*** (1.140)	11.790*** (1.087)	-11.792*** (1.087)
R ²		0.2404	0.2410	0.3308	0.3308
Root mean square error		24.161	24.157	24.131	24.133
Observations		5920	5920	6958	6958

Note. Huber robust standard errors are in parentheses. Regression errors are clustered at the household level. Student-level controls include gender, religion, MSA, household income, family structure, mother's education. Other controls include Census Bureau region, county, and rural/suburban/urban designation. *, **, ***= significant at the 90, 95%, and 99% level or higher, respectively.

The first two results of interest are the top coefficients in columns (1) and (3). These present the match effect for the alpha-match indicator for a specification that includes a full set of controls except a private school dummy. The match effect for alpha-match is +5.7 for the PIAT and +8.8 for the ASVAB. These are statistically significant at the 99% level, and large in magnitude—1/5 and 1/3 of a standard deviation in scores respectively. To put these in context, they are on the order of half the size of the black-white test score gap for this data. For the beta-match, which includes both the alpha-match students and 128 additional students who are matched to schools with very similar religious affiliations, columns (5) and (7) show that the match effects are +6.5 percentile points and +8.6 for the two outcomes respectively. These are, again, highly statistically significant.

In specifications (2) and (4) respectively, I include a private school control. For the PIAT test, the private school variable has no statistical significance, and is small in magnitude. For the ASVAB, the private school variable is positive and significant, on the order of +3 points, diminishing the match effect by a similar amount. I do not attempt a control for Catholic schools since it would be so highly correlated with the alpha-match variable. In the corresponding regressions for the beta-match, (6) and (8), the private school dummy has the opposite effect—it strengthens the match effect for the PIAT outcomes, and has no significant effect on the ASVAB scores. The conflicting findings for the private school dummy result, most likely, from the high degree of overlap between private and matched schools in my sample. These estimates are probably not trustworthy. This underscores the need to replicate this study in a much larger sample of private and religious schools where school-type effects can be identified more easily. However—with or without the private school control—both alpha- and beta-matches appear beneficial to scores to have a large and significant effect, by either match specification.

Table 8
RELIGIOUS MATCHING AND EDUCATIONAL OUTCOMES BY RACE
ORDINARY LEAST SQUARES

EXPLANATORY VARIABLE	Dependent Variable: PIAT-Math				Dependent Variable: ASVAB					
	Full Sample	Without Blacks	Black Only	Hispanic Only	White Only	Full Sample	Without Blacks	Black Only	Hispanic Only	White Only
Panel A	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Alpha-match	5.662*** (1.987)	5.400*** (2.078)	10.682 (7.609)	4.117 (4.454)	5.114** (2.382)	8.766*** (1.721)	8.592*** (1.822)	9.310* (5.072)	11.804** (4.798)	7.370*** (2.028)
R ²	0.2394	0.2033	0.2478	0.1725	0.1662	0.3299	0.2571	0.2806	0.2732	0.1800
Root mean square error	24.177	24.914	21.468	22.705	25.522	24.148	25.043	20.850	22.931	25.446
Observations	5920	4360	1560	1241	3064	6958	5193	1765	1331	3796
Panel B	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Beta-match	6.457*** (1.629)	6.234*** (1.781)	8.977** (4.122)	4.464 (3.880)	6.327*** (2.057)	8.632*** (1.428)	8.325*** (1.598)	11.792*** (3.194)	10.734** (4.225)	7.172*** (1.793)
R ²	0.2404	0.2043	0.2492	0.1728	0.1676	0.3308	0.2578	0.2848	0.2733	0.1806
Root mean square error	24.161	24.898	21.449	22.701	25.501	24.131	25.032	20.788	22.929	25.436
Observations	5920	4360	1560	1241	3064	6958	5193	1765	1331	3796

Note. Huber robust standard errors are in parentheses. Regression errors are clustered at the household level. Student-level controls include gender, religion, MSA, household income, family structure, mother's education. Other controls include Census Bureau region, county, and rural/suburban/urban designation.

*, **, ***= significant at the 90, 95%, and 99% level or higher, respectively.

OLS Results by Racial Subgroups A good question, examining these results, is whether the effect observed is really driven by the interaction effects identified earlier by Neal (1997), namely by large effects for urban minorities in Catholic schools. While my data are not rich enough to provide a full econometric answer to this question, Table 8 should provide some evidence to the contrary. Here I present OLS regressions identical to those in Table 7, but with the full sample omitting black students, and then for black, Hispanic, and white students separately. The coefficients on the separate race regressions, columns (3)-(5), can be interpreted as a proxy for the interaction effect between race and matching.

What we observe here is that the large and significant match effects are not driven by minority effects. For the PIAT the match effects are large and significant for the full sample without blacks (+5.4 for the alpha-match, +6.2 for the beta-match) and also for whites without black or Hispanic students (+5.1 for the alpha-match and +6.3 for the beta-match). A similar pattern obtains for the ASVAB. We do see that the point estimates for blacks are generally larger than for whites. That they lack significance under the alpha-match is entirely a function of the very small number of alpha-matched black students (only 21). There are three times as many black students who are beta-matched (61), and thus the beta-match coefficients are estimated more precisely. While these coefficients may not completely settle the question—they provide very strong evidence that the match effects identified in Table 7 are not minority interaction effects masquerading as a match.

c. Match Effects: IV Results

First stage results Table 9 presents evidence on the relation between the relative distance instrument and the likelihood of matching. The first-stage regresses the 0-1 match variable upon the instrument(s) in order to establish relevance. The first three regressions, columns (1), (2) and (3), show the results for the alpha-match indicator. The first column shows that the instruments jointly have significance for the probability of a match in the absence of controls. Regressions (2) and (3) include the full set of controls: regression (2) shows that the TRD instrument alone performs worse than it does with the second instrument, TRD², which is presented in the third regression. A similar finding obtains for the beta-match indicator. We learn here that the instruments are consistently significant at the highest possible level, but the coefficients are small in magnitude. This suggests a weak instrument problem (Bound et al. 1995; Murray 2006)—no surprise given the major limitation of the instrument mentioned above, which is a high percentage of zero-value instruments. The usual diagnostic for the first-stage (Stock, Wright, and Yogo 2002) is an implied F-statistic for the first stage. These are presented along with the IV regressions in table 11. (All are above 20.) Based on the R² and the coefficients the first-stage results suggest using both instruments.

Table 9
RELATIVE DISTANCE AND RELIGIOUS MATCHING (First-Stage)

EXPLANATORY VARIABLE	Ordinary Least Squares Dependent Variable: <i>Alpha-match</i>			Ordinary Least Squares Dependent Variable: <i>Beta-match</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
Typical relative distance	-0.003*** (0.000)	-0.001*** (0.000)	-0.003*** (0.000)	-0.003*** (0.001)	-0.001*** (0.000)	-0.004*** (0.001)
Typical relative distance ²	-0.000*** (0.000)	---	0.000*** (0.000)	0.000*** (0.000)	---	0.000*** (0.000)
Control variables	No	Yes	Yes	No	Yes	Yes
R ²	0.0139	0.1001	0.1028	0.0079	0.0892	0.0912
Root mean square error	0.181	0.173	0.173	0.215	0.206	0.206
Observations	8809	8809	8809	8809	8809	8809

Note. Huber robust standard errors are in parentheses. Regression errors are clustered at the household level. Student-level controls include gender, religion, MSA, household income, family structure, mother's education. Other controls include Census Bureau region and rural/suburban/urban designation. *, **, ***= significant at the 90, 95%, and 99% level or higher, respectively.

Reduced form results Table 10 presents the reduced-form results: OLS regression of the scores on the relative distance instruments. This provides statistical support for the exclusion restriction. Regressions (1) and (2) show that the TRD and TRD² have no explanatory power for PIAT scores after the standard controls are included. The same pattern is observed for the ASVAB scores—the instruments have no predictive power in the presence of full controls.

Table 10
RELATIVE DISTANCE AND EDUCATIONAL OUTCOMES (Reduced-Form)

EXPLANATORY VARIABLE	Ordinary Least Squares Dependent Variable: <i>PIAT-Math</i>		Ordinary Least Squares Dependent Variable: <i>ASVAB</i>	
	(1)	(2)	(3)	(4)
Typical relative distance	-0.203* (0.113)	-0.025 (0.110)	-0.263*** (0.094)	-0.010 (0.084)
Typical relative distance ²	0.007*** (0.002)	0.000 (0.002)	0.008*** (0.002)	0.000 (0.002)
Control variables	No	Yes	No	Yes
R ²	0.0066	0.2043	0.0082	0.3029
Root mean square error	34.284	30.777	29.069	24.432
Observations	5922	5922	6958	6958

Note. Huber robust standard errors are in parentheses. Regression errors are clustered at the household level. Student-level controls include gender, religion, MSA, household income, family structure, mother's education. Other controls include Census Bureau region and rural/suburban/urban designation. *, **, ***= significant at the 90, 95%, and 99% level or higher, respectively.

Second-stage IV results Table 11 presents the main IV results for the match effects. For the two separate outcomes, PIAT and ASVAB, I present four regressions for each match indicator, for a total of 16 regressions. The first regression in each quadrant is simply the OLS regression from the relevant columns of table 7. These are provided for ease of comparison with the IV results. The second regression provides the results for the preferred IV-2SLS specification which includes both instruments. The third regression replicates the second but with a LIML estimation (Angrist and Pischke 2008). The fourth presents the results for a just-identified specification using only the TRD instrument (Angrist and Pischke 2008; Murray 2006).

The upper panel presents the findings for the alpha-match indicator and the lower panel presents the findings for the beta-match indicator. As for the OLS regressions, black and Hispanic categorical indicators (white is baseline) are included to provide a point of comparison for the magnitude of the effects.

Columns (2) and (3) show a pattern of IV coefficients that is repeated in the four quadrants of the table. The magnitude and direction of the IV alpha-match effects are fairly similar to the magnitude and direction of the OLS coefficients: +7.1 (IV-2SLS) compared to +5.7 (OLS). However, the standard errors on the IV estimates are large, and so the coefficients lack statistical significance. In general, the IV-LIML coefficients are very similar to the IV-2SLS which is comforting since LIML estimation is less biased, and provides a cross-check on the IV-2SLS estimate. Finally, the coefficient in column (4) is what results from the just-identified regression using only the TRD instrument, and not the TRD². The fact that this coefficient (+15) is so much larger than that in column (2) is somewhat troubling. We expect that the just-identified regression is least biased if there is at least one strong IV—however, the first-stage regressions show that the IVs perform much better together. Since they are relatively weak, the results from this just-identified regression are not preferable to the ones in columns (2) and (3).

The implied first-stage F-statistic is 21.105 for these regressions, comfortably above 10 [Stock, Wright and Yogo, 2002]. Finally, the Hansen statistic is small, which means the hypothesis that the instruments are jointly valid can't be rejected. This depends upon the assumption that at least one of the instruments is valid [Murray, 2006].

The IV findings for the alpha-match effect on the ASVAB are similar in spirit: +14.5 (IV-2SLS) compared to +8.8 (OLS). For the beta-match indicator: PIAT is +7.0 (IV-2SLS) compared to +6.5 (OLS), and ASVAB is +14.8 (IV-2SLS) compared to +8.6 (OLS).

The F-statistics are in general better for the ASVAB regressions, as high as 44.8 for the alpha-match, which means that the instruments are not hopelessly weak in spite of being somewhat meaningless for a large portion of my sample.

Table 11
RELIGIOUS MATCHING AND EDUCATIONAL OUTCOMES (Second-Stage)

EXPLANATORY VARIABLE	Dependent Variable: PIAT-Math				Dependent Variable: ASVAB				
	Panel A	OLS (1)	IV-2SLS (2)	IV-LIML (3)	IV-2SLS (4)	OLS (5)	IV-2SLS (6)	IV-LIML (7)	IV-2SLS (8)
Alpha-match		5.662*** (1.987)	7.106 (23.336)	7.114 (23.491)	15.001 (28.131)	8.766*** (1.721)	14.487 (17.556)	14.564 (17.776)	25.403 (21.532)
Black		-12.994*** (1.087)	-12.889*** (1.090)	-12.889*** (1.091)	-12.797*** (1.104)	-17.740*** (1.014)	-17.999*** (1.006)	-17.998*** (1.007)	-17.818*** (1.024)
Hispanic		-8.900*** (1.141)	-8.571*** (1.695)	-8.571*** (1.701)	-8.143*** (1.884)	-11.821*** (1.089)	-11.399*** (1.409)	-11.395*** (1.417)	-10.790*** (1.571)
R ²		0.2394	0.1946	0.1946	0.1913	0.3299	0.3041	0.3041	0.2947
Root mean square error		24.177	24.570	24.570	24.620	24.148	24.340	24.340	24.510
F-statistic		---	21.105	21.105	25.370	---	34.586	34.586	44.796
Hansen's statistic		---	0.258	0.258	---	---	0.780	0.780	---
	Panel B	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Beta-match		6.457*** (1.629)	6.998 (18.820)	7.002 (18.912)	11.156 (20.799)	8.632*** (1.428)	14.792 (16.954)	14.886 (17.202)	23.670 (20.050)
Black		-12.972*** (1.086)	-12.898*** (1.068)	-12.898*** (1.069)	-12.854*** (1.071)	-17.763*** (1.012)	-18.049*** (0.985)	-18.048*** (0.986)	-17.934*** (0.995)
Hispanic		-8.840*** (1.139)	-8.594*** (1.477)	-8.594 (1.480)	-8.379*** (1.534)	-11.790*** (1.087)	-11.391 (1.378)	-11.386 (1.387)	-10.900*** (1.499)
R ²		0.2404	0.1955	0.1955	0.1942	0.3308	0.3043	0.3042	0.2943
Root mean square error		24.161	24.550	24.550	24.570	24.131	24.340	24.340	24.510
F-statistic		---	22.319	22.319	32.405	---	26.863	26.863	35.098
Hansen's statistic		---	0.209	0.209	---	---	0.697	0.697	---
Instruments									
TRD		---	Yes	Yes	Yes	---	Yes	Yes	Yes
TRD2		---	Yes	Yes	No	---	Yes	Yes	No
Observations		5920	5920	5920	5920	6958	6958	6958	6958

Note. Huber robust standard errors are in parentheses. Regression errors are clustered at the household level. Student-level controls include gender, religion, MSA, household income, family structure, mother's education. Other controls also include Census Bureau region, county, and rural/suburban/urban designation. *, **, *** denote significance at the 90, 95%, and 99% levels or higher.

What can we conclude from Table 11? It would be difficult to argue that the point estimates for the IV match-effects have much meaning given the size of the standard errors. However, if we think about the IV coefficients as a check on the underlying bias of the OLS findings resulting from endogeneity or selection effects, then a plausible story here is that the IV results support the direction and magnitude of the OLS findings.

The IV-diagnostics are generally good—the instrument performs well in the first- and second-stages, but since the instrument has a zero-value so often, as does the match variable (0-1 with only a small portion of students having a 1), there is an inherent difficulty in predicting 0-1 matches with a variable which lacks specificity. In fact, given these limitations, it is somewhat surprising that the TRD performs as well as it does. This means that a second lesson from the IV results is that the relative distance instrument should be considered as having some promise for future school studies, and should be tried with more precise geo-data.

Monotonicity of the Instrument Table 12 presents evidence on whether the instrument performs equally well for the various racial subgroups. This is motivated by the fact that religious matching itself is a function of religious affiliation and the supply of religious schools—both of which are experienced by racial groups quite differently. The regressions in Table 12 essentially reproduce the first-stage regressions from Table 9 but for blacks, Hispanics and whites separately. The results confirm what might be suspected—that the relative distance instrument predicts matching for Hispanics and whites fairly well, but not well at all for the black population in my sample. Considering, however, that so few black students are matched at all in this sample (21 and 61 respectively) it is not clear that the lack of monotonicity arises from the failure of the instrument per se, or from the limitations of the data (little variation in matching for blacks, and many zero-TRDs).

It should be reassuring, on the other hand, that the instrument performs fairly consistently for both whites and Hispanics. While it is a better predictor for whites, the differences between them are first-order and not second-order. Overall, Table 12 provides some evidence that the IV is plausibly monotonic. We already knew that the IV estimates for this sample lack precision, so this finding of non-monotonicity cannot add much to our caution about the IV coefficients. However, there is enough in Table 12 to suppose that the relative distance instrument could perform better with more specific data, and should not be abandoned too easily.

Table 12
RELATIVE DISTANCE AND RELIGIOUS MATCHING:
FIRST-STAGE RESULTS BY RACE

EXPLANATORY VARIABLE	Ordinary Least Squares Dependent Variable: <i>Alpha-match</i>						Ordinary Least Squares Dependent Variable: <i>Beta-match</i>					
	Black	Black	Hispanic	Hispanic	White	White	Black	Black	Hispanic	Hispanic	White	White
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
TRD	-0.001** (0.000)	0.000 (0.000)	-0.003*** (0.001)	-0.003** (0.001)	-0.005*** (0.001)	-0.006*** (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.003*** (0.001)	-0.003** (0.001)	-0.004*** (0.001)	-0.006*** (0.001)
TRD 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)	0.000 (0.000)	0.000*** (0.000)	0.000** (0.000)	0.000** (0.000)	0.000*** (0.000)
<i>Control variables</i>	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
R ²	0.0050	0.1821	0.0068	0.0474	0.0257	0.1223	0.0028	0.1017	0.0063	0.0485	0.0167	0.1109
Observations	2284	2284	1866	1866	4587	4587	2284	2284	1866	1866	4587	4587

Note. Huber robust standard errors are in parentheses. Regression errors are clustered at the household level. Student-level controls include gender, religion, MSA, household income, family structure, mother's education. Other controls include Census Bureau region, county, and rural/suburban/urban designation. <1% of Black students are alpha-matched and <3% are beta-matched. The very small sub-sample size may account for the lack of significance in this group. *, **, ***= significant at the 90, 95%, and 99% level or higher, respectively.

VI. DISCUSSION

a. Contributions and Limitations of the Present Study

This paper finds large and significant effects of religious matching on student outcomes using NLSY97 data. These effects are on the order of +5 to +8 percentile points in standardized tests. These estimates—even from the OLS—are important because they have never been estimated before. Issues of bias are likely to plague the question of religious match effects, as they do the entire class of related private and Catholic schools literature. But the new instrument used here, relative distance, can be improved upon with more accurate geo data. The data used here were significantly limited due to the lack of finer address data. Many students lived in the same zip code as both the nearest matched and unmatched school—rendering a relative distance of “zero”. Better data is attainable in theory, and represents a realistic future research plan. In spite of this, the IV estimates are similar in direction and magnitude to the OLS estimates, and provide some formal support for the direction and magnitude of the OLS effects.

b. Believability of the Estimates

The match effects identified here are large—ranging between 1/5 and 1/3 of a standard deviation in test scores—or about ½ the size of the black-white test score gap in this data. How much should we trust these estimates? Are they believable?

In the first place, to what extent do we expect the OLS estimates to suffer from self-selection bias? This question cannot be answered directly. But it is worth pointing out that the match-effects in OLS should suffer less from self-selection bias than in the estimate of a general Catholic schools effect, or a general private schools effect. In these cases, one readily sees that families may choose a Catholic or private school for brand reasons, or a general sense that these schools are “better” than public alternatives (Trivitt and Wolf 2011). But the sort of selection effect that would plague the findings in this paper would depend upon a story about parents believing that a “religiously-matched” school would be better for scores. This is dubious and seems to run contrary to common sense. Therefore, the OLS findings should stand a little firmer against concerns about selection bias than OLS findings for general Catholic or private schools. (This does not rule out other kinds of bias, though, such as those listed in section 2.3.)

A second question related to believability is whether we know that the match effect here is not really some other effect previously identified as being important in Catholic schools—especially, the interaction effect for minorities in urban areas (Neal 1997). Table 8 presents my best possible answer to this question. When the OLS findings have been broken down by minority group, match effects, though largest for black students, remain large and statistically significant for white and Hispanic students as well. This augurs against the hypothesis that the match-effects are merely driven by minority students in urban Catholic schools.

A final question of importance related to believability is whether the match effects here are really Catholic school effects, or private school effects. Although I cannot isolate these effects from the match effect in this paper since there is too little variation in matches apart from Catholic schools, I *have shown* that thinking about students in religious schools as treated with a “religious-match” (or not) may be as fruitful as thinking about them as treated with a “catholic school”. Put differently, my results really flip the question around: although I can’t reject that hypothesis that the match effect is really a Catholic school effect, there is enough evidence here to suggest that previous studies identifying a Catholic school effect may have really identified a match effect. My results suggest that matching should be taken seriously as a new way of thinking about *who is being treated with what* in the analysis of private and religious schools.

What about the objection that previously identified Catholic schools effects are especially observable for black and Hispanic urban students, only some of which (Hispanics) are typically Catholic? This would seem problematic if we think in terms of the alpha-match indicator which requires strict matching in re-

ligious creed. But if we think about the beta-match indicator things get more interesting. American blacks have long been characterized by greater religiosity than whites (Taylor et al. 1996; Taylor et al. 1999). It may well be that urban black families, though Protestant, are more religiously “identified” with Catholic schools than previously thought. This may be especially true in an era (post-Vatican II) when Catholic schools exhibit fewer of the traditional accoutrements of Catholic schools, such as the presence of religious sisters, and have come to reflect a more mainstream American “Christianity”. There is more to uncover in the literature on the sociology of religion which is highly relevant to the question of fit and match in the sense of religious tradition. See especially Chaves (1994) on religiosity and authority, and Woodberry et al. (2012) on the measurement of American religious traditions.

Ultimately, the OLS estimates presented here are a starting place for future research, though I make no claim to have exhausted all the possible ways to make this effect disappear.

c. Intriguing Questions Raised by the Present Study

This paper and its findings raise the intriguing question of what it is that schools actually do. What is the mechanism by which schools generate or promote academic growth in students? Consider two models, or analogies, for schooling. The first, a factory model, or black box, supposes that schools *act upon* students in the manner of producing something from raw materials. The second, a garden model, supposes that schools provide *an environment* for the mind to develop naturally, according to its own pace and progress, as the soil for a plant. If the factory model gets something right, then a good school can be identified in part by the objective quality of various inputs (teachers, curriculum, physical plant, and even the quality of the peers). However, if the garden model gets something right, the effectiveness of a school may vary tremendously by student, and this variation may depend upon how comfortable various students feel—and how nurturing the environment might be for specific students. While the factory model helps to illuminate the importance of certain oft-studied objective measures (class size, teacher quality, etc...), the garden model helps to explain others, such as the importance of minority teachers for minority students (Hess and Leal 1997; Dee 2004). The garden model is consistent with potentially large effects of fit when properly identified and measured; importantly, it can also provide a framework for understanding why some students make large academic gains in non-traditional school settings, such as home-education.

d. Relation to policy and future research

With respect to policy, it is important to know what benefit, if any, accrues to parents and students when they aim to get a “good fit”. Research has implicitly treated the question of fit as a matter of taste or individual utility. But if a good fit between student and schools *by itself* raises outcomes—independently of many other school or student characteristics, then the state too would reap the benefit of a good fit.

Studies of choice to date have not been able to distinguish between whether choice improves outcomes through competitive markets or through sorting. For example, Hoxby (2000) found that increased school choice improves student outcomes and lowers per pupil costs, thereby increasing overall efficiency. But her data do not allow her to back-out estimates of student-school interaction effects that would be needed to make a judgment about fit effects. Further, since her sample is limited to public schools, it’s hard to think about meaningful student-school pairings in this setting. Without doubt there is some kind of sorting according to student-school interaction that occurs within and across residential districts; and if Tiebout (1956) is correct, this sorting will be efficient. But this sorting has been understood to have more to do with preferences for expenditures and not “fit” in the personal sense, as described in this paper.

Identifying the effects of a good fit in education ultimately calls for at least three new avenues for research. First, it would be of great value to attempt to replicate these findings in better data, and to tease out the differences between school-effects and fit-effects (student-school specific). The findings in this paper support the general spirit of earlier findings which see particular effects for particular student-school

groupings. At the same time, more attention needs to be paid in understanding the mechanisms behind certain interaction effects. Why do Catholic schools appear to confer greater benefits on some students than on others? Answering that question may help identify more general effects which may be repeatable outside of the Catholic school setting.

Second, alternative ways of observing and measuring fit might be explored—especially models of fit which allow for gradients instead of the binary measure used here. Recent work on models of peer effects may provide a platform for thinking about variable degrees of fit (Hoxby and Weingarth 2005). Certainly, peer effects models help answer what degree of fit between a student and her peers is most beneficial to growth in scores. One generalization from this work is that students do seem to benefit from a healthy dose of “sameness” or “fit”. Too much diversity in scores—large differences between the top and the bottom—seems to have deleterious effects.

Finally, future work may obviously extend the logic of this paper to other publicly provided social services for which a “good fit” might matter—such as health care, welfare, job training, substance abuse programs, and the broader class of public goods which may be characterized as social investments into human persons. The basic question remains the same: whether goods that aim to form (or transform) human beings can be expected to perform equally well for all human beings. While most would say that such goods have an objective component and a subjective component, it is clear that for reasons of expediency research has been almost entirely focused on identifying the objective component and its covariates. These findings, however, and all those which have found significant interaction effects, suggest that the subjective components may be much larger than previously thought. But this is good news: effects of any sort that are larger than expected means that better reforms may be within reach.

NOTES

- 1 Paragraph 53A-1a-802 of Utah 2007 H.B. 148
- 2 According to one reporter describing the Obamas choice of school in Washington, D.C., “A number of great schools were considered. In the end, the Obamas selected the school that was the best fit for what their daughters need right now.” (Leiby 2008)
- 3 This paper uses the language of “fit” and “match” somewhat interchangeably, but in general, “fit” is conceived as the true continuous variable, and “match” is conceived of as a binary approximation of fit.
- 4 Tables 35 and 71 from the 2012 NCES Digest of Education Statistics reports that in 2007-8 the average tuition for a Catholic school student was \$6,018, and for a non-Catholic religious school student the same figure was \$7,117. Meanwhile, the average tuition at a non-sectarian private school was \$17,316, and public schools spent on average \$12,759 per pupil (NCES 2012).
- 5 Note that the NLSY97 oversampled minority populations. I do not use weights in any of my analyses, since I do not make proportional claims from my analysis to the general population.

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Alcohol Prohibition in the Beehive: How the Word of Wisdom Became a Commandment

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Abstract: The word of wisdom, the religious commandment which regulates alcohol and tobacco consumption for the member of the Church of Jesus Christ of Latter-day Saints, was first articulated as a principle with a promise, the observance of which was left up to the individual's discretion. During the second half of the 19th century church leadership moved towards stricter enforcement of the principle regulating alcohol and tobacco consumption. We argue that this intensification of religious behavioral standards in the Utah territory was a direct result of the quickly encroaching Transcontinental Railroad, the advancing federal government of the United States after the end of the civil war, statehood, the threat of being integrated into the larger market economy that came with both, and ultimately federal alcohol prohibition. The stricter behavioral standards for practicing Mormons allowed the church to continue to provide a wide array of public goods in the face of increased potential for trade with religious outsiders in and outside of the Beehive (Utah territory).

Keywords: Religion, Utah, *Word of Wisdom*, Club Goods

The *Word of Wisdom* is a commandment of the Church of Jesus Christ of Latter-day Saints (hereafter LDS church) that prohibits the consumption of alcohol, tobacco, and hot (caffeinated) beverages. In addition, it prescribes limited consumption of meat. The original revelation of the *Word of Wisdom* to the prophet of the LDS church, Joseph Smith, was merely a recommendation and articulated as a *principle with a promise*, the adherence of which promised health and well-being to any believer that followed it. Throughout the 19th and early 20th century, church leadership moved towards stricter enforcement of the principle and it was eventually elevated to the status of a commandment with sanctions for violations in 1921.

The economics of religion literature, and in particular the literature on religious organizations as producers of club goods, suggests that behavioral standards, like stigma and sacrifices, are effective ways for religious congregations to screen out free riders that would otherwise undermine the collective production of such club goods (Iannaccone 1992, 1994). However, the same literature also suggests that such behavioral standards will usually weaken over time as income levels in any given religious community rise (Montgomery 1996). It therefore fails to account for examples of behavioral standards that increase in strictness over time, like the *Word of Wisdom* of the LDS church.

Using the history of the *Word of Wisdom*, we argue in this paper, that religious strictness among insular sects increases when the religious group responsible for particular club goods is faced with an increase in its interactions with the outside world.¹ When trade expands and wealth grows, the process for maintaining cooperation in a group also changes through both formal external constraints and changing norms and customs (Stringham 2011; Breton 1989). This was the case for the Utah territory starting in the 1860s.

We proceed as follows. Section 2 reviews the literature on religious institutions as producers of club goods and explains the role behavioral standards play in this production process. Section 3 summarizes the history of the *Word of Wisdom*. Section 4 explains why Mormon behavioral standards became stricter in the late 19th and early 20th century. Section 5 concludes.

I. CHURCHES, CLUB GOODS, AND THE IMPORTANCE OF SCREENING OUT FREE RIDERS

Club models of religious organizations emphasize that religious congregations function as mutual-benefit organizations dedicated to the collective production of public goods. In order to co-produce public goods, however, groups have to solve significant collective action problems. In most instances of modern religious congregations, the goods that are produced collectively include smaller scale public goods like worship services, social activities, and catechesis or religious instruction. In particularly well functioning religious organizations, the types of goods provided can be even more elaborate. Examples of these more expansive collective goods produced by religious organizations include welfare services, or more precisely the provision of monetary and material aid to the poor and the elderly, employment services, as well as economic development of the community.

Historically, mutual aid societies, which provided such services, were often associated with religious organizations (Beito 2000, Kahl 2005, p. 97 and Gill 2019). A religious organization that provides an expansive list of club goods to this day is the LDS church. The church currently provides counseling and welfare services to families through its LDS Family Services program; it provides employment services through its Employment Resource Service Centers; it operates LDS distribution centers, which sell Mormon temple garments as well as media related to the religion; and finally it operates Bishops Storehouses, which, organized like a grocery store, give out food and clothing to the needy.

As is the case with most other religious organizations, the club goods provided by the LDS church are both produced and consumed by active church members. An active member therefore increase the utility of all other members, while a free rider, who participates less frequently in the production of collective goods but yet consumes them nonetheless, undermines the coherence of the group and ultimately threatens collective production of club goods.² It is therefore essential for the institutions of any particular congregation to develop a method for reducing free riding to prevent exhaustion of the collective resource (McBride 2007).

Iannaccone (1988, 1992, 1994) as well as Murray (1995a, 1995b) show that religious groups use stigma and sacrifices to screen out free riders and mitigate the collective action problem. What may seem like excessively strict behavioral constraints and sacrifices from the perspective of any outsider, is therefore usually just an effective way to screen out less committed religious free riders. Simultaneously, such strictness also commits the remaining members more strongly, because they now pay a higher upfront cost of membership.³ To function effectively, stringent behavioral constraints require a decentralized organizational structure or smaller groups to monitor member behavior. Stricter congregations will therefore usually be smaller or have greater subsidiarity.

Montgomery (1996) suggests that intergenerational social mobility will reduce the strictness of a particular denomination's behavioral rules. More specifically, he shows using a dynamic overlapping generations model, that as income increases, individuals prefer less strict rules as they start to increase nonsectarian variables in their utility function. A question that has received less attention in the literature is what factors can explain increased religious strictness? We suggest that increasing the number of outsiders who

come in contact with a group puts some pressure on the group to increase behavioral constraints. Using the example of the LDS church and in particular its behavioral rules regarding alcohol and tobacco consumption, we argue here that the threat of greater exposure to religious outsiders and a reduction in geographic separation from other religious groups or the secular world more generally will result in an increased level of strictness of any given religious group.

More specifically, religious groups use behavioral norms and rules to coordinate group behavior and to create solidarity among group members. As a result, such groups can more effectively co-produce collective goods. Historically, in the case of Utah, one important collective good was irrigation for subsistence farming in the high desert, without which Mormon communities could not have survived in the dry climate of the Mountain West. But even relatively secluded religious groups have difficulty surviving without trade with religious outsiders. Such trade brings group members into contact with conflicting norms and behavior standards, which can become a threat to group cohesion if members are persuaded to reduce their personal adherence to group norms. In the case of Mormons in Utah, such threats to group norms were particularly troublesome, because of the history of religious persecution the Mormons had endured prior to moving to Utah and because of the central importance of collective goods production surrounding agriculture.

II. THE HISTORY OF THE *WORD OF WISDOM* – FROM PRINCIPLE TO COMMANDMENT

And, again, strong drinks are not for the belly, but for the washing of your bodies. And again, tobacco is not for the body, neither for the belly, and is not good for man, but is an herb for bruises and all sick cattle, to be used with judgment and skill. And again, hot drinks are not for the body or the belly. ... Yea, flesh also of beasts and of the fowls of the air, I, the Lord, have ordained for the use of man with thanksgiving; nevertheless they are to be used sparingly. — Joseph Smith⁴

The *Word of Wisdom* (excerpted above) is a commandment of the LDS church that prohibits the consumption of alcohol, tobacco, and hot (caffeinated) beverages. In addition, it prescribes limited consumption of meat. The commandment was revealed to the prophet of the LDS church, Joseph Smith, on February 27th 1833 in Kirtland Ohio. The original revelation was announced as a “Principle with a Promise,” which promised health, protection and wisdom to those that obeyed the principle. One theory as to the origin of the *Word of Wisdom* holds that it grew out of specific problems in the early church.⁵ Brigham Young, contemporary of Joseph Smith and president of the church after Smith’s death, relates the following story regarding the origin of the principle in a sermon given on February 8th 1868 (Young 1869, p. 158):

The first school of the prophets was held in a small room situated over the Prophets Joseph’s kitchen, ... The brethren came to that place for hundreds of miles to attend school in a little room probably no larger than eleven by fourteen. When they assembled together in this room after breakfast, the first they did was to light their pipes, and, while smoking, talk about the great things of the kingdom, and spit all over the room, and as soon as the pipe was out of their mouths a large chew of tobacco would then be taken. Often when the Prophet entered the room to give the school instructions he would find himself in a cloud of tobacco smoke. This, and the complaints of his wife at having to clean so filthy a floor, made the Prophet think upon the matter, and he inquired of the Lord relating to the conduct of the Elders in using tobacco, and the revelation known as the *Word of Wisdom* was the result of his inquiry.

The original revelation was not observed consistently among the faithful. Arrington (1959, p. 40) reports that “one large group of Mormon families... was advised in 1838 that they should not be ‘too particular in regard to the *Word of Wisdom*.’” It was explicitly not a commandment⁶ and did not become a com-

mandment that was formally enforced through the institutions of the church until later in the 20th century. Even the prophet himself did not follow the principle to the letter. Arrington cites several instances of violations that are recounted in Smith's *History of the Church*,⁷ among them the following entry after Joseph Smith attended the marriage of the apostle, John Boynton, where he was presented with

three servers of glasses filled with wine, to bless... [which] was then passed round in order...; and suffice it to say, our hearts were made glad while partaking of the bounty of the earth which was presented, until we had taken our fill; and joy filled every bosom, and the countenances of old and young seemed to bloom alike with cheerfulness and smiles of youth... (1959, p. 41).

Vance (2006) even reports that Joseph Smith operated a Saloon out of his own home in Nauvoo Illinois in the 1840s together with his bodyguard Orrin Porter Rockwell who later established a brew pub in Utah.

Brigham Young did not take steps towards stricter enforcement of the principle until the 1860s. As president of the church, he reinforced the tenants of the principle by asking the Mormon community to adhere to the principle more strictly. In addition, two church organizations, the Women's Relief Society and then men's School of the Prophets, which were organized in 1867, both required observance of the *Word of Wisdom* (Arrington 1959, p. 43). These reforms match closely with the timing of the completion of the transcontinental railroad in 1869. It was not until the early 20th century, however, that the principle became a commandment of the church, which it is to this day.

Another wave of reform comes around the time of Utah statehood, in 1896. Even faced with the prospect of new non-Mormon settlement, Mormon leaders were relatively ambivalent about the application of the principle. Alexander (1981, pp. 78-79) reports that:

in 1901, John Henry Smith and Brigham Young, Jr., of the Twelve both thought that the Church ought not interdict beer, or at least not Danish beer. Other apostles, like Anthon H. Lund and Matthias F. Cowley also enjoyed Danish beer and currant wine. Charles W. Penrose occasionally served wine. Emmeline B. Wells, then a member of the presidency and later president of the Relief Society, drank an occasional cup of coffee, and George Albert Smith took brandy for medicinal reasons. Apostle George Teasdale, agreeing with President Woodruff, thought that no one ought to be kept from working in the Sunday School because he drank tea and that eating pork was a more serious breach than drinking tea or coffee.⁸

In 1901, Joseph F. Smith, a strong proponent of prohibition, became president of the church. Under his leadership, the First Presidency together with the Quorum of the Twelve Apostles (hereafter: the Twelve) agreed to not allow people to join the church who either operated or frequented a saloon, thereby focusing on stricter enforcement of the principle's recommendation regarding the consumption of alcohol. They also urged local stake presidents⁹ to refuse to allow blatant violators of the principle to enter the temple (by withholding the necessary *temple recommend* which is required to participate in the ritual) and only make exceptions for old men who smoked and old ladies who drank tea. Following these changes in emphasis, the Twelve promoted a stricter adherence to the *Word of Wisdom* publically and even substituted water for wine in the sacrament in their temple meeting starting in 1906 (Alexander 1981, p. 79). Finally, in 1921, church leadership made adherence to the *Word of Wisdom* a requirement for admission to the temple, which formally turned the principle into a commandment with institutional sanctions.^{10/11}

With respect to the prohibition of alcohol, the *Word of Wisdom* may be seen as reflecting a broader trend towards prohibition in the rest of the country. The 18th amendment had just been ratified by the required number of states to make it into a law in January 1919. By contrast, the commandment included a broader set of requirements beyond alcohol. This more comprehensive focus suggests that church leadership maintained an interest in the prohibition of the other items listed in Joseph Smith's original revelation and was not just swept up in the prohibition fervor of the times. In the early 1920s the church began a more

forceful campaign against tobacco use that included attempts to pass anti-tobacco legislation and in particular legislation preventing advertising of cigarettes on billboards. Around the same time, some members of the Church started arguing that the *Word of Wisdom* ought to include other caffeinated beverages such as Coca-Cola (Alexander 1981, p. 84).

The literature on churches as producer of club goods explains why stigmata and sacrifices are important for the success of collective public goods production (Iannaccone 1992, 1994), but it suggests that over time, as members become increasingly wealthy, congregations will become less strict in their application of behavioral standards (Montgomery 1996).¹² Prohibitions of any time help to mitigate against complacency with regards to in-group and out-group monitoring as wealth increases. The Utah case is one of a broader set of cases that brings this problem into sharper relief. How is it then, that in the case of the LDS Church, the strictness of behavioral standards increased over time? The following section provides an explanation for the increasingly strict application of the *Word of Wisdom* in the LDS church.

III. THE ECONOMIC AND POLITICAL DETERMINANTS OF RELIGIOUS CHANGE

Previous work in the economics of religion suggests that religious free riders will undermine collective production of public goods and weaken congregational coherence. We argue here that the *Word of Wisdom* and more specifically the prohibition of alcohol and tobacco among Mormons became binding commandments to facilitate greater coherence among the faithful in Utah when the LDS community in the western territory was faced with an encroaching federal government, the advance of the transcontinental railroad, and the subsequent assimilation into the larger market economy of the United States after the civil war. Stricter behavioral standards for believers and more intensive collective goods production, which was directly promoted by the leadership of the church, effectively excluded outsiders from participation in the local economy and from benefiting from the collective goods produced by believers in the state. In consequence, “the economic and social changes in Utah were never as great as those which transformed other western states” (Arrington 1951, p. 143).

In the 1860s, Mormon leaders started to promote stricter adherence to the principle because they believed it would facilitate economic development of the state of Utah. More specifically, President Brigham Young and other leaders of the church were convinced that resources should stay in the Utah territory rather than being spent on imported items like alcohol and tobacco. They initially promoted local alternatives to facilitate this goal but quickly turned to a more rigorous interpretation of the *Word of Wisdom*. Arrington (1959, p. 43) argues that “separated as they were from the United States by over 1,500 miles of treeless plains, hounded as they had been by hating ‘mobocrats,’ it was necessary for the Latter-day Saints to develop and maintain a self-sufficient economy in their Rocky Mountain retreat.” More specifically, he suggests that economic independence and in particular “husbanding of the [scarce] cash resources of the community” were the main motives of church leadership in promoting adherence to the *Word of Wisdom*, the result of which was less intensive trade with outsiders and a reduced outflow of cash resources as well as greater economic independence. The focus on limiting the outflow of cash resources as a result of liquor and tobacco imports was justified on the basis that the money was needed for more urgently needed imports of heavy machinery and equipment, which would allow for faster economic development of the territory. The Mormon community in Utah was still largely an agricultural society. Its high cost irrigation agriculture could not compete with cheap imports from the plain states, however, and the territory did not have any other significant industrial capacity that could guarantee employment for the faithful in the face of cheap imports from the remainder of the country. Church leadership therefore deemed it necessary to collectively focus on the economic development of the territory while at the same time keeping out outsiders who might destroy group coherence. Because of their recent history of persecution, the Latter Day Saints had another strong reason for high levels of within group solidarity and exclusion of outsiders.¹³ In the model the Mormons were promoting for their community, the monopoly production of collective goods provided infrastructure, but also created dependency on the community both to participate and tithe in order to finance collective goods

production. The bundle of goods produced collectively included redistributive programs, grain storage facilities, and irrigation, which was crucial for agriculture in the high desert.

In line with this general promotion of economic independence in a wide range of activities, Brigham Young explicitly promoted the production of wine made from Utah grown grapes, the growing of tobacco in the Utah territory, he developed a locally produced “Mormon” tea and even encouraged the consumption of such local options over the importation of “foreign” substitutes. In fact, the territorial legislature granted the exclusive right to manufacture and distribute Whiskey in the Utah territory to Brigham Young in 1873 (Vance 2006), which most likely happened in an effort to promote local alternatives in addition to securing monopoly profits for the church president. These efforts of promoting locally produced substitutes for imports were directed at promoting economic independence, while the more rigorous application of the *Word of Wisdom* was intended to increase group cohesion in the face of an influx of non-Mormon labor, which seemed to threaten the collective production efforts of the LDS community in Utah that were directed at economic independent. In this way, the *Word of Wisdom* served two important purposes: it increased group coherence and freed up resources previously spent on imports of alcohol, tobacco, and tea/coffee for the purchase of locally produced alternatives and thereby helped to grow the local economy. For its leadership, stricter adherence to the *Word of Wisdom* and the economic independence it could facilitate seemed essential for the survival of the Church in Utah.¹⁴

The advance of the Transcontinental Railroad (completed 1869 at Promontory Summit, Utah) not only connected Utah to the larger market economy of the United States, it also increased the probability of an expansion in mining in the territory. The extensive mineral deposits in the Wasatch Range had so far been unprofitable to exploit because of the high cost of transport to either of the densely populated coast regions. The advance of the railroad promised a cheap way to transport mining exploits and therefore made mining a profitable venture in the Utah territory. Leonard Arrington (1951) argues that church leadership was opposed to more intensive mining activities in the state for mainly two reasons. First, mining was perceived to have a disintegrating moral influence, but in order to build a permanent society of a unified people, orderly development of local resources was needed. Second, because mining only offered employment until the mines were exhausted, it was similarly destructive to the building of a more permanent society. In addition, all of the significant deposits of minerals in the territory were owned by non-Mormons, which meant that any potential gains from opening up the mines would go to the “‘enemies’ of the church” (Arrington 1951, p. 146) in Utah.

To mitigate the undesirable consequences of the coming of the Transcontinental Railroad, the School of Prophets, a men’s organization of the church, was organized in 1867, to prevent an influx of individuals who might threaten the morality of the community through drunkenness and gambling. The school’s main endeavor in this regard was to sponsor a contract to construct the Union Pacific Railroad for a ninety mile stretch through the most populated areas of the territory. By employing only Mormon workers on this stretch of the railroad, the undue influences of foreign workers in the state was limited.

As previously suggested, the School of the Prophets was also instrumental in advancing a stricter interpretation of the *Word of Wisdom*, which suggests that the goals of temperance and economic independence were two sides of the same coin of facilitating the survival of the Mormon community as coherent whole in the Intermountain West. As this coherence broke down, first when non-Mormon workers came to build the railroad in the 1860s, then after Utah became a state in 1896 as immigration increased, and then finally in the 1910s as immigration continued. According to the US census, population of the Utah Territory doubled from 1860 to 1870, from 40,2763 to 86,786, increased to 276,749 in 1900, and was 449,396 by 1920 (Powell 1994).

IV. CONCLUSION

Religious communities will tend towards stricter interpretation of behavioral norms (stigma and sacrifices) when threatened with an overall greater exposure to religious outsiders. In the case of the LDS church in Utah, the extensive collective goods production of the Mormon community was endangered when in the wake of the encroaching Transcontinental Railroad, a large number of non-believers were threatening to enter the territory. Because they would have benefited from any existing public goods that had been produced by the Mormon community, such as extensive irrigation canals, roads, and public safety, without contributing to their production, they represented a significant threat to the unity of the community. In order to fend off this imminent threat and secure the unity of the community, church leadership followed a two-pronged strategy of promoting group coherence through more rigorous application of the *Word of Wisdom* while at the same time promoting the goal of economic independence of the territory.

By offering an example of the dynamics of the development of religious norms over time and, in doing so, contributing to the literature on institutional development, this paper provides a way to help us think more broadly about how isolated groups and communities respond to greater openness. The more recent example of the LDS church withdrawing from the Boy Scouts of America (BSA) may offer an example with a similar dynamic. As the BSA became more accommodating of changing secular norms in the broader culture, it moved away from the norms prevalent in most Mormon communities, and, as a result, became a threat to the coherence of Mormon communities with BSA troops.¹⁵

NOTES

- 1 Berman (2000, p. 906) gives examples where economy wide rising standards of living produce groups of “Ultra-orthodoxy” specifically leading to increased fertility, reductions in labor supply outside the home, and other extreme responses consistent with insular club good production.
- 2 See Carr and Landa (1983), Sullivan (1985), Wallis (1990), Chiswick (1991), and Iannaccone (1992) for an explanation of the household’s religious production function, which depends on the quality of the group and the inputs of the other group members.
- 3 Olson and Perl (2001) show that the prediction that greater sacrifices and behavioral standards result in greater member commitment holds empirically between different denominations.
- 4 The Doctrine and Covenants of the Church of Jesus Christ of Latter-day Saints, Section 89, <http://www.lds.org/scriptures/dc-testament/dc/89.1-9?lang=eng>
- 5 Another theory as to the origin of the principle holds that it grew out of the early 19th century temperance movement. For an exponent of this theory see McBrien (1929).
- 6 The text of the *Word of Wisdom* states in paragraphs 2 “not by commandment of constraint, but by revelation and the word of wisdom...”.
- 7 The complete text of the History of the Church by Joseph Smith is available online: <http://byustudies2.byu.edu/hc/hcpgs/hc.aspx>, accessed November 5th 2012.
- 8 A note on the organizational structure of the LDS church is in order: The LDS church is organized in a hierarchical priesthood structure that is lead by the President of the Church, called the Prophet, together with two counselors, who form the First Presidency. The First Presidency directs the Quorum of the Twelve Apostles, which in turn directs the Quorums of Seventy as traveling ministers, and the Presiding Bishopric. These four levels of leadership form what is called the general authorities who exercise the leadership of the church and direct regional efforts of the five auxiliary organizations of the church: the Relief Society (a women’s organization), the Young Men and Young Women organizations (adolescents ages 12 through 18), Primary (an organization for children up to age 12), and Sunday School. For more information see www.churchofjesuschrist.org.
- 9 A LDS stake is an administrative unit composed of multiple (between 5 and 16) congregations called wards. <http://www.mormonnewsroom.org/article/stake-president>, accessed November 5th 2012.

- 10 Adherence to the Word of Wisdom was first listed as a requirement for entry to the temple in the 1928 edition of the General Handbook of Instructions, which guides ward bishops and stake presidents on church policy (Alexander 1981, p. 82).
- 11 Despite the movement towards religious prohibition of alcohol, unlike a number of other states, Utah did not pass a statewide prohibition bill until 1917.
- 12 An interesting implication of this literature is that trade and wealth tend to erode small group cohesion and the stigma and sacrifices that create cohesion, but increase openness to outsiders. This idea has been termed the “doux commerce thesis” (Hirshman 1992, pp. 41-43). Collective production of public goods, on the other hand, requires small group cohesion and exclusion of outsiders and in particular free-riders. In the case of the LDS church portrayed in this paper, church leadership seems to have taken explicit steps to limit trade with outsiders in order to limit these group cohesion eroding influences, which would have made public goods production within the church more difficult.
- 13 The extra-legal death of Joseph Smith in Missouri (1844) and the experience of the Mountain Meadows Massacre (1957) are two tangible experiences of conflict that the settlers had in mind when contemplating peaceful relationships with non-Mormon settlers in Utah.
- 14 An insightful reviewer points out that, as a result of the fact that the renewed interest in the Word of Wisdom coincided with a movement towards import substitution, the coalition of Protectionists and Prohibitionists (similar to Yandle’s (1983) coalition of bootleggers and Baptists) were able to jointly promote the increased strictness of the principle while also joining efforts regarding the granting of local monopolies.
- 15 We are grateful to the reviewer for offering the example of the Boy scouts of America as another potential case in point.

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Substitutes or Complements? A Study of Welfare Services in Utah¹

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Abstract: What determines whether secular and religious organizations provide substitutes or complements? To investigate this question, we focus on one area, care of the poor, in which states and churches have significant overlap. While state welfare programs have crowded out church welfare efforts in many places, Utah seems to be an exception to this rule. We argue that the economic force behind Utah's welfare complementarity is the large share of individuals who fund both systems: tax-*and*-tithe payers. These individuals benefit when the welfare programs increase the value of each other, rather than cannibalize it. We test this theory against county-level data on religious adherence, Utah state welfare use, the 2019 Medicare expansion vote in Utah, and the comparable cases of Texas and Tennessee.

Keywords: Economics of Religion, Welfare Policy, Utah

I. INTRODUCTION

Conventional wisdom and economic theory suggest that the provision of welfare services by the state will crowd out, or at least compete with, church welfare efforts. This story can explain the patterns of welfare provision in most places of the United States and around the globe. An interesting exception to this is found in Utah. Welfare services in Utah are provided by both the Department of Workforce Services and the Church of Jesus Christ of Latter-Day Saints (hereafter the LDS Church), and these two systems function more as complements than substitutes with regard to the populations they serve, the services they provide, and they manner in which they provide them. What explains this exception? We argue that the key to this different relationship is that the median voter in Utah pays both taxes to the state and tithes (of some form) to the LDS Church. Because of this, she will support state welfare policies that complement the already well-functioning LDS welfare system. More generally, when the median voter is a tax-*and*-tithe payer, she doesn't vote to increase general state-run welfare in some amorphous, ill-defined way—rather, marginal increases in state-run welfare must complement her understanding of “legitimate” welfare.² Furthermore, the state legislature overrepresents the LDS community in Utah, ensuring that legislators build a state welfare system that responds to the preferences of the tax-and-tithe-paying median voter. This situation of secular-religious welfare complementarity is unique to Utah be-

cause it is one of the few states (if not the only one) with a religious majority, and a religious majority with a characteristic approach to welfare.

LDS welfare provision has already been a notable case across the social sciences, as is Utah itself for being home to relatively high rates of economic mobility (Barton 1977; Chetty et al. 2014; Goodman and Herzberg 2019). An exemplar of the welfare approach taken by Utah's Department of Workforce Services is their Intergenerational Poverty Initiative (hereafter, the Initiative) begun in 2012.³ Its five and ten-year plans include supporting parents as the "first teachers," promoting a culture that supports "consistent school attendance," and most importantly, recognizing "family as the center of economic stability" (Intergenerational Welfare Reform Commission 2015).⁴ In 2019, voters in Utah passed the Medicaid expansion, which was ratified by lawmakers with some notable customizations, such as "self-sufficiency requirements" and expanded support for pregnant mothers. Both the Initiative and Medicaid expansion are coherent with LDS values regarding welfare: the role of work, self-reliance, healthcare, and provision for children. This paper analyzes the economic forces behind the division of labor and cooperation of Utah and LDS Church welfare services. We see this as progress toward a more general question: What determines whether secular and religious organizations provide substitutes or complements?

Our analysis follows a long tradition of scholarship investigating the relationship between church and state. We build from public choice, which analyzes political organizations and political choices from the economic point of view, and the economics of religion, which studies religious organizations and religious choices from the economic point of view. Breton (1989) asks a question similar to ours. His response—as well as the default economic response—is that there is *no* distinction in economic theory between "types" of producers (religious or secular), rather, they are all in competition to provide the demanded goods to individuals at the lowest price. We agree with this analysis, but we adjust our starting place to allow for heterogeneous welfare "goods," and thus must find out how the conclusion holds in a new setting. Hungerman (2005) also studies a related question, testing whether church and state welfare activities at the *national* level are substitutes or complements. By estimating the empirical relationship between Presbyterian church donations and spending, he finds them substitutes. Our approach to Utah is analogous to Phillips (1999), who argues that Utah is an exception to the "supply-side" theory of religion, because the religious endogamy, denominational distinctiveness, and high fertility of the LDS Church help it circumvent the predicted effects of religious competition. Anderson (1987) investigates the rent-seeking side of welfare programs and argues that they have effects akin to labor market restrictions. Since "levels of [welfare] are apparently not significantly correlated with the relative voting strength of the poor," there must be other groups demanding such programs (significantly, he excludes Utah from this analysis because of its unique features). Berman's (2000) analysis of Ultra-Orthodox Jews highlights how secular services can substitute for religious club goods; thus various religious prohibitions (e.g., "do not accept welfare from the state") can be understood as taxes upon secular goods, making club members better-off when they are enforced. Finally, our analysis may explain how high levels of welfare spending and robust church adherence can coincide (Gill and Lundsgaarde 2004).

We provide a model which relates the complementarity of Utah welfare systems to the incentives of tax-and-tithe payers. We make simplifying demand-side assumptions about tax-and-tithe payers from religious affiliation, and our primary supply-side assumption is that organizations respond to the median voter (Downs 1957).⁵ Our theory yields a series of predictions which we test against evidence from Utah and welfare provision in comparable states.

Our paper sheds light on the distinctive relationship between Utah state and LDS Church welfare programs that we observe today. Extensions of our theory lie in general applications to the question of church/state separation—for example, the religious-secular division of labor and trade in services such as education, healthcare, and insurance, amongst others. In short, the applicability of our results relies upon the extent to which tax-and-tithes payers have influence in their respective organizations. Our conclusions emphasize that the individuals who participate in both secular and religious organizations function as an in-

formation and incentive channel between otherwise distinct providers of social services, which has imperative consequences for those being served.

II. A THEORY OF CHURCH AND STATE WELFARE COMPLEMENTARITY

While care for the poor is an activity older than economic analysis, economic laws apply across time and space. We approach our research question alongside the growing economics of religion literature.⁶ McBride (2007a, p. 399) offers a great explanation for how rational choice theory applies to religious choices as well:

This rational choice approach takes as given the notion that individuals and institutions, even religious ones, care about the costs (monetary, time, effort, emotion, etc.) and benefits (spiritual, social, etc.) of their actions, and that a religious institution succeeds, in part, by providing incentives that generate desired behavior.

McBride has analyzed features of the LDS church, such as religious authority (2016) and free riding (2007a and 2007b), from the economic point of view. This paper focuses on another distinguishing characteristic of the LDS church, specifically, the Church Welfare Plan.

Our theory builds upon Breton (1989), which applies a key assumption in economic theory—that individuals are indifferent as to *who* produces the goods that they consume (deciding solely on the margin of price)—to public goods.⁷ Economic theory predicts that producers of public goods assemble themselves to serve the demands of individuals according to their comparative advantage. It is worth quoting Breton (1989, p. 726) at length on this point:

The family or kinship system will, in other words, be a more effective provider of child care, nursing and convalescence services, unemployment relief, assistance to the elderly and to single mothers, loan guarantees, and protection against homelessness and destitution in societies characterized by a low degree of geographic mobility and a strong attachment to ancestral homes and places of residence. For reasons that are obvious, the nuclear family is much less capable of supplying many of the income redistributional services just listed and the monoparental family is still less effective.

It is a reality today that public goods once provided by the family and church are now produced by governmental organizations. Interestingly, the persisting LDS Church Welfare Plan combines some of the features that Breton (1989) mentions—an emphasis on family ties, support by the local community, and informal norms encouraging work. Notice, too, that these informal tie-in goods increase the marginal cost of using welfare services to users of these programs.

Kahl (2005) considers the heterogeneity of welfare provision across European states, arguing that different religious origins (i.e., Protestant or Catholic) resulted in different state social service policies. This is important for our theory since we view the welfare services provided by various secular and religious organizations as heterogeneous and thus resulting in combinations that fall on a range of related as substitutes to complements. Breton & Wintrobe's (1982) analysis of private and public bureaucracies provide a public choice explanation for welfare heterogeneity. Policies that address the same general issue—"welfare" for example—are constituted by two parts: 1) an essential core of services that defines the type of policy (e.g., transferring resources to the poor), and 2) a blend of inessential services that are the result of exchanges by utility-maximizing bureaucrats (e.g., work-fare requirements). We assume similarly that bureaucrats can adjust their welfare programs at the margin in order to please their tax-and-tithe paying constituents.

Hungerman (2005) finds that church welfare activities substitute for government welfare activities—a "crowding-out" effect estimated at 20-38 cents on the dollar using the 1996 welfare reform. This comports with our theory, however, since tax-and-tithe payers across the nation are funding a *plurality* of private and

public welfare systems. Therefore, it would be very costly to identify a federal welfare program that “complements” all other religious welfare programs, even after assuming that tax-and-tithe have great influence over federal welfare policies. In Utah, the majority of tithe-payers pay their tithes to the *same* religious organization, the LDS Church, which provides a single, unique welfare approach to welfare, and they are numerous enough to influence the position of the “median voter.”⁸ In a survey from Dahl & Ransom (1999), 80% of LDS members from Utah responded that they attend “Sacrament Meeting” at least three times per month, and within that group, they estimate around two-thirds pay tithes.⁹ With the percentage of Utah members who report LDS membership around 60% today, faithful tithe payers to the LDS Church could make up at least 32% of the population. And of course, this does not account for those who simply prefer the values of the LDS Church with regard to welfare provision.

Finally, Gill and Lundsgaarde (2004, p. 107) deal with the question of state welfare provision intruding on the long tradition of church welfare, hypothesizing that “the level of religious participation in society should vary inversely with the per capita level of social welfare provided by the state”. Similarly, Chen & Lind (2007, p. 42) argue that religious intensity generally comes with forms of social insurance, which can help explain why fiscal and social conservatism coincide; “The religious right may be against welfare because it competes against their constituency”. The arguments from both papers may be true, but only to the extent that religious members have no significant degree of control over the resources of the state welfare provision. In fact, various studies have documented the “delegated” nature of the U.S. welfare system, meaning that the government outsources much of its on-the-ground welfare provision to local, private agencies (Morgan & Campbell, 2011). Our choice of Utah is fitting in that there are two main welfare service providers, and the individuals who pay taxes and tithes make up a large portion of the overall population.

a. A Model of Dual Welfare Systems

We make two main assumptions in our theory of decisions regarding religious and secular welfare policies. First, welfare policies are heterogeneous. This means that some welfare policies relate as substitutes, while others function as complements. Second, tax-and-tithe payers fund both secular and religious welfare systems (by state mandate and church appeal), though the cost of individual consumption from each system may vary. Our supply-side assumption is that state authorities have a strong incentive to conform to the welfare choices of the median voter, whether she is a tax-and-tithe payer or just a taxpayer.

We formalize the demand and supply of welfare policy as follows. Let W_0 , W_1 , W_2 , represent three different welfare policy bundles. From the perspective of tax-and-tithe payers, W_0 and W_1 are substitutes. However, they view W_0 and W_2 as complementary.¹⁰ This means that in the presence of W_1 the value of W_0 to tax-and-tithe payers is less than it otherwise would have been. On the other hand, the value of W_0 is enhanced when W_2 is also provided. The quintessential example of complementary goods provided by economic textbooks is bread and butter. Perhaps a better example for our situation is the federal tax deduction for church donations. In the presence of this policy, the value of church donations to tax-and-tithe payers is increased.

In t_0 , the church begins by producing welfare policy W_0 , which is distinct from other welfare goods in that the church specializes along its comparative advantages (providing friendly house visits, for example). The state also begins by producing welfare policy W_1 , differentiated along its own comparative advantage (a soft budget constraint for funding, for example). Church members view state welfare as an inferior substitute for their own, and the price faced by tax-and-tithe payers for their personal use of state welfare is prohibitively high (for all time periods); $P_1 = \infty$. However, for only taxpayers, the price of using state welfare (its marginal cost) is zero: $P_1' = 0$. Finally, the price of using church welfare services is purposively set above zero by church authorities, $P_0 > 0$.¹¹

In the next time period, t_1 , we relax some constraints so that tax-and-the prayers now have the ability to choose which welfare program is produced by the state. The binding constraints represent a set of alternative situations in which the median voter would not be a tax-and-tithe payer—for example, if the federal

government directed the state welfare programs, or if the cost of switching the state welfare production remained too high. Since tax-and-tithe payers face relatively high prices for individual consumption of welfare, $P_0 > 0$ and $P_1 = \infty$, they will demand a complementary welfare policy, W_2 , which is now marginally less costly, $P_1 > P_2$. By increasing the value of church welfare, its marginal cost is now also lower to tax-and-tithe payers, $P_0 > 0'$. The mechanism here is basic utility maximization—individuals paying both taxes and tithes every year have an incentive to choose programs that enhance one another's value rather than cannibalize it.

Our analysis yields a set of predictions:

1. *Prediction 1:* Forces toward complementarity will be stronger where tax-and-tithe payers constitute a large proportion of the population (relative to other groups) and when their combined tax-and-tithe burden is high (relative to their budgets).
2. *Prediction 2:* To make state welfare complementary, tax-and-tithe payers will vote to mitigate the production of the substitute state welfare policy bundle, W_1 , and make access more expensive for users, $P_1' > 0$.
3. *Prediction 2:* When state welfare is complementary, religious leaders will become more lenient toward member use of state welfare services. This means the price of the complementary welfare policy, W_2 , for tax-and-tithes payers is lower than the substitute welfare policy $P_1 > P_2$.

b. Complements and Substitutes

In sum, we predict that a jurisdiction will have state and religious welfare systems that are *complements* when the median voter pays both taxes and tithes to single secular and religious organizations. What does it mean to say that two systems of welfare are complementary? “If two goods are complements, then large changes in price ratios lead to only small shifts in relative quantities bought” (Hirshleifer 2009, p. 106). Mathematically, the cross-elasticity of substitute goods is positive, while the cross-elasticity of complements is negative. When thinking about welfare systems as complements, then, we look at how each system increases the value of the other.

Up to this point, we have considered the possibility that each system “specializes” in providing the specific kinds of welfare services for which it has the comparative advantage.¹² However, there is another way in which church and state welfare policies could be complementary—if they are *nearly identical*. Interestingly, this is what substitutes (butter and margarine) generally look like. The key to this situation, though, is that these duplicate welfare programs are consumed by two distinct markets—tithe-payers on the one hand and simply taxpayers on the other. Tax-and-tithe payers who see their own church's welfare system as the best approach to caring for those with lower income might seek to duplicate these kinds of welfare policies at the secular level so that they may reach a broader and/or entirely different market. In other words, the value of a welfare policy to consumers is also determined by the specific group of people it is able to reach. We will show that Utah's state welfare system exhibits both forms of complementarity.

III. A SHORT HISTORY OF DUAL WELFARE SYSTEMS

The secular U.S. welfare system began its ascent with the Social Security Act of 1935. In the very next year, 1936, the Church of Jesus Christ of Latter-day Saints consolidated their welfare services under the Church Welfare Plan—as it is still called today—to provide a religious and family-based substitute for government welfare. Both programs originally responded to the suffering experienced during the Great Depression, although they approached this goal using different means. We discuss the origins of LDS and Utah welfare programs, comparing and contrasting both approaches as they developed into their modern forms.

a. The beginnings of both systems

The LDS Church Welfare Plan has its roots in many pre-Depression activities of church members, most notably the Relief Society (Barton 1977; Blumell 1979; Mangum and Blumell 1993). The Relief Society originated in 1890 as LDS women dispersed financial aid to the needy in their neighborhoods and eventually furnished their bishop with a list of recipients plus detailed knowledge of the cases.¹³ Even here were the marks of a unique welfare system: “Beginning with the 1901 handbook, the bishops were instructed to provide some kind of employment, however small, to those receiving aid if they were capable of working” (Blumell 1979, p. 91). The purpose behind church provision was expressed by Apostle Richards, who, after attending the 1918 National Conference of Social Work, urged his church members that “if we are not the leaders in the social work in our communities, strangers come in and take up the work” (Blumell 1979, p. 96). During the Great Depression, however, LDS leaders reasoned that public welfare for Latter-day Saints could be legitimate since they paid their fair share of taxes as citizens (Blumell 1979). Blumell (1979, p. 105) also reports that although LDS members did not yet make up a majority in Salt Lake County, the total of county charity cases was 1,188, while those in the LDS church wards totaled more than 7,700.

From 1936-1938, LDS leadership consolidated the efforts of the Relief Society and transformed it into the Church Welfare Plan (as it is called today). Efforts to provide basic necessities were rapidly expanded to include: the bishops’ storehouse (1937), a regional employment office (1948), and a pasta plant (1963) (The Church of Jesus Christ of Latter-day Saints 2011). The value of such extensive and ongoing investment is made clear by the doctrine of the church, summarized by President David O. McKay in 1936: “[The welfare program] is established by divine revelation, and there is nothing else in all the world that can so effectively take care of its members.”

Throughout the next century, state and federal welfare also grew to provide more services to broader populations. The first state relief organization was started in New York in 1931 (Malmgren 1965). When Congress passed the Emergency Relief and Construction Act in 1932, federal funds were made available to states through the Reconstruction Finance Corporation, and they dispersed nearly \$3 million worth of direct relief of food, clothing, and fuel to Utah’s population (Malmgren 1965, p. 41). In 1935, Utah created its permanent State Department of Public Welfare. The welfare system was quickly evolving into its modern system:

The Utah citizen finding himself without any means of support had only to apply to the nearest county relief administration or its agent, state his case, fill out the proper financial statement, submit to the necessary investigation and be given his requirements.

At the federal level of the same year, President Roosevelt had signed into law three separate welfare programs: an old-age retirement program (“Social Security”), the Unemployment Insurance system (UI), and the Aid to Dependent Children program (known as Temporary Assistance to Needy Families, or TANF, since 1996). Through these social insurance programs, and Social Security Disability Insurance added in 1956, the federal government sought to aid individuals who had worked in the past and lost their income (or spouse’s income) involuntarily.

Medicare and Medicaid began in 1965. The purpose of the former is to ease healthcare costs for the elderly, while the latter provides healthcare to those with low incomes; both have grown dramatically over time. Medicaid in particular is the largest means-tested program in terms of expenditure, with real per capita Medicaid spending rising by 210% from 1986 to 2007 (Moffitt 2015, p. 735). Since families do not know how much the government spends on their healthcare through these programs, social scientists cannot use household or consumer surveys to better understand these programs. However, numerous studies have pointed out the decline of church-related welfare activities and other private provision during the expansion of state welfare efforts (Beito 2000) or presented various ways to analyze their contemporary relationship, or lackthereof (Brooks 2000; Hien 2014; Dills and Hernández-Julián 2014).

Throughout the expansion of government welfare, LDS members in need of welfare assistance were (and still are) counseled to seek assistance first from family and local community, and only after these proved insufficient, could they turn to the Church Welfare Plan, or as a last resource, to state resources. The Church Welfare Plan illustrates the clear distinction between LDS welfare and perceptions of welfare efforts outside the Church:

It is significant to note that about this same time [as the Church Welfare Plan], when the Lord established his way of caring for those in need, the “world,” or government, introduced its form of dole assistance—a counterfeit alternative to the Lord’s way... Individual and family initiative was supplanted by government handouts (Haight 2020, p. ?).

The LDS Church, like other religious organizations, wants to ensure that their essential values are maintained amidst a growing secular power. Pragmatically, self-reliance is also desirable because federal aid may prove to be unreliable; “The federal government, the presidency continued, would probably curtail aid to states and counties, making it ‘imperative that the church shall, so far as it is able, meet this emergency’” (Mangum and Blumell 1993, p. 131).

b. Utah state and LDS church welfare today

To understand the LDS approach to welfare in the modern world, we rely primarily on Chapters 21-22 on “Caring for Those in Need” in the LDS General Handbook. The chapter titles of this section are revealing: “Ministering” and “Providing for Temporal Needs and Building Self-Reliance.” LDS members who minister, a duty that is part of their baptismal covenant, are subject to a series of exhortations in the text:

Ministering sisters represent the Lord, the bishop, and Relief Society leaders... Ministering brothers and sisters are flexible in how they minister. They customize their contacts, service, and any messages to meet the needs of members... Ministering brothers and sisters listen so they can understand how best to serve (21.1).

In practice, welfare assistance is both assessed and carried out at the most local level—that of the household—and coordinated through quarterly meetings with Elders quorum or Relief Society presidencies. What is the goal of LDS welfare? The General Handbook also discusses this: “The purposes of Church welfare are to help members become self-reliant, to care for the poor and needy, and to give service” (22.1). Self-reliance is defined as “the ability, commitment, and effort to provide the spiritual and temporal necessities of life for self and family” (22.1.1). The stated temporal goals for all LDS members in the rest of this section are specific and include: eating nutritious food and getting regular exercise, obtaining as much education as possible, building a long-term supply of food in case of emergency, avoiding unnecessary debt and building up financial reserves, and practicing discipline in the spiritual life as well. Work is identified as “the foundation upon which self-reliance and temporal well-being rest” (22.1.1.3).

Understandably, LDS members are sometimes presented as symbols of quintessential American values such as self-reliance, strong familial networks, and sobriety. Ruthven (1991, p. 24) points to a paradox: “‘Super-capitalists’ and proselytizers for free enterprise that they are, [members of the LDS Church] nevertheless seem to reject the individualism upon which American capitalism is predicated”. There are now 15 million members of the LDS Church worldwide, and over 60% of Utah reports that they are members—though there is ample inter-county variation. Utah County, the second most populous county in the state, boasts membership in the church of 82% of its inhabitants, while Salt Lake County, the most populous but fastest-declining in LDS membership, is at 49%. Duties of members include paying tithes (10 percent of pretax income, though defined ambiguously) and fast offerings, “ministering” visits to other members’ households at least once a month, and “serving in a calling,” which means voluntary church positions—summing up to

around 14 hours spent per family per week on church-related activities (Ruthven 1991, p. 40). Importantly, it is actually the contributions from “fast offerings,” a sum given to the church each month as family members fast together for one meal, that funds many LDS welfare activities, though we will simply refer to the sum of all LDS contributions (including time) as the family’s “tithe.” Compared to other churches, LDS members have significantly higher fertility, attendance, and donations.¹⁴ Utah is the most religiously homogenous state in the Union.¹⁵

With respect to welfare policy, Utah is home to the 7th lowest poverty rate in the United States. This feat is compounded by its being an outlier in demographic and political spheres as well: 1) Utah fertility has historically been the highest in the nation—only falling to 4th place in 2019 at 2.03 which is still higher than the below-replacement national average of 1.73, and 2) Utah state and local government spending per capita is the 10th lowest in the nation (National Center for Health Statistics and the U.S. Census Bureau). Tennessee and Texas, which rank similarly at 13th and 12th lowest in state and local spending per capita, are home to poverty rates ranking the 13th and 12th highest in the nation (U.S. Census Bureau). While Utah, Tennessee, and Texas are all considered highly religious, only in Utah do these conditions seem to result in a society that is largely successful at caring for its poor.¹⁶ Finally, LDS member engagement in politics is notable, and in 2019, LDS members accounted for 90% of the state legislature (The Salt Lake Tribune 2019).

We note at least three explicit ways in which LDS and Utah state welfare programs in modern Utah function as complements. First, while federal funding for state welfare programs comes with many strings attached, Utah policymakers have been successful at customizing many of these rules to accord with their unique approach to welfare. Second, Utah’s state welfare program has increasingly focused on the family as an anti-poverty institution, and the LDS “Welfare Services Fact Sheet” makes it clear that this is something the church values: “The responsibility for each person’s spiritual and temporal well-being rests first upon himself, second upon his family, and third upon the Church.” Third, the kinds of state welfare services that LDS members consume are those not readily provided through the LDS welfare system. A prime example of this is Medicaid, which was recently expanded at the behest of Utah voters to cover pregnant women with incomes up to 137% poverty.¹⁷ In an 2018 initiative, the legislature was asked to work out an agreement that would allow the federal expansion of Medicaid to be available to low income Utahans. After much debate, the Utah Legislature passed a plan that would expand Medicaid under a recently accepted 1115 Medicaid waiver that would permit a community activity requirement as a condition of participation for all recipients who are capable of fulfilling it (Utah Department of Health 2020).

There is great concern, continuing to this day, that “strangers” will intervene to alter the values instilled by Church teaching. In wholly federal programs such as Food Stamps, a program designed by the federal government, efforts to enhance openness, reduce stigma, and build clientele are often key drivers. By contrast, church welfare programs are designed to be the last and temporary resorts for families.

IV. TESTING THE THEORY

The economic approach does not rely on changes in taste to carry the explanatory burden for market, political, or religious decision-making. However, the welfare programs chosen by a society will certainly be affected by its members’ political and religious commitments. In this section, we investigate whether the prevalence of tax-and-tithe payers in Utah can help explain the unusual complementarity of its welfare systems.

The ideal test of our theory would be the specific features of a welfare system in a state identical to Utah in every respect but its high proportion of tax-and-tithe payers. Second-best might be the statistical equivalent—looking at how LDS member and non-LDS member voting and use of welfare varies—though such data do not exist for understandable reasons. We therefore suggest three tests of our theory and its predictions: 1) comparisons with two counterfactuals, Tennessee and Texas; 2) the relationship between LDS adherence and welfare use at the county level; 3) changes in the specific features of Utah welfare policy over time. We have argued that a necessary condition for church-state program complementarity is that a large

segment of the population funds both the specific church and specific state in question. Utah is an excellent case study because the majority of its tithe-payers support a single church (and pay taxes to a single state), although religious behavior is not compelled by the state like we may find elsewhere in the world when the first condition holds. Utah state also enjoys high state-capacity, meaning that there is a wide array of state welfare programs in its feasible set, so voter choice is relatively less restricted than in other global societies with a religious-majority (Piano 2019). We find that the predictions of our theory hold, helping to explain recent developments in Utah welfare policy like the Intergenerational Poverty Initiative and Medicaid expansion vote.

a. The Specialness of Utah

What determines whether state and church welfare programs will function as complements or substitutes? Specifically, why do we see complementary programs in Utah though not in other states? Our theory answers:

Prediction 1: Forces toward complementarity will be stronger where tax-and-tithe payers constitute a large proportion of the population (relative to other groups) and when their combined tax-and-tithe burden is high (relative to their budgets).

The key to Utah's complementary approach to welfare lies in their high proportion of tax-and-tithe-payers—specifically tithe-payers to a *single religious organization* (the LDS Church). The lower the proportion of tax-and-tithe payers (to the same tithing recipient), then the less religious and secular welfare providers will function as complements.¹⁸ To test this prediction, we compare Utah's state welfare expenditures with two other states: Texas and Tennessee.

According to Pew Research, both Utah and Texas are tied at 11th place for religiosity (measured by a combined index including rates of church attendance and respondents who say religion is “very important” to them). Texas, however, has tithe-payers across a plurality of religious denominations; 31% respond that they are evangelical Christians, 13% as mainline Protestant, and 23% are Catholic. In Tennessee, 73% of adults identify as “highly religious,” with 52% saying they are evangelical Christians, 13% as mainline Protestants, and 6% as Catholics. Even though all considered “Christian,” the approach to welfare in each of these religious traditions is markedly distinct. For example, Kahl (2005) shows that Protestant religious traditions focus their welfare efforts on the “deserving poor,” i.e., those willing to work, whereas the Catholic tradition does not distinguish between “deserving” and “undeserving,” and therefore historically Protestant and Catholic states have measurably different approaches to welfare today. Another important distinction between LDS Church members and other denominations is a difference in involvement. Table 1 documents how LDS members are significantly more likely to participate in both worship and small group meetings than Protestants. This likely affects the intensity with which religious preferences for welfare play out.

Table 1.

How involved are religious members? (% of members in each religious organization who report high/medium/low involvement)			
	<i>High</i>	<i>Medium</i>	<i>Low</i>
LDS Church	67%	29%	4%
Jehovah's Witness	64%	35%	2%
Evangelical Protestant	43%	49%	8%
Historically Black Protestant	41%	53%	6%
Mainline Protestant	20%	61%	19%
Orthodox Christian	20%	68%	11%
Catholic	16%	70%	14%

Source: Pew Research Center, "2014 U.S. Religious Landscape Study."

First, we analyze the pattern of welfare expenditure patterns in the three states. These are reported in Table 2. There is a clear difference between Utah and the others—while all three have comparable levels of annual welfare spending, the level of government that does the spending is different. Utah features a slightly lower per capita expenditure on public welfare in general, but it's spending at the local level (i.e., cities and townships) on "Other Public Welfare," which includes support of private welfare agencies, is nearly twice that of either Tennessee or Texas. Utah hospital expenditures follow the reverse pattern of the other states, with funds dispersed mostly at the state level. We interpret these patterns as revealing how secular welfare in Utah complements LDS welfare activities primarily located at the local level (the ward), while the state has specialized in healthcare services. Of course, while these patterns of service provision likely follow from the legal framework of each state, this itself is evidence of varying median voter populations, that is, the endogeneity of state policy (Besley and Case, 2000).

Table 2. 2017 Expenditures on Welfare (per capita)

	Tennessee			Texas			Utah		
	<i>Both</i>	<i>State</i>	<i>Local</i>	<i>Both</i>	<i>State</i>	<i>Local</i>	<i>Both</i>	<i>State</i>	<i>Local</i>
Public welfare	\$1,745	\$1,720	<u>\$25</u>	\$1,349	\$1,322	<u>\$26</u>	\$1,263	\$1,209	<u>\$53</u>
Cash assistance payments	\$87	\$ 7	\$0	\$1	\$61	\$0	\$191	\$191	\$0
Vendor payments	\$1,490	\$1,487	\$3	\$1,158	\$1,154	\$4	\$939	\$939	\$0
Other public welfare	\$169	\$46	\$22	\$130	\$108	\$22	\$132	\$79	\$53
Hospitals	\$563	<u>\$49</u>	\$513	\$658	<u>\$256</u>	\$402	\$729	<u>\$627</u>	\$102

Source: The Census Bureau, "Annual Survey of State and Local Government Finances."

Second, we can approximate the tax burden on the average Utahan by analyzing per capita tax and expenditure trends over time. *Ceteris paribus*, our theory predicts that more complementary pressure will be exerted when the tax burden is higher because the relative price of substitute welfare programs increases when more tax/tithe money is spent on welfare. Figure 1 plots data on Utah’s tax revenues from the Census Bureau, with a clearly increasing tax burden in Utah over time. In Figure 2, we break down Utah’s expenditures into three categories of interest: education, health, and welfare.

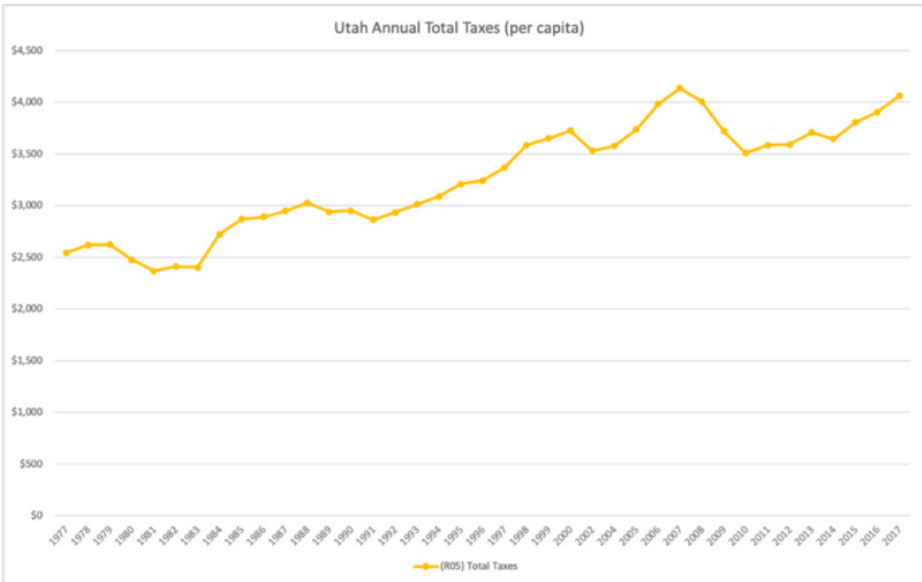


Figure 1.

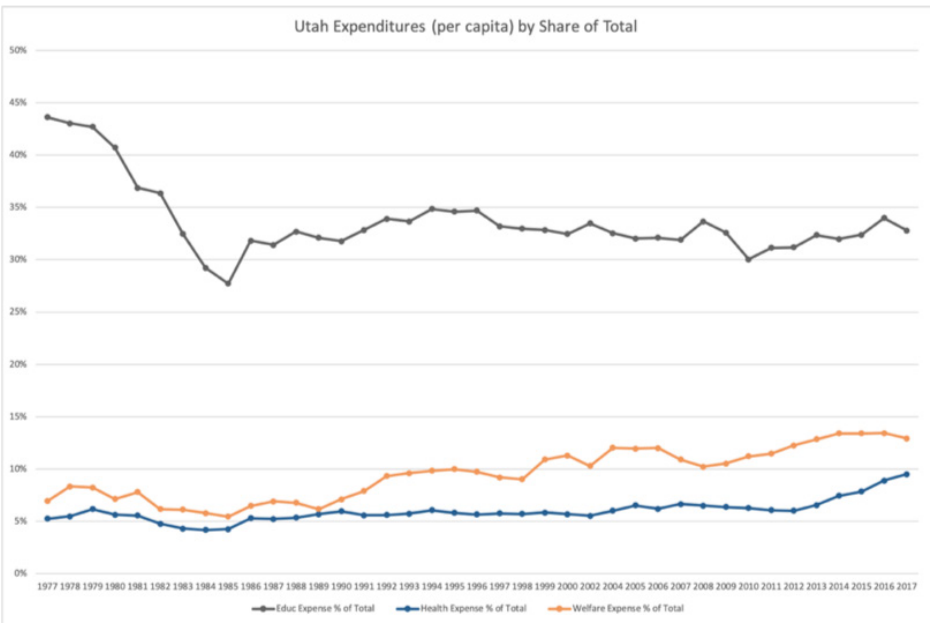


Figure 2.

We include education expenditure because it provides another example of complementarity between the LDS church and state policy, and by law, a set proportion of the budget (100% of income tax revenue) goes toward its funding. Utah has one of the lowest private school attendance rates, and the Salt Lake City metro area ranks 8th lowest with 7.2% attending private school (Broughman and Swaim, 2013). This means that the vast majority Utah's children attend public schools, perhaps because parents have found their unique practice of “religious released-time programs” valuable and complementary to their home environment (Utah Administrative Code R277-610). Again, we find cooperation between a largely religious population and their capable, secular state.

b. Workfare

Our next prediction deals with a mechanism for shifting state welfare services toward more complementary welfare policy:

Prediction 2: To make state welfare complementary, tax-and-tithe payers will vote to mitigate the production of the substitute state welfare policy bundle, W_1 , and make access more expensive for users, $P_1^* > 0$.

An inherent part of the LDS approach to welfare is that benefits “tied” to activities in three supporting organizations: 1) one's family, 2) the church, and 3) the local community (Goodman and Herzberg, 2019). These “tie-ins” have been replicated in various ways at the state level, making the Utah state welfare bundle more costly to use than others. Anderson (1987, pp. 384-84) describes:

For many years Utah has had a very strict, mandatory “workfare” system which by all accounts has been effectively enforced. This system has had the effect of reducing the real value to recipients of AFDC and other welfare payments, *ceteris paribus*. Hence, while Utah has nominal AFDC payments above the national average, there are reasons for supposing that the real income equivalent (i.e., the value to recipients) of AFDC is lower than the nominal figures would indicate.¹⁹

A more recent example of this is Utah's Intergenerational Poverty Initiative, born in 2012 from the Intergenerational Poverty Mitigation Act. While explicitly admitting the limits of governmental action, principles of the Initiative include family economic stability, home visiting, and an emphasis on building a culture that encourages and mentors welfare recipients.²⁰ The Initiative imitates many formal and informal institutional aspects of the LDS welfare system, such as emphasizing the dignity of work, the virtue of generosity, and promoting self-reliance through temporary financial aid to able-bodied community members.²¹

One strategy to complement church welfare through state policy was identified by our theory as duplication—provided that each program reached a different set of welfare recipients. As can be seen in Figure 3, LDS adherence and the percent of families in poverty at the county level has a negative (if any) relationship.²²

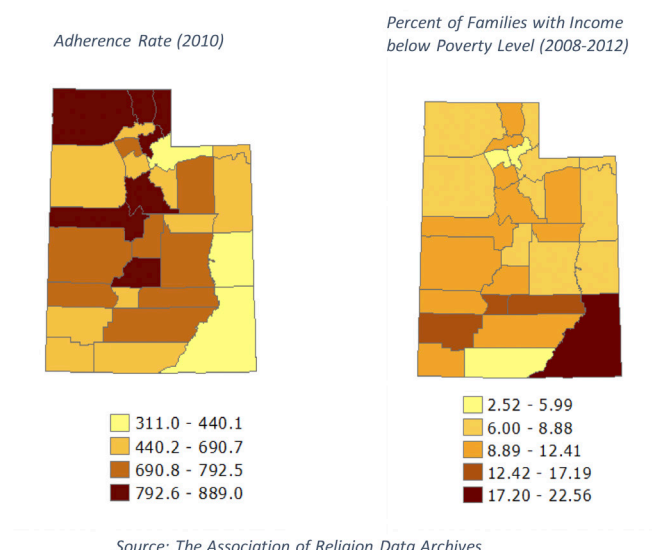


Figure 3.

It is evident that the majority of people eligible to be served by the Initiative or Utah state welfare efforts in general are not LDS adherents. We offer this as evidence that policies such as the Initiative are meant to complement church activity by reaching previously unreachable markets through a different channel—the state—with a similar approach to welfare as in the LDS church.

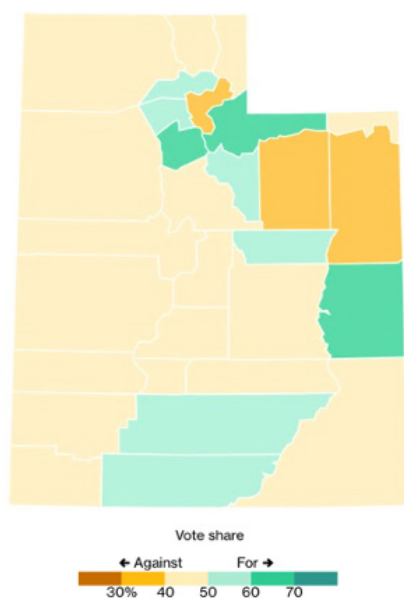
c. The Median Member?

In January 2020, Utah's Medicaid expansion began to take effect so that eligible adults with an income up to 138% of the poverty line could access its services. Results from the vote show that 53% of Utahans supported the expansion. Why did Utah citizens, the majority of whom are adherents of the LDS church that famously support conservative politics, vote for this expansion of state and federal welfare? Our theory has an explanation:

Prediction 3: When state welfare is complementary, religious leaders will become more lenient toward member use of state welfare services. This means the price of the complementary welfare policy, for tax-and-tithes payers is lower than the substitute welfare policy $P_1 > P_2$.

Though the LDS church has eschewed dependence on federal aid in no uncertain terms, in practice, LDS members have occasionally approached Medicaid as a fallback (they do pay taxes, after all). This option is especially important for young couples who want to start having children while going to college. Relatively low divorce rates and relatively high birth rates are hallmarks of the LDS approach to life, and Medicaid allows for these values to be lived out while couples are still young (A., 2019). The recent Medicaid expansion allows for approximately 90% of the funding to come from the federal government, which effectively lowers the relative price of expanding welfare at the state level and thus heightens the demand. We provide the county-level distribution of voting results in Figure 4.²³

Utah Medicaid Expansion Results



Source: Bloomberg (Recht, 2018)

Figure 4.

As with welfare services, the particular features of this new Medicaid expansion bear the mark of LDS values. Utah’s fallback Medicaid expansion plan (approved in December 2019 after the original, more stringent plan was rejected by the CMS) includes a “self-sufficiency requirement” (since suspended due to COVID-19).²⁴ In addition to low-income elderly and disabled residents, coverage is available for pregnant women with incomes up to 139% of the poverty line and children in households with incomes up to 200%. Healthinsurance.org discusses another difference between Utah and other cases of Medicaid expansion:

In most of the states that use HealthCare.gov, enrollment in private plans in the exchange declined from 2019 to 2020. But Utah was one of just a handful of those states where enrollment increased in 2020. Now that Medicaid has been expanded, however, some of those individuals are likely to voluntarily switch from their exchange plans to Medicaid (enrollment in Medicaid continues year-round; it’s not limited to an annual enrollment window the way it is for private plans).

Since the Centers for Medicare and Medicaid Services (CMS) approved Utah’s program in December 2019 and the new eligibility guidelines took effect in January 2020, a federal judge has already blocked some work requirements (healthinsurance.org). The Trump administration has since appealed.

Even as Utah’s expansion aligns with LDS values to the extent that it includes work requirements and special support for children and pregnant mothers, the results of the vote were still a surprise; “If it wins approval here, it could happen almost anywhere” (Pear 2018). Our final prediction regarding state-church complementarity is about how the tax-and-tithe paying pressure can work both ways. While state policy can function as a complement by providing a similar welfare service to a different market, the state can also specialize according to its comparative advantage and provide welfare services that are too costly for the church to supply. We argue that healthcare services are an example of the church-state division of labor with regard to welfare services in Utah.

V. CONCLUSION

In sum, this paper investigates the way in which religious and secular policies interact—specifically, whether or not they function as complements or substitutes. The answer we propose is that it depends on the share of individuals who pay for the policies in both spheres of society. Individuals with hard budget constraints have little reason to fund superfluous welfare systems, so there is additional incentive to specialize and not duplicate services. Furthermore, individuals who must pay a fixed price for the two systems but who exercise some degree of control over the quality of the service will adjust them to be mutually value-enhancing.

By examining the case of Utah, we show that its high proportion of tax-and-tithe payers yields a unique complementarity between secular and religious welfare services in this jurisdiction. The supply and demand forces contributing to this outcome are the value maximization of the tax-and-tithe payer and the pressure of the median voter within both the church and state. In practice, complementary welfare policies could take at least two forms: 1) division of labor along the comparative advantage of each organization (the state and the church), and/or 2) duplication of service kind and quality at different levels to reach different markets. We find examples of both types of complementarity in Utah. The state “specializes in” certain types of social services – hospitals and healthcare, for example – since it may be prohibitively costly for the LDS Church given existing infrastructure. The LDS church does their part by running their largely successful Welfare Plan which supplies basic welfare services, complete with home visits and personalized, neighborly assistance, in return for volunteering services. The LDS approach to welfare is also replicated at the state level with an emphasis on “self-sufficiency requirements” and the family as the God-given solutions to poverty. The median voter result is simple enough to see in a state with a majority of LDS members (who historically also vote nearly identically), and we provide evidence from the 2019 Medicaid Expansion Vote that the “median member” may also exert pressure on church welfare policy to be more lenient toward use of state healthcare services.

Our theory of welfare system complementarity can be generalized to apply to any services produced by the different sectors of a society. As communities around the world become increasingly pluralistic and their economies global, our theory uncovers a condition under which local governments are likely to complement the activities of civic organizations, such as religious communities, schools, or even extended families. Though we discuss this little, we suspect the resulting competition-with-complementarity is also not insignificant for the wellbeing of those they are trying to serve, the poor.

How will Utah welfare systems look in the years to come? Interestingly, there may be a similar case from education with which to compare. Before 1818, all schools in America were run by various religious organizations that were overwhelmingly Protestant (Glanzer and Milson, 2006). Early public schools retained an orientation toward Protestantism, so much so that the Catholic and Jewish immigrants in the 19th century protested and finally developed their own set of private schools as alternatives for their children. Finally, the Blaine amendments were passed in which Protestants ceded their influence over public schools for no religious influence at all—secular religion stepped in to mediate. The state-funded system that had emerged out of the Protestant majority was no longer attractive once groups with other economic and spiritual commitments began influencing state decisions. Similarly, Utahans in the recent past have allowed their state to spend increasing amounts on their preferred versions of public goods like education, healthcare, and welfare. There may come a time when state and church welfare complementarity breaks down because the tax-and-tithe payers have lost their influence. In fact, there are good reasons to suspect that the heyday of such a partnership has already passed.

NOTES

- 1 We dedicate this work to Abe (Abby) Herzberg, who loved ideas and always challenged and encouraged discussion. You are gone, but your curiosity and inspiration will live on forever in our hearts.
- 2 We thank Jordan Lofthouse for this clarifying formulation.
- 3 Intergenerational poverty is defined as two or more generations relying upon public assistance for at least 12 months in their childhood and in adulthood (Intergenerational Welfare Reform Commission).
- 4 While not explicitly partnering with the LDS Church for this Initiative, its focus on family bears great resemblance to the values of the LDS Church and its Intergenerational Poverty Advisory Committee Chair is Bishop H. David Burton. Other religious leaders in the state serve as well.
- 5 Boettke, et al. (2011) discussion of quasi-markets gives a more realistic version of this assumption—perhaps an avenue for future research.
- 6 For a proper introduction, see Iannaccone (1998).
- 7 He calls this the “goods are goods” assumption:
Put differently, the idea that supply sources are selected on the basis of comparative advantage implies that the sources are competing with each other. In other words, families, voluntary organizations, co-operatives, business enterprises, and governments are engaged in a competitive struggle to supply the goods and services that the members of society are demanding (Breton 1989, p. 729).
- 8 This is not to say that the LDS welfare system is not decentralized in important ways. Since the actual dispersion of welfare is done at the ward level, local bishops have a fair amount of discretion in deciding who receives welfare and how much.
- 9 It is notable that even 40% of their respondents reported that they had sought advice about tithing (which type of income, how often, etc.), since it seems that LDS doctrine is very unclear about which type of income should be tithed (Dahl and Ransom 1999, p. 706).
- 10 As will be explained in the next section, two welfare programs could be complementary for two reasons: they share the same values but serve different markets, or they divide the labor of welfare provision and specialize.
- 11 Many reasons for this can be found in Iannaccone (1992).
- 12 One example of this would be a church’s ability to provide mentors or “role models” from the church body. An instance of secular specialization would be the economies of scale available to a state in providing welfare services like Social Security that require a high degree of redistribution.
- 13 “The bishop [of the Second Ward in Salt Lake City] explained that all needy families in his area were looked after systematically and that suffering could not long continue because the Relief Society visited every family monthly and reported to him all needy cases” (Blumell 1979, p. 93).
- 14 Recently, the LDS Church has come under scrutiny for its \$100 billion investment fund (Lovett and Levy, 2020).
- 15 For a summary of the views of LDS members on political and economic issues, see Table 3 of the Appendix.
- 16 Of course, this is not without debate; see Gringeri (2001), for example.
- 17 Health insurance coverage has been a concern in Utah, perhaps because the LDS Church emphasizes marriage and growing a family at a young age (when most couples are still in college) (Davidson, 2019). The LDS Church does not have a program similar to Medicaid, so it plays an important role in the monetary costs of having babies.
- 18 An interesting extension of our theory would analyze the degree of complementarity or substitution between religious providers (who compete for tithes) within the same taxation jurisdiction.
- 19 In their study of the feminization of poverty, Kimenyi & Mbaku (1995) also include a dummy for Utah since its “welfare institutions have been influenced by Mormon doctrine” which would be an exogenous influence on births to unmarried women (their dependent variable).
- 20 The Initiative’s most recent Five- and Ten-Year Plan includes acknowledgements like: “To be sure, government has a limited role in ensuring parents are central to the healthy development of their children. However, the state can assist in addressing the parenting gap and creating a statewide culture that promotes healthy child development” (Intergenerational Welfare Reform Commission, 2015). The Intergenerational Poverty Advisory Committee consists of an LDS bishop as the chair, various scholars, and a local rabbi.

- 21 “Utah promotes the values of personal responsibility and the importance of work not only for its role in establishing economic stability but also for the dignity of work. The data reveals that most individuals receiving public assistance benefits do have income through wages, but clearly that income is not sufficient to meet the basic needs of their families” (Intergenerational Welfare Reform Commission, 2015).
- 22 Of course, there are countless significant variables that we are not controlling for. The highest poverty is in San Juan county, which has a majority Native American population. The other relatively high poverty counties are also very rural.
- 23 The level of support for the Medicaid extension in San Juan county (not heavily LDS) may be influenced by the fact that its large proportion of Native American residents already have access to Indian Health Services, and thus may value extended Medicaid protection less than those without access to the additional program.
- 24 “It’s worth noting that it’s cheaper for the federal government to cover the population between 100 and 138 percent of the poverty level under Medicaid, than to pay for premium subsidies. But it’s cheaper for the state to have that population covered by private plans in the exchange, with federal subsidies, since the state pays nothing at all for that option” (Norris 2020).

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Table 3.

Ideology, Partisanship and Views of Political Figures

	U.S. Mormons	U.S. general public
<i>Ideology</i>	%	%
Conservative	66	37
Moderate	22	37
Liberal	8	22
Don't know	<u>4</u>	<u>4</u>
	100	100
<i>Partisanship (among registered voters)</i>		
Rep/Rep leaner	74	45
Dem/Dem leaner	17	48
Ind./other – no lean	<u>9</u>	<u>7</u>
	100	100
<i>View of Obama (among registered voters)</i>		
Favorable	25	50
Unfavorable	72	48
Don't know	<u>2</u>	<u>2</u>
	100	100
<i>View of Romney (among registered voters)</i>		
Favorable	86	38
Unfavorable	10	45
Don't know	<u>4</u>	<u>17</u>
	100	100
<i>View of Huntsman (among registered voters)</i>		
Favorable	50	--
Unfavorable	24	--
Don't know	<u>26</u>	--
	100	

2011 National Survey of Mormons, Oct. 25-Nov. 16, 2011. IDEO, PARTY, Q101a,b,g. Estimates of ideology based on full sample, estimates of partisanship and views of political figures based on registered voters. General public figures for ideology and partisanship from aggregated Pew Research Center surveys conducted September-November 2011. General public figures for Obama and Romney favorability from November 2011 Pew Research Center survey. Figures may not add to 100% because of rounding.

PEW RESEARCH CENTER'S
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Does the Dismal Science Need to be Redeemed?

ABIGAIL BODEAU

In some of the richest and best endowed universities, the tutors content themselves with teaching a few unconnected shreds and parcels of this corrupted course; and even these they commonly teach very negligently and superficially.

—Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*

The title “university” derives from a shortening of the Latin phrase *universitas magistrorum et scholarium* meaning “community of masters and scholars” (Harper 2017). However, many modern universities appear to have lost the community in the pursuit of mastery and scholarship. The increasing emphasis on ever more specific specializations risks rendering departments into echo chambers, with little incentive and at times ability to communicate with other members of the university community. The question then, is why do economists, who devote their lives to purporting the advantages of trade, fall into this trap? And how can they so easily ignore other fields that clearly have a comparative advantage in various arts and sciences? This paper endeavors to explain both the benefits of specialization and the necessity for trade between disciplines. It will further provide a model to understand the difficulties of interdisciplinary dialogue to address many of these challenges.

Specialization without trade loses all of the benefits of the division of labor. While, as Adam Smith explains, the division of labor within different academic fields increases efficiency, the work of John Henry Newman adds that without trade we lose the benefits of specialization. Trade within the university breaks down because the language of specialization is distinct from the language of the broader community. While jargon increases the efficiency of dialogue within a discipline, a functioning university community requires a language for trade. This trade is ineffective in a monopoly model, when one group directs dialogue for an entire group, as opposed to a cooperative model, when those engaging in dialogue set aside minor differences for the sake of a larger goal. In the final section of this paper, I will apply the model previously set forth to a particular example of interdisciplinary dialogue: the dialogue between economics and theology.

I. DIVISION OF LABOR

The academic community functions as a market for ideas. Within this understanding, Adam Smith’s discussion of the division of labor explains the benefits of specialization with-

in the academy. However, specialization must be accompanied with trade. John Henry Newman's vision of a university further explains why specialization must be accompanied with dialogue in order to fulfill the end goal of academic pursuits, a more comprehensive understanding of the world.

a. Smith's Division of Labor

Adam Smith outlines the efficiencies produced by a division of labor. While in a university setting specialization produces many of the same efficiencies as in a marketplace, without interdisciplinary dialogue, the community of scholars loses many of the benefits of specialization. Smith explains his concept of the division of labor as "the greatest improvement in the productive powers of labor" (Smith 1904, I.1.1.). Simply put, when we divide the production of a good into its simplest individual tasks, and give each of those tasks to a distinct person, our labor becomes much more productive.¹ Smith explains that, "the separation of different trades and employments from one another, seems to have taken place, in consequence of this advantage."⁴ Thus, the farmer is only a farmer and a manufacturer is only a manufacturer because the farmer and manufacturer's labor is much more efficient if they devote their labor to one industry.

Smith gives three reasons for this phenomenon: an increase in dexterity, time saved from switching, and innovation (Ibid.). For example, a blacksmith, charged with the unusual task of making nails could possibly make two or three hundred nails a day, "and those too very bad ones" (I.1.6.7). However, Smith notes having seen boys who "had never exercised any other trade but that of making nails" and are capable of making over two thousand three hundred nails a day. Certainly, the blacksmith is more skilled than those boys in the art of metalworking, but the boys can make more nails. By only making nails the boys increase their dexterity in nail making, and thus their labor is much more productive given their increase in skill in their narrowly defined trade.

The second benefit to the division of labor is the time saved from switching between tasks. In this example, each of the boys had been making the entire nail themselves. But Smith notes that they could further increase their efficiency if they divided the task of making a nail into its individual parts, stirring the fire, heating the iron, etc., because of the time saved from switching tools and moving around in the workshop (Smith 1904, I.1.6.). Finally, the third benefit of the division of labor is the increased likelihood of innovation. Smith writes that "men are much more likely to discover easier and readier methods of attaining any object, when the whole attention of their minds is directed towards that single object, than when it is dissipated among a great variety of things (Smith 1904, I.1.8). If I only complete one task, then I am more likely to create a superior way of doing said task in an effort to save my own labor. Because of this innovation, people will create new machines that are more efficient than the status quo, and thus our labor will become more productive.

The conversation about the division of labor has up to this point relied on manufacturing; however, Smith himself expands its benefits to his own field: philosophy. He explains that the subdivision within philosophy, "as well as in every other business, improves dexterity, and saves time" (Smith 1904, I.1.10). As a result, "each individual becomes more expert in his own peculiar branch, more work is done upon the whole, and the quantity of science is considerably increased by it" (Ibid.). Thus, Smith applies the benefits of the division of labor to the specialization within an academic field, allowing for a greater understanding of the world than without specialization.

Thus, academic disciplines provide the potential for the academy to better serve society by creating a more comprehensive and nuanced understanding of the world. However, the division of labor relies on trade. Through specialization, a group of boys can produce thousands of nails each day, but unless they trade those nails for bread, they will starve. In the same way, without trade academics suffer from an intellectual starvation, where they only ever see the slice of the world their specialization was designed to see. The benefits to the division of labor are clear, and within this framework, the university system serves as a clear set of institutions to facilitate the collection of knowledge and facilitate trade. However, without

meaningful interdisciplinary dialogue, members of the university resemble an artisan who does not sell his wares.

b. Newman's Division of Labor

John Henry Newman, a Catholic cardinal and theologian in 19th century England, provides an expansive discussion of the role of the university in light of specialization. His best-known work *The Idea of a University* was originally given as a series of lectures while Newman was charged with opening a Catholic university in Ireland. In these lectures, Newman offers a conversation about how various academic fields should interact with each other, given a division of labor. Newman's vision offers a framework to imagine the interaction of various disciplines and specialists towards a common goal: the pursuit of knowledge.

For Newman, all fields represent a portion of the truth and we can only fully understand truth when we compile the understanding of all fields. He writes, "all knowledge forms one whole, because its subject matter is one; for the universe in its length and breadth is so intimately knit together, that we cannot separate off portion from portion, and operation from operation, except by a mental abstraction" (Newman 2015, p. 43). In the real world, economics, politics, psychology, sociology, and theology do not occupy different spheres, but instead co-exist and interact.² We can only separate these various causes and effects through what Newman calls "mental abstraction," by creating different perspectives and methodologies to try to make sense of our world, each seeing a particular slice of it. However, economic, political, social, and religious concerns are not separate in the real world, and thus must be seen together to understand the world in its full complexity.

Newman gives the example of a man, who is vastly more complicated than any one discipline can comprehend. Therefore, in order to understand him, we must view him through all disciplines, analyzing his physical nature, psyche, or his relation to his family, community, or God, each being the subject of a particular science (Newman 2015, p. 43). As Newman explains, "When we think of him in all these relations together, or as the subject at once of all the sciences I have named, then we may be said to reach unto and rest in the idea of man as an object or eternal fact (Ibid.). Furthermore, each field operates under its own set of non-transferrable assumptions. Thus, simply expanding a field's boundaries is not sufficient to expand our understanding, because their different assumptions and methodologies may not work in new situations. For example, Newtonian physics assumes that what happens today will happen tomorrow, which may be true for physics, but not necessarily for other fields (Newman 2015, p. 44). Thus, trade is essential to further the pursuit of knowledge, because true understanding exists only in the compilation of the complex, interweaving systems of the world.

Because of the need for and perceived lack of trade, Newman explicitly critiques the division of labor. He writes of a particular student, "If his reading is confined simply to one subject, however such division of labour may favour the advancement of a particular pursuit, ... certainly it has a tendency to contract his mind" (Newman 2015, p. 76). While the division of labor increases efficiency, for Newman, the trade-off of narrowing of one's worldview is too high. However, Newman does not advocate for an abandonment of specialization. Instead, he offers a different vision of a university, as "an assemblage of learned men, zealous for their own sciences, and rivals of each other, [who] are brought, by familiar intercourse and for the sake of intellectual peace, to adjust together the claims and relations of their respective subjects of investigation" (Ibid.).³ Thus, while on the surface Newman appears to critique the division of labor, he in fact critiques specialization without trade. Newman sees the university as the facilitator of communication between fields, as the space where they come together. This communication increases the quality of our knowledge, by forcing practitioners of different fields to adjust their claims to be in line with the whole; that is, the community of master and scholars corrects for systematic biases within a particular field. Thus, without trade specialization merely contracts the mind; however, with "familiar intercourse" zealots of their own sciences can come together to not only increase production, but also improve the quality of the knowledge of their peers.

While Newman sets forth a comprehensive philosophy of education, modern commentators of *The Idea of a University* question whether his vision is realistic for the modern university. As one commentator notes, “the word *University* has remained the same from Newman’s day to ours while the reality it describes has not” (Turner 1996, p. 291). The reality of modern universities provides a remarkably different context for researchers and educators than Newman suggests. The hyper specialization, often without interaction between specialists in different disciplines, within the academy leaves little room for Newman’s description of the unity of all knowledge.⁴ The question then becomes how do we create a culture oriented towards the unity of knowledge within the modern university. The first step forward, which we will discuss in the next section, is to create methods of effective dialogue between disciplines to allow for the benefits that Newman describes.

II. DISSOLUTION OF DIALOGUE

Up to this point, we have discussed the benefits of specialization and the need for trade. The problem, however, is that this trade breaks down, because different people interpret the world in different ways. Trade relies on communication, which falters when each conversant interprets the world differently. People participate in language groups that become communities. Individual disciplines utilize jargon, which facilitates efficiency, but also excludes non-experts from participating in the conversation. Without a common language between disciplines, specialization continues, but without trade. This specialization then becomes an echo chamber instead of a center for knowledge creation because it is not oriented to the final consumers of the knowledge created.

In their article “Shared Mental Models: Ideologies and Institutions,” Arthur Denzau and Douglass North explain the mental model framework and explore its implications within dialogue. This model explains why communication breaks down between disciplines and provides a way forward to circumvent the difficulties in communication. A mental model is the framework through which we interpret the world (Denzau and North 1994, p. 4). We constantly experience different phenomena, and mental models provide structure to understand these phenomena. Some aspects of our mental models are physiological; for example, our brains interpret light and sound waves into images and voices that we can understand (Denzau and North 1994, p. 13). However, much of our mental models are learned from our culture. When more than one person interprets and explains their environment in the same way, they have what Denzau and North call a shared mental model. However, because no two people have exactly the same experiences, each individual’s mental model will vary to some degree.

What does this mental model framework mean for communication? When two people with different mental models try to communicate, their different ways of describing the world can prevent effective conversation. Communication consists of encoding and decoding. When I communicate with someone, I have to first translate my thought patterns into a form that can be communicated. However, I cannot include everything I used to make said thought into the communication, in part, as Denzau and North explain, because “we almost never know what factors actually influenced a decision we have made” (Denzau and North 1994, p. 19). Thus, I can never fully communicate every piece of information that might be necessary for the listener to understand my message. The second problem occurs when the interlocutor must then decode my message. In order to understand my message, the listener must first interpret what I say through their own mental model, which is “strongly influenced by the categories and beliefs that the listener already has about the world” (Denzau and North 1994, p. 20). Thus, because they perceive the world differently, the listener may interpret my message differently than I intended.

Figure 1 demonstrates how these communication errors occur. Person L has a thought (Idea A) that she wishes to communicate with Person C. In order to do so, she must first encode her thought into words, phrases, and sentences that function as the mechanism for communication. However, this process is imperfect, and it is impossible for L to include all the pieces of information she used to create Idea A in the encoding. In order to understand this piece of communication, C must first decode the message. However,

C already has pre-existing thought patterns, which he uses to decode the message. Thus, before C can understand Idea A, this idea must be filtered through his thought patterns. As a consequence, Person C, the receiver, never fully understands Idea A, because he interprets it through his own preconceptions. This framework explains why communication falters within a university, because specialists in different disciplines, by the very nature of their specialization, interpret the world through different mental models.

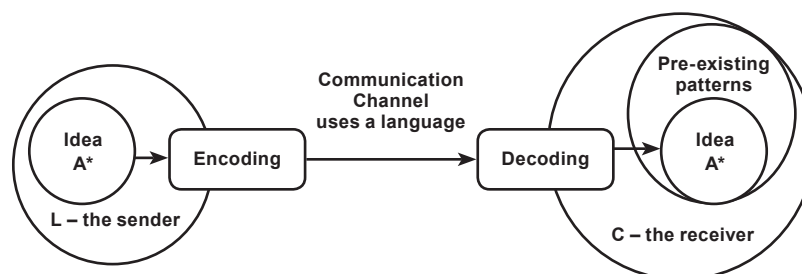


Figure 1: Adapted from Denzau and North (1994, p. 20).

In response to these difficulties surrounding communication, the university serves as an institution to bring together different ways of thinking. Because the requirements for communication between specialists are different than for communication between specialties, the shared mental model that jargon provides must be complemented by a shared mental model of exchange. This is especially true since faculty members are required to engage students who have no specialized training and to introduce them to their field. These faculty members must also engage with one another in order to fulfill Newman's vision of a university community, and to create a division of labor that includes a functional system of exchange.

If we see mental models as languages, then there are essentially three options to achieve effective communication. When both parties have the same mental model (a shared mental model), like speaking the same language, they are able to communicate effectively. Within an individual department in a university communication functions because parties have the same training, and thus the same mental model. The second option is similar to code-switching, when someone who is bilingual alternates between two languages within a given conversation. In order to communicate effectively, both parties do not have to have the same mental model. They do not have to think in the same way, they only need to understand how the other person thinks. If I understand how you think, then like code-switching, I can change how I speak to you so that you receive my intended message. This furthermore does not mean that the two mental models will converge. Successful communication only requires that both sides *understand* the other's mental model so that they can adjust their communication accordingly. The university has the ability to facilitate this type of communication by providing the space for people within different fields to learn the various mental models and update their communication accordingly.

The final role of a university is to offer a shared mental model which serves as a starting point for communication. If we see each field as its own language, then the university provides a third language that everyone speaks when they gather together as a whole. In this way, the university serves as a market maker in order to facilitate trade. The identity and charisma of a university serves as a shared mental model. Thus, when gathered together, everyone within the university begins with the same interpretation of the world, which facilitates communication. In this way, the university provides a shared language, so that when communicating, everyone speaks this third language instead of the jargon of their own discipline.

Voltaire provides an example of the value of a shared mental model where, in the Royal Exchange in London, "the Jew, the Mahometan, and the Christian transact together, as though they all professed the

same religion, and give the name infidel to none but bankrupts” (Arouet de Voltaire 1909). Then, on the weekends, each person returns to his own home and religious tradition, “and all are satisfied” (Ibid.). The Jews, Muslims, and Christians Voltaire discusses live within two worlds and speak two languages: that of their own religious tradition and that of finance. Because everyone can operate within the rules and expectations set by the Royal Exchange, members of different religions act together perfectly well. The university can serve as a sort of Royal Exchange of London by providing a similar type of market space.⁵ The different faculties are like the different religions in Voltaire’s description. When they retreat into their research specialties, they use one language, but when they teach or engage with the university community, they ought to reserve the name of infidel only for those who do not participate in the communal pursuit of ideas. In creating a shared space with clear expectations and a shared way of communicating, a university creates a shared mental model to circumvent the problems that arise with different interpretations of the world, because everyone within a particular university has a shared language to speak, beginning the communicative process.

Admittedly, this model may be more realistic in universities with strong institutional identities, such as religiously-based or liberal arts schools. However, Denzau and North’s model nevertheless provides a way forward for researchers in universities where a university-wide language may not be realistic. The key lies in ensuring that all members in a given conversation are speaking the same language. This could mean translating into the intellectual language of one’s interlocutor, or into a separate shared language, such as the language of a cultural community. Thus, while universities have the ability to provide institutional support for functioning interdisciplinary dialogue, individual actors can nonetheless use Denzau and North’s model to allow for functioning dialogue by manipulating their language to ensure their interlocutor understands what they wish to communicate.

III. DIFFERENT MODELS OF TRADE

Up to this point we have discussed the benefits of a division of labor within the university, why we need trade, and why this trade breaks down. But what exactly should this trade look like? Broadly speaking, there are two possibilities, or perhaps two points on a spectrum, to how ideas can diffuse within a society: monopoly or cooperation. The decidedly inferior option is a monopoly, where one group gains enough power to take hold of the dialogue and force its views on the whole of society. Take, for example, Texas’ public school curriculum, which for a time incorporated elements that question evolution because of the influence of conservative Christian members on the state’s board of education.⁶ Such a move clearly undermines science, which largely supports the theory of evolution. Furthermore, questioning evolution on religious grounds only represents one small, specific religious group. The Catholic Church for example claimed there was no conflict between evolution and the Catholic faith in Pope Pious XII’s 1950 encyclical *Humani Generis*. In creating a monopoly on knowledge, one group forces their particular viewpoint on the entire group, thus directly negating the open dialogue Newman’s vision of knowledge requires. When any one discipline attempts to describe the entirety of truth, and thus monopolize truth, it risks stepping outside of an accurate description of reality for the sake of the totality of its own interpretation of the world, and directly negates the open dialogue Newman’s vision requires.

The alternative model is cooperation. The idea behind this model is simple: if two people or groups want to work together then they will have to make concessions and set aside minor disagreements for the sake of a larger goal. Newman gives the example of a group of Protestants that wish to come together to print and circulate a Protestant Bible (Newman 1904, p. 24). Individual Protestant denominations can come together for a common project due to an overarching similarity, but in order for the project to be successful, they must also set aside their differences. Thus, no one group could include a pamphlet on the merit of good works, a subject to which these groups differ significantly, into this commonly produced Bible. For Newman, when in search of universal knowledge, as is the purpose of the university, it is necessary to make concessions in terms of minor differences for the sake of productive dialogue.

For a modern example, take the Soviet Union and the United States who worked together during the Cold War to eradicate smallpox for fear the disease would enter their own borders. Donald Henderson, the man in charge of the smallpox eradication program at the World Health Organization (WHO) wrote, “there is no question that the smallpox eradication programme could ever have succeeded without the collaborative relationships between the USA and the USSR which survived, and indeed thrived, through some of the most difficult days of East-West antipathy” (Henderson 1998, p. 118). Despite their irreconcilable differences, the United States and Soviet Union came together for a common goal. Henderson offers another insight: “It was the WHO venue that made these relationships possible” (Ibid.). Thus, while even openly hostile groups unite for a common purpose, institutions facilitate this exchange. In this case, the WHO allowed the United States and Soviet Union to cooperate; in terms of the pursuit of knowledge, the university serves as the institution to coordinate the efforts of scholars in different fields.

IV. ECONOMICS AND THEOLOGY

In the final section of this paper, I will apply the model previously set forth to a particular instance of interdisciplinary dialogue: the relationship between theology and economics. The gains from trade between these two fields have been relatively well set forth. While these two fields appear to be vastly different, and in fact they are, these differences in viewpoint and methodology are precisely why they offer value to each other. To begin with theology, Christianity insists that its message has a social component. Since its inception, it has insisted that its followers care for the poor, a claim which today often manifests in discussions of public policy and institutions aimed at addressing both the immediate problem of poverty and the social structures that perpetuate it. However, there is a difference between a particular policy or program claiming to help the poor and it actually doing so. Christian theology alone does not have the tools to determine the best way of addressing a particular problem or whether a policy is working or not. This is precisely the wheelhouse of economics. As Michael Pollitt suggests, “theologians are good on *prophetic* discourse and *narrative* discourse, but need professional economists to help them on *policy* discourse” (Pollitt 2011, p. 14). Thus, economics can help theologians to better understand the concrete ways to address their concerns within the economic sphere.

While economists can help theologians in their hope to address instances and structures of poverty, theologians can help economists to better engage with ethics and the human person. Economists emphasize the difference between normative and positive analysis. To put it simply, normative analysis asks what we should do, giving a directive, while positive analysis simply aims to describe the world as it exists. Most economists argue that their analysis is positive, and thus lies outside the realm of value judgements and morality. The problem with this claim is that economics also exists in the realm of policy making, which clearly asks normative questions.⁷ Thus, if economists want to have a say in what economic policy looks like, they can no longer hide under the coattails of positive analysis and as such must take seriously fields that deal with ethics and the human condition, such as philosophy and theology.⁸

Furthermore, the economic worldview is designed to analyze the economic sphere, e.g. the creation of wealth or the movement of goods and services, and within this realm it does quite well. However, while economic models provide a model of the human person sufficient to explain actions in a marketplace, they are not designed to look at the human person in his/her totality.⁹ As Paul Oslington explains, “Religion is a deep human experience and a limiting case (in much the same way as sex and death (Zelizer 2005), and so can teach us things about human interactions that we would not learn any other way. These lessons can sharpen our understanding of normal economic life” (Oslington 2011, p. 17). Understanding the complexities of the human condition is at the core of religious discourse, and thus theology can provide a fuller understanding of economic actors, both in and outside the market. Furthermore, economists tend to assume that individual well-being will be brought about by each individual's preferences; that is, that everyone, through their choices in a marketplace, will maximize their utility. Religion seriously questions whether this is the case. The human person exists within the economic sphere, but ultimately his/her happiness can-

not come from the transfer of goods and services alone. Or to put it differently, the flourishing of the human person lies outside of what economics has the tools to properly analyze, which is precisely the domain of theology. Thus, as Newman explains, in order to fully understand the human person as a whole (and thus to understand who economic actors actually are), we must look to a variety of disciplines with a variety of methodologies. As such, it is precisely because theology and economics are so distinctly different that the dialogue between them can be so fruitful.

Despite the potential gains from trade between economics and theology, the dialogue between them is filled with animosity and misunderstanding. As we can understand through Denzau and North's model, because their methodologies are so different, theologians and economists have difficulties understanding each other because of their different mental models. Given these difficulties in communication, some authors have found ways to circumvent the challenges in dialogue, particularly through finding a shared language and codeswitching.

One approach to overcoming the language barrier between theology and economics is to choose a shared language between all interlocutors; in this case a common choice is to use the language of devotional Christianity. An example of this is Victor Claar's article, "What I Wish Theologians Understood about Markets and the Economists who Study Them." The article itself is evidence of the difficulties in the dialogue between theology and economics, as it consists of eight points hoping to clear up misconceptions theologians have when dealing with economic research. In his introduction, Claar comments on the disregard that theologians and ethicists display when discussing economics, and he notes, "quite often the criticisms of theologians regarding economics are founded upon a caricature of economics rather than a fuller depiction of it" (Claar 2012, p. 32). To put Claar's observations into Denzau and North's model, theologians are interpreting economists' words through a flawed mental model; that is, their mental model of economists does not match who economists actually are (or how economists see themselves). Thus, if theologians are interpreting economic research through a different lens than the research itself was written, then their understanding of economics will stray from what economists are actually trying to communicate, and per the model, communication will break down.

In an attempt to remedy this situation, Claar addresses certain aspects of the caricature and aims to revise theologians' mental models so that they can more accurately understand what economists are trying to communicate. In this article, Claar does not speak the language of a professional economist or theologian; rather, he speaks as a Christian, using language that one would expect to hear from a pulpit or in a Sunday school class. Claar begins his article: "Christian theologians and Christian economists share much in common. They love our Savior. They care about the plight of the global poor. And they long to be good and faithful stewards of all of God's good gifts to us, including his created order" (Claar 2012, p. 32). By beginning with what Christian theologians and Christian economists have in common, namely that they are Christian, Claar moves the discussion out of the realm of either profession and into a language both conversants understand. In doing so, Claar is able to address some of the difficulties in communication because he ensures that his interlocutors will understand his message by moving the conversation into a language that both parties speak.

Following a similar approach, Samuel Gregg also uses the language of devotional Christianity to explain economics in his book *Economic Thinking for the Theologically Minded*, which per its title is aimed towards explaining theological topics and issues to those who are interested in theology or ministry. Similar to Claar, Gregg also begins his work with a faith claim. He writes "the message of Jesus Christ is addressed to each and every human person" (Gregg 2001, p. 3). Beginning with the notion of Christian conversion allows Gregg to introduce economics as a means of better understanding the Christian life in addressing the social concerns that Christianity maintains. Thus, Gregg frames economics within the larger conversation in the Christian tradition about social justice and responsibility. Doing so allows him both to speak a shared language between him and his readers and to portray economics as neither hostile or foreign to the Christian mission, because Gregg explains it as a tool to better understanding and addressing the social issues that concern Christians. Thus, in their works both Claar and Gregg take similar approaches in

responding to the roadblocks to dialogue, by moving their language into a shared third space that circumvents the troubles with dialogue.

Mary Hirschfeld's book *Aquinas and the Market: Toward a Humane Economy* represents another possible approach, codeswitching, where one seamlessly shifts between two languages, and thus appears to speak both languages at once. Hirschfeld occupies a unique place in the discussion between theology and economics because she has earned a Ph.D. first in economics and later in theology.¹⁰ In laying out the framework for her work Hirschfeld (2018, p. xiv) describes the difficulties she saw in what she calls "theological economics":

Although I was in some sense bilingual, capable of thinking within the economic paradigm and thinking within a theological paradigm, it was far from obvious to me how to go about making the two disciplines mutually intelligible. On reading works on the economy by theologians, it was easy to see how an economist would respond (usually dismissively). It was harder to see how to respond in a way that would do justice to economics while still taking on board the critical insights offered by theologians. Moreover, on hearing about my background, people almost always expressed the expectation that I must have some interesting things to say about just wages or economic injustice. Yet for me, beginning with particular economic issues was a nonstarter. The way I would think about them as an economist was radically different from how I would think about them as a theologian, and so I was left with nothing useful to say at all.

Here Hirschfeld describes the difficulties in interdisciplinary dialogue along similar lines as Denzau and North's analysis of communication. Because economics and theology have different mental models and methodologies, they approach topics from fundamentally different places, which often results not only in their analyses diverging but also leaves the conversant without the tools to understand and constructively contribute to their interlocutor's analysis. Hirschfeld in her work takes up the theology of Thomas Aquinas to argue that the goal in a theologically informed economics is not to pursue goods and services for their own end, but rather to convert them into wellbeing and human flourishing.¹¹ Thus, she establishes a framework that orients the discussion between economics and speaks to the concerns both parties bring to the table. Furthermore, precisely because of her background Hirschfeld speaks the language of both economists and theologians. Thus, while the theology of Thomas Aquinas provides the framework for her analysis, in her discussion of rational choice theory she spells out the payoff matrix for the prisoner's dilemma in much the same way one would in an introductory economics classroom. As such her analysis speaks the language of both economists and theologians and bridges the gap in communication between these two groups. Whereas Claar and Gregg moved the discussion into a shared space where everyone spoke the same language, because of her academic background, Hirschfeld is able to address economists and theologians simultaneously in their own language because she understands the worldviews both groups come to the table with. Thus, these authors demonstrate the various methods available to overcome the communication difficulties between such vastly different fields as economics and theology.

V. CONCLUSION

In conclusion, while both Smith and Newman affirm the benefits and necessity of having different fields, both describe the necessity of trade, which in this particular case takes the form of interdisciplinary dialogue. As Newman claims, while we produce more with a division of labor, without trade, our knowledge is always incomplete, because we only ever see one slice of the world. However necessary, this dialogue breaks down because, by necessity, different fields have different mental models, causing ineffective communication. The university then exists as a market maker, to both create the space for dialogue, so individuals can understand different mental models, and to provide a shared mental model, which provides common ground for dialogue to begin. This dialogue is best achieved through cooperation instead of one group mo-

nopolizing truth. As we have seen with the discussion between economics and theology, communication functions when individuals are open to the benefits of other ways of thinking, and when they find ways to circumvent the differing languages different specialists speak. Thus, the university functions as an institution to pursue knowledge for the greater good of society, and its individual actors participate in that mission, only when it fulfils its original title, with individuals pursuing scholarship and mastery as a community.¹²

NOTES

- 1 Smith goes as far as to say that manufacturing was making much larger gains in productivity than agriculture because we cannot subdivide agriculture as much as manufacturing. Smith, *Wealth of Nations*, I.1.4.
- 2 Michael Polanyi provides a similar argument, arguing that the community of scientists form a community wherein the movement of ideas follows the economic principles for material goods. Within these communities, Polanyi views academic networks as a means of expanding expertise and improving the overall quality of scientific discourse. See Polanyi 2000, p. 7.
- 3 Emily Chamlee-Wright promotes a similar stance, arguing that associational life requires both abrasion, wherein incorrect or incomplete ideas are corrected, and civility, which promotes the functioning of a community. Using Smith's notion of the impartial spectator, Chamlee-Wright argues that developing a mature impartial spectator allows for "intellectual and emotional independence" when interacting within an academic community. See Chamlee-Wright 2019, p. 546.
- 4 Less relevant to our particular focus here, the conversation around the continuing relevance of Newman's *Idea of a University* centers around the goal of a university education. Alasdair MacIntyre argues that Newman's principle question is "What is an educated mind?" and that his goal in a university education is to create an educated gentleman. In contrast, in the modern university, as Turner explains, "within undergraduate institutions that claim to provide a liberal education, academically professionalized training in the arts and sciences is replacing liberal education." Thus, as MacIntyre describes, the modern university is not an indictment of Newman, but rather Newman is an indictment of the modern university because it does not produce the kind of educated mind liberal arts education claims to produce. See MacIntyre 2009, p. 10; Turner 1996, p. 298.
- 5 This example further demonstrates the potential benefits of shared projects to facilitate interactions between groups, which creates an increased potential for innovation from increased contact.
- 6 For a discussion of questions of evolution and public school curriculum, see Williams 2010, pp. 437-454; Armenta and Lane 2010, pp. 76-79.
- 7 It might be tempting for an economist to claim that his/her engagement with policy making is sufficient trade, and that there is little need for engagement with other academic disciplines. However, this response is insufficient on several counts. Once economists enter the normative realm of policy making, their analysis requires engagement with ethics, which in turn requires engagement with disciplines outside of their own. Further, policy making may not address the concerns about the insufficiencies of economics' methodological worldview. Thus, engagement with a diversity of disciplines and modes of thinking will benefit an economist's thought by providing a more comprehensive understanding of the world. This further will improve his/her engagement with policy making, as said economist comes to the table with a more robust understanding of whatever situation is at hand.
- 8 For a similar discussion of the impacts of economics in dialogue with Aristotelian philosophy, see Yuengert 2014, pp. 37-54.
- 9 Another approach is the economics of religion, which analyzes religion through an economic lens. Smith takes such an approach in *The Wealth of Nations*, arguing that religious diversity increases competition, and therefore increases the quality of churches and clergymen, both in the amount of popular devotion and quality of philosophical discourse (V.1.3). In analyzing Smith's comments, Iannaccone finds the empirical evidence supports Smith's logic (Iannaccone 1991, pp. 156-77). Although operating off older data, Iannaccone's article provides an

excellent introduction to the logic of studying religion using economic methodologies. That being said Iannaccone admits that economic models of religion do not reflect the religious community's concerns or self-understanding (1998, p. 1490).

- 10 Another example of a polyglot is Dierdre McCloskey. See McCloskey, 2010.
- 11 Robert Tatum (2017, pp. 63-83) rightly asks *which* theology is at the table when we discuss the notion of theological economics. In response to this issue Hirschfeld chooses to use the language of Thomas Aquinas so that she can enter into the conversation with economics using a single and consistent theological framework.
- 12 This work was supported by the Institute for Economic Inquiry Gail Werner-Robertson Research Fellows program. Special thanks ought to go to Michael Thomas for his invaluable support and mentorship, without which this project would never have come to fruition.

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Are So-called Normative Statements Practically the Same as Suitably Formulated So-called Positive Statements? Evidence from a Survey of Economics Professors

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Abstract: In this paper, we investigate whether a statement like “the reform ought to be favored” is practically the same as “the reform would yield positive net consequences.” The first statement, featuring “ought,” is one that many economists would deem “normative,” the second, “positive.” But if the two statements are practically the same, where does that leave the positive-normative distinction? We advance the idea that any statement that is apt to be deemed “normative” can be recast as a statement that is practically the same but apt to be deemed “positive.” We generated empirical evidence on the idea by creating a set of surveys, fielded to economics professors. We sent out 3000 and received 574 completed surveys (19.1 percent). The key aspect of the surveys was that most of them contained both a “normative” formulation and a “positive” formulation, enabling investigation and assessment of practical sameness between the two formulations. When we sum all of the intra-individual respondent differences between his or her “positive” answer and his or her “normative” answer—over all forms of the “positive” formulations, “for humankind (worldwide, present and future)” —we arrive at a sum of differences remarkably close to zero, a result consistent with the contention that so-called normative questions are practically the same as suitably formulated so-called positive questions. An online webpage contains numerous appendixes, allowing full replicability and including a kappa analysis and other ways of viewing our results.

Keywords: positive, normative, ought

This inmate of the breast, this abstract man, the *representative of mankind*, and substitute of the Deity, whom nature has constituted *the supreme judge of all their actions*...

—Adam Smith (1976, 130 ed. note r, italics added)

David Colander and Huei-Chun Su (2015, p. 157) write: “About the only thing most practicing economists remember about methodology is that it is important to maintain a distinction between positive and normative economics.” We agree that the positive-normative distinction is a salient feature of academic economics, but, while Colander and Su attempt to salvage the distinction, our attitude is, rather, to

overcome the distinction. When we see it in discourse, we glean something from it, of course. It is *not meaningless* to us.

But we find employing the positive-normative distinction to be *always a dominated option*. Our attitude on the matter is like that of numerous other economists and philosophers.¹ So, though the positive-normative distinction is necessarily part of an economist's *passive* vocabulary, we ask the reader to entertain the idea that she should not allow it to be part of her *active* vocabulary.

We conducted a survey with the aim of showing that, in a discussion among economists, two statements like the following are practically the same:

Statement A: Implementing such a reform would, as compared to the status quo policy, yield, on the whole, positive net consequences for humankind (worldwide, present and future).

Statement B: The reform ought to be favored over the status-quo policy.

Claims concerning whether a pair of statements, such as A and B, are “practically the same” raise issues of what *practical sameness* means and how practical sameness is assessed.

Notice that the two statements above, A and B, leave unspecified many particulars, including: the policy issue, the time and place of the context (that is, the status quo being reformed), the reform, the identity of the speaker, the audience, and the discourse situation. Such particulars can vary in innumerable ways, giving rise to a universe of A-and-B pairings, with each pairing inviting the question of the practical sameness between the more fully specified A and B. It may be that for a particular pairing the two statements are then found to be, in those particular manifestations, not practically the same: The particulars may give rise to particular factors that then make the A statement and the B statement function somewhat differently. But the contention we advance is that, above all such particulars, or, over the whole universe of pairings, A and B, as stated above, are practically the same—that is, that A and B, as stated above, are practically the same *in general*.

Most economists make the positive-normative distinction part of their active vocabulary. To such economists we give the following appellation:

Pos-normer: An economist who makes the positive-normative distinction part of his or her active vocabulary.

Surely all pos-normers would call Statement B “normative.”

But what about Statement A? If you are a pos-normer, what say you? Is it positive or normative? If you say it is normative, we would next ask: What is it about Statement A that makes it normative rather than positive? Next: The answer that you provide, does it work as a general criterion (necessary?, sufficient?, both?) for distinguishing positive and normative?

We undertook our survey expecting that, after we had completed the investigation and written up our paper about it, readers of our final paper would be willing to accept the idea that *most pos-normers would identify Statement A as positive rather than normative*. We do *not* have survey evidence to back up that assertion. Our paper proceeds on that supposition—one that we suspect is sound—that is, that most pos-normers would call Statement A positive rather than normative.

On that supposition: If we could demonstrate that A and B are practically the same, the demonstration would support the contention that the positive-normative distinction does not hold the importance it is given. If “normative” statements are easily recast as and found to be practically the same as suitably formulated “positive” statements, what is the status of the distinction? Is there better terminology for the distinction one wishes to make?

Like John B. Davis (2016), we feel that the positive-normative distinction is often used to sneer at and bully people, to shut them up or push them aside. And it is sometimes used to evade the responsibility to

make important judgments, or to evade responsibility for the judgments one does make. Such vices often depend on presuppositions and arguments that are obscure, even hidden.

Suppose that you are assembling a soccer team and need to recruit players. On the day of try-outs a slew of aspirants show up to win a spot on the team. One is a fellow named Norm Pozz. He's not useless on the soccer-field. But as you explore his value as a potential member of the team, you find that in every position some other aspirant bests him. Furthermore, you learn that his conduct is sometimes troublesome. He is dominated at every turn, and not worth including on the team. Here, the soccer team you assemble is a metaphor for your active vocabulary.

Daniel Klein (2014) has suggested that, as a discourse choice, employing the positive-normative distinction is always a dominated option. That is, there is always a choice that outperforms employing the positive-normative distinction. Sometimes it is outperformed by some other distinction, such as one of those in Figure 1.

Figure 1. Distinctions that sometimes best the positive-normative distinction

1.	precise and accurate	loose, vague, and indeterminate
2.	reserved	outspoken
3.	unassuming; tactful	declamatory; strident; overbearing
4.	uncontroversial	controversial
5.	conventional	unconventional
6.	centrist; establishment or status-quo oriented	socialist/progressive/libertarian/ etc. etc. (as the case may be)

Here we must forgo elaborating that very often it would be to the good to replace positive-normative by some other language, such as one of the alternatives in Figure 1, except to give one example from Adam Smith.

In March 1756, Smith published a lengthy letter about European literature. He amply praises and congratulates the *Encyclopédie* edited by Diderot and d'Alembert, of which five volumes had appeared by 1755. But Smith (1980, p. 247) comments critically:

You will observe, that tho' none of the authors of this collection appear to be mean or contemptible, yet they are not all equal. That the style of some of them is more declamatory, than is proper for a Dictionary; in which not only declamation, but any loose composition, is, more than any where, out of its place.

Smith finds some of the entries too "declamatory." It is easy to imagine that commentators today would say that those entries were too "normative"—a word first emerging only in the 1890s. But is Smith's meaning better expressed by saying "normative" rather than "declamatory"?

Notice that, in addition to objecting to declamation, Smith also says that "any loose composition" is inappropriate for such a work. Looseness is not the same as declamation: Some statements are objectionable because they are too loose, others because they are too declamatory. By getting away from the word *normative*, one clarifies his meaning. If one says "normative" as an objection, then by replacing it with "declamatory" or "loose," one thereby *makes oneself more accountable for his objecting*, by inviting the next question: But why is the statement *too* declamatory? Or, But why is the statement *too* loose? Propriety in declamation and propriety in looseness are two matters that often relate to one another, but still they are *two different matters*. By clarifying one's objection, one objects more civilly and more fruitfully. Figure 1 provides options to use in lieu of "normative." Usually, one or more of these six dominates "normative."

Besides sometimes being beaten by an alternative distinction, such as one in Figure 1, sometimes the positive-normative distinction is beaten by simply being erased, along with some of the other words around it.

It is common for pos-normers to express their distinction in terms of a distinction between *is* and *ought*. But does distinguishing between *is* and *ought* make for an important, useful distinction? Are *ought* sentences, as a category, substantively different from all *is* sentences? Klein (2014) suggests that the answer is no. He argues the following:

1. It is easy to recast any *ought* sentence as what pos-normers would count as an *is* sentence, and vice versa.
2. Every *is* sentence can be understood as conveying tacit “oughts;”
3. Etymology helps us see that every *ought* can be understood as an *is*: Just as “would have strolled” or “has been schooled” or “owes” is an *is*, so may we see “ought”—which derives from *owe*—as an *is*.

The third argument is most important—that’s why Klein’s 2014 piece is titled, “Ought as an Is.”

A skeptic might raise the following challenge: “You contend that it is easy to recast any *ought* sentence into an *is* sentence: Okay then, prove it.” The present project was taken up in the spirit of taking up that challenge. We sought to test whether a recast sentence does in fact function like the original sentence. We hoped to generate some evidentiary support for the claim that statements that pos-normers would deem “normative” operate like a recast sentence that they would deem “positive.” We think our effort was successful.

In this paper, our putting quotation marks around the word *positive* or the word *normative* (thus, “positive,” “normative”) is our way of saying: “which some pos-normers would deem ‘positive’ (‘normative’).” Thus the aim of the survey can be stated as follows: To see whether “normative” statements function like suitably formulated “positive” statements.

Survey execution and the response rate: In Appendix C we provide a thorough account of how the survey was conducted, etc., but the basics are as follows: William Davis and his team at the University of Tennessee at Martin created a mailing list of 3000 economics professors in the United States and mailed out the surveys (of which there were multiple forms, explained below) on 23 September 2013. Over the next several months they received back 574 surveys, a response rate of 19.1 percent.

I. The correspondence between the two goods

Sitting above the argumentation in this paper is an organizing precept, one that Adam Smith renders quite explicit in *The Theory of Moral Sentiments*.² We call it the *correspondence between the two goods*.

Consider a person—let’s call her Robin—who faces a choice between A and B. Suppose that you affirm in your public discourse that Robin’s doing A is better for humankind (present and future) than Robin’s doing B. Is it sensible, then, that you affirm, also, that Robin ought to do B, rather than A?

Here we see two different concepts of good. There is what is *good for humankind*, and there is what is *good action* on Robin’s part. Cultural evolution has organized our thinking such that we naturally and properly strive to make “good for the whole” correspond to “good action.” We do so by jiggering what is on either side of the correspondence.

Words used in treating matters of good action include *ought*, *should*, *duty*, *virtue*, *justice*, *right*, and *propriety*. Words used in treating matters of what constitutes the good of the whole, and of what advances such goodness, include *desirable*, *best*, *beneficial*, *efficient*, *flourishing*, *thriving*, *healthy*, *happy*, *wellbeing* and so on. The point is that we human beings navigate our cultural word under the precept that *ought* and the good of the whole shall correspond.

One’s notion of the good of the whole is whatever it is. It is surely something very loose and vague, but looseness and vagueness do not unmake that loose, vague thing’s existence. Whatever your notion is, we might call it the X criterion. Now, consider the statement: *By the X criterion, Robin’s doing A rates higher*

than her doing B. We can make that look scientific: $R(A) >_X R(B)$. Whether pos-normers would call the statement $R(A) >_X R(B)$ “positive” or “normative,” and what they would say is their basis for saying what they’d say, are questions deserving of exploration. But our contention is that such persons, if they examine their own thinking, will realize that, if cornered, they too would affirm the correspondence between the two goods. If they can accept that contention, then they will be part way toward entertaining the chief contention of this paper—that “normative” statements are practically the same as suitably formulated “positive” statements—because the chief contention rests directly on the correspondence-between-the-two-goods precept.

Here, one might wonder whether “normative” signifies that the statement treats matters on the whole, or on net, for humankind, whereas “positive” signifies that the statement treats matters with respect to only a finite, delimited set of aspects. But consider the following uncontroversial statement: *The discovery of antibiotics advanced the well-being of humankind*. That speaks of human well-being on the whole; so is it “normative”? If it is not “normative,” why not? Because it is uncontroversial? If so, then does “normative” just mean “controversial”?

Also, it would be easy to give examples of statements that would seem to treat only a finite, delimited set of aspects that pos-normers would be inclined to call “normative,” such as “Workers deserve to be paid a living wage.”

Maybe the positive-normative distinction does not deserve a living wage. That is, we suggest that pos-normers learn to overcome their being a pos-normer. We suggest that distinctions like those displayed in Figure 1 are necessary to understand motives of pos-normers.

II. On practical sameness between two statements

We have an intuitive sense of two statements being practically the same. In each of the following pairs of statements, both statements are practically the same, more or less:

- Please give me a turkey sandwich.
- I’ll take a turkey sandwich, thanks.

- *Casablanca* is excellent.
- *Casablanca* is superb.

- Generally speaking, my life is a happy one.
- Generally speaking, my life is a satisfying one.

- God exists.
- There is a divine being.

- The reform would yield positive net benefits.
- The reform ought to be favored.

In contending that “the reform would yield positive net benefits” is practically the same as “the reform ought to be favored,” how are we to show such practical sameness? If the reader is open to hearing our contention that any “normative” question is practically the same as a suitably formulated “positive” question, what sort of evidence should the reader ask for? What sort of evidence should the reader find persuasive?

Just because two statements elicit similar reactions in one particular context, we would not necessarily conclude that they are practically the same. Just because *everyone* strongly agrees that it is good to breathe each day and that it is good to drink fluids each day, we wouldn’t conclude that “to breathe” is practically the

same as “to drink fluids.” A statement belongs to a vast cultural world of many contexts and many intersecting, sometimes colliding, interpretations.

For persuading the reader that two statements are practically the same, it is probably impossible to use survey data to mount an empirical argument that will ever be sufficient, by itself. No matter how strong the quantitative evidence, the reader will reserve for herself a veto option, an option that she, as a living member of the vast cultural world under investigation, considers after asking herself, *But are the two statements really the same?* Reserving such an option, it seems to us, is perfectly reasonable. Quantitative evidence will never be sufficient.

But we can explore whether the quantitative evidence satisfies *necessary* conditions for practical sameness. If two statements are practically the same, then the data should show consilience with practical sameness. What does it mean for the data to show consilience with practical sameness? A useful comparison would be the findings of test-retest results—that is, data from surveys in which a respondent answers *the exact same question*. Such findings would provide a sort of benchmark for practical sameness; in our online appendixes we discuss test-retest and we adopt such a benchmark for assessing our results (appendices E, G, and H).

We offer this investigation, then, not with a pretention of offering knockdown, sufficient evidence of practical sameness between “normative” statements and suitably formulated “positive” statements. Rather, we ask the reader to consider that contention, and we help the reader ponder the matter by going through evidence that, we feel, shows consilience with such practical sameness.

III. The survey wording and questions

At the top of the first page of the survey (in all forms) appeared: **Survey of Economics Professors on Immigration, Drug, and Pharmaceutical Policies**. The survey asked questions about three areas of public policy: immigration policy, illicit drug policy, and pharmaceutical or FDA-approval policy. In all forms of the survey, the wording of questions across the three policy topics was neatly parallel. The primary goal of the survey had to do with the “positive”/“normative” wording, not policy attitudes. In this manner, a respondent would provide us with *three* trials of our “positive”/“normative” test—a trial for each of the three policy topics. Therefore we have more “positive”/“normative” data than we have respondents.

Also, the survey asked year of birth, gender, and a final invitation to share thoughts about the survey. The survey was very short, just 12 questions (or fewer, in some forms). It did *not* ask political-party affiliation or ideological disposition.

The reform proposal, in each of the three policy areas

For each of the three areas of federal government policy, the survey posited a reform proposal. A respondent who answered the questions in the order they were presented would proceed through the short survey as follows:

- 1st: answering questions about the posited immigration reform
- 2nd: answering questions about the posited marijuana policy reform
- 3rd: answering questions about the posited pharmaceutical approval reform
- 4th: answering the final questions (age, gender, and comments).

The survey posited the following reform concerning immigration:

The federal government maintains various controls on (legal) immigration into the United States.

Please consider the following reform proposal: That the federal government increases the in-flow rate of new legal immigrants by about 30 percent above its status-quo yearly level (across the board, with respect to immigrant/visa categories). (Under the reform, every year, the new policy would permit 130 people to enter where now only 100 are permitted to enter.)

The survey posited the following reform concerning marijuana:

The federal government maintains various controls on certain intoxicating drugs, including marijuana.

Please consider the following reform proposal: That the federal government treat marijuana in the same manner as alcohol or tobacco are now treated—that is, liberalization of the current controls, but with licensing and monitoring of suppliers and age restrictions on purchase and use.

The survey posited the following reform concerning FDA approval:

In the United States, a new drug must be approved by the U.S. Food and Drug Administration (FDA) to be produced and marketed in the United States.

Please consider the following reform proposal: That the United States adopt a policy wherein the FDA selects five of the drug-approval agencies of other leading OECD countries (for example, the Health Canada agency in Canada), and then, thereafter, as soon as a new drug is approved by any of those five agencies, that drug automatically gains approval in the United States.

The basic idea of our investigation is to test whether, with the reform proposal specified in each policy area, the respondent would answer a “normative” question about the reform in the same way that he would answer a sufficiently broad “positive” question. The “normative” question (in the case of immigration policy) was as follows:

The reform ought to be favored over the status-quo immigration policy:

☐

agree
strongly

☐

agree,
not strongly

☐

neutral

☐

disagree,
not strongly

☐

disagree
strongly

☐

have no opinion

As for the “positive” questions (which preceded the “normative” question), we used four different phrasings, explained below.

A. The compounded ruse of the survey

It is our sense that people are more likely to respond to a survey if they feel they have a sense of the motivations of the investigators, and support such motivations.

Our true motivation in conducting the investigation had to do with the positive-normative distinction. None of the text in the survey or the cover-letter indicated that motivation. We imagine that when the respondent first laid eyes on the text of the survey he would guess that our motivation simply had to do with the three policy topics. Reading the survey more carefully, he would probably form a suspicion as to what the underlying motivation was—a suspicion, however, that was not right!

In designing the survey, we faced a problem. Take the immigration reform. Our goal was to get the respondent to answer both a “normative” question about it and a broad “positive” question about it. One of the phrasings we used for “positive” questions was “positive net economic consequences.” Had we, after positing the immigration reform, asked whether it would result in positive net economic consequences (“positive”), and then whether it ought to be favored over the status quo (“normative”), the respondent might well have thought the survey very strange. If we had asked just those two questions, the respondent might have thought the investigators goofy and not worth cooperating with. Or, we thought, perhaps the respondent would see that we are actually investigating whether economists answer “positive” questions the same way that they answer “normative” questions, and therefore responded in a way somehow affected by such speculation on his part.

We came up with a different unstated but perceptible motivation, namely, a matter of present-day Americans versus present-and-future humankind worldwide. For the phrasing of “positive net economic consequences,” for example, we asked first about “for the set of people who are American citizens at present,” and then about “for humankind (worldwide, present and future),” and then the “normative” question, whether the reform “ought to be favored over the status-quo.” We think that when respondents read all three questions, they probably thought that our motivation had to do with the following two issues: (1) For such reforms, do economists³ systematically see a difference in net consequence for present-day Americans and for present-and-future humankind?, and (2) Which one—consequences for Americans or for humankind—better fits economists’ judgments about whether the reform ought to be favored? In particular, do economists ever favor what they perceive to be the interests of Americans over the interests of humankind?

The survey, then, has three levels:

Level 1: Gathering data on economists’ judgments on immigration, marijuana, and FDA reform.⁴

Level 2: Gathering data on their thinking on Americans-versus-humankind.

Level 3: Gathering data on whether they answer suitably formulated “positive” questions differently than “normative” questions.

For recipients of the survey, the first level was obvious, and the second was perhaps what they inferred to be our real motivations. Our real motivation, the third, probably was *not* inferred by them.⁵ Level 3 is what concerns us in the present article.⁶

B. The NPR contextualization of the questions

Sometimes, when you ask an economist for his judgment on a policy issue, he says, “As an economist, I would say...” If an economist John speaks that way, presumably it is because he means to imply that what he says “as an economist” doesn’t necessarily match with what he might say as whatever else he might be. Since some economists talk that way, we provided some contextualization for the policy questions, in hopes of specifying what the respondent, in answering the questions, is speaking “as.” The contextualization was as follows (for the questions on immigration):

Now, suppose the reform proposal is being discussed on National Public Radio (NPR), and the interviewer has invited you to speak as a professional economist on the matter. In the course of the interview, the interviewer shall report your answers to the following questions (that is, questions 1, 2, and 3): Please mark your disposition toward each of the following statements as you would for the purpose of such an NPR engagement.

The NPR contextualization was a constant: As the survey proceeded to the marijuana and FDA reforms, we repeated the contextualization. Thus, for all questions on all three reforms, the respondent is contextualized to be speaking “as a professional economist” in a discussion on NPR.

C. The four phrasings of the “positive” question

We used four different “positive” variations—with only one used in any given survey. All begin with: “Implementing such a reform would, on the whole, ...”

The four phrasings of the “positive” questions:

- “yield positive net economic consequences for ...”
- “yield positive net consequences for ...”
- “increase social welfare for ...”
- “be good for ...”

We realize that, even though “would be” is a form of *is*, some people would say that a statement to the effect that a reform “would be good for” some set of people is a “normative” statement, not a “positive” statement. The variation may show how one comes to see “positive” as “normative,” or vice versa. Also, we varied the “positive” phrasing to explore whether such variation matters. We used the “ought to be favored” question in all (core)⁷ surveys.

If a survey used “positive net economic consequences” for the immigration part of the survey, then it repeated that same phrasing for the marijuana and FDA questions; and similarly for the other three “positive” phrasings. Thus, each “positive” phrasing was paired with the “normative” question (“ought to be favored”), but never was a “positive” phrasing paired with a different “positive” phrasing.

We had expected that, on average, “positive net economic consequences” answers would differ most from “ought to be favored” answers. The four “positive” versions bulleted above are listed in the order that we expected would be largest to smallest in absolute gaps from “normative” answers. We expected that the final version, “be good for,” would be *closest* to “ought to be favored.” As we shall see, that pattern did not obtain; but not finding the expected pattern does not, we feel, bear on our main prediction, which is simply that respondents’ “positive” answers would not systematically differ much from their “normative” answers.

D. Four core survey forms, plus two auxiliary forms

We have four core surveys, each corresponding to one of the four “positive” phrasings, with the following three questions for each of the three policy areas:

- “positive” phrasing for present-day American citizens
- “positive” phrasing for humankind (present and future)
- “normative” phrasing (that is, “ought to be favored”)

Of the 3000 surveys mailed out, 20 percent were “positive net economic consequences,” 20 percent were “positive net consequences,” 20 percent were “increase social welfare,” and 20 percent were “be good.”

The remaining 20 percent were split between two auxiliary forms of the survey. We speculated that perhaps the presence of a “normative” question would affect the respondent’s answer to a “positive” question, and vice versa. To check on such a concern, we made 10 percent of the surveys just like the “positive net economic consequences” survey but without the “normative” questions, and 10 percent with *only* the “normative” question, that is, without any “positive” questions at all.

Table 1 summarizes some of the foregoing information, and also shows the response rate for each of the six forms of the survey.

Table 1: The six forms of the survey and return rates⁸

	Form	“positive” phrasing	“normative” question	Sent out	Returned	Return rate
Core forms	F1	“positive net economic consequences”	Included	600	111	18.5
	F2	“positive net consequences”	Included	600	117	19.5
	F3	“increase social welfare”	Included	600	109	18.2
	F4	“be good”	Included	600	120	20.0
Auxiliary Forms	F5	“positive net economic consequences”	Not included!	300	54	18.0
	F6	NONE!	Included	300	63	21.0
	Total	NA	NA	3000	574	19.1

The responses of Mr. 3

Respondents were numbered in the order that their completed surveys arrived back to William Davis. Consider the first F1 survey. The respondent was male and 72 years old. Since his survey was the third to be received, let’s call him Mr. 3. Mr. 3 responded to all of the questions. At the final question, he wrote: “Good luck on this research.”

On the immigration reform, in response to the statement that implementing the reform “would, on the whole, yield positive net economic consequences for the set of people who are American citizens at present,” Mr. 3 checked “agree, not strongly.” In response to the same statement except now “for humankind (worldwide, present and future),” he checked “agree strongly.” In response to the statement, “The reform ought to be favored over the status-quo immigration policy,” he checked “agree, not strongly.”

Our attitude about the positive-normative distinction entails the feeling that “normative” questions can be recast as “positive” questions, particularly by specifying consideration of consequences “on the whole” or on “net,” or something to the effect of “overall social welfare,” or what is—*is*—“good” for the whole. Mr. 3’s “agree, not strongly” answer to the “ought to be favored” question matches his answer to the “positive net economic consequences” question *for Americans*, but it is one notch off from the same *for humankind* (his answer there being “agree strongly”).

Turning now to Mr. 3’s responses on the marijuana and FDA questions, we find matches between his “positive” and “normative” response: For both reforms, he responded “agree strongly” to all questions.

For each (core-form) respondent, there are six pairings of “positive” response with a “normative” response:

- Immigration:
 1. Americans
 2. humankind
- Marijuana:
 1. Americans
 2. humankind
- FDA:
 1. Americans
 2. humankind

For Mr. 3, the responses in five of the six pairings match, and in one they differ only by a single notch. We suggest that, on the whole, Mr. 3’s responses show consilience with our general contention.

IV. A negative difference means lesser “normative” agreement

We number the five response options 1, 2, 3, 4, 5. The number 1 corresponds to “agree strongly,” and 5 to “disagree strongly.” The number rises with *disagreement*.

To illustrate how we calculate and interpret a difference, let us return to Mr. 3’s “positive” answer on immigration for humankind and his “normative” answer. To the positive question Mr. 3 answered, “agree strongly,” 1 in our calculation. To the “normative” question, he answered, “agree, not strongly,” 2 in our calculation. We calculate the difference by starting with the “positive” answer and then subtracting from it the “normative” answer. Thus, a difference is calculated for respondent *i* as follows:

$$i\text{'s difference} = i\text{'s "positive" answer} - i\text{'s "normative" answer}$$

For the just-specified answers from Mr. 3 we have $1 - 2 = -1$. This difference (–1) has—obviously—a negative value. The negativity is aptly interpreted as follows: Mr. 3’s agreement is *lesser* for the “normative” statement than for the “positive” statement. He *strongly* agreed that the immigration liberalization would yield positive net economic consequences. But his “ought to favor” answer is “agree, not strongly.”

This particular difference for Mr. 3 can be read as moderating the level of agreement as we pass from his “positive” to his “normative” response. For responses that are in the disagreement range, however, negativity would mean stronger “normative” disagreement. The general formulation, regardless of agreement or disagreement, is that *negativity indicates lesser “normative” agreement*—which in the case of agreement means moderation, and in the case of disagreement intensification of disagreement.

As it happens, the same sort of lesser agreement exhibited by Mr. 3 on immigration/humankind is found in the sample results for all four versions of the “positive” question. That is, on immigration, respondents, on average, agreed with ameliorative “positive” outcomes (for humankind), but reduced their “ought to favor” agreement. For each of the four “positive” versions, the average of such differences was below zero.

Now consider marijuana. Here we find the opposite pattern. On marijuana liberalization, respondents again leaned on average toward agreement about ameliorative “positive” outcomes. But their “ought to favor” responses were now (on average) a bit more bullish on agreement. The differences are greater than zero: Their “normative” agreement is greater than their “positive” agreement (in fact, greater not only for all four humankind differences, but also all four Americans differences).

V. Aggregate respondent-level differences: Humankind-“positive” and “normative”

Below is Table 2, the focal point of this article. It provides results for the 12 differences between “positive”/humankind and “normative.”

Table 2: Differences between “positive”/humankind and “normative”

“positive” q. asked	Policy reform asked about			
	Immigration	Marijuana	FDA	
“positive net economic consequences for”	Min.: -3 Mean: -0.14 (= 1.75 - 1.90) Max.: 2 % 0: 68% n=105	Min.: -2 Mean: 0.22 (= 2.18 - 1.96) Max.: 2 % 0: 70% n=105	Min.: -2 Mean: -0.03 (= 2.52 - 2.55) Max.: 1 % 0: 73% n=97	Mean of 3 means to left: 0.02
“positive net consequences for”	Min.: -2 Mean: -0.16 (= 1.48 - 1.65) Max.: 1 % 0: 69% n=110	Min.: -2 Mean: 0.23 (= 2.03 - 1.79) Max.: 3 % 0: 72% n=112	Min.: -2 Mean: 0.04 (= 2.39 - 2.35) Max.: 2 % 0: 81% n=103	Mean of 3 means to left: 0.04
“increase social welfare for”	Min.: -3 Mean: -0.38 (= 1.53 - 1.91) Max.: 2 % 0: 50% n=102	Min.: -2 Mean: 0.32 (= 2.19 - 1.87) Max.: 2 % 0: 68% n=105	Min.: -2 Mean: -0.05 (= 2.52 - 2.57) Max.: 2 % 0: 82% n=95	Mean of 3 means to left: -0.04
“be good for”	Min.: -4 Mean: -0.07 (= 1.77 - 1.84) Max.: 2 % 0: 61% n=113	Min.: -4 Mean: 0.26 (= 2.09 - 1.83) Max.: 2 % 0: 71% n=112	Min.: -4 Mean: -0.07 (= 2.66 - 2.73) Max.: 2 % 0: 71% n=102	Mean of 3 means to left: 0.04
	Mean of 4 means above: -0.19	Mean of 4 means above: 0.26	Mean of 4 means above: -0.03	Mean of all 12 means: 0.01

Note: Data presented here includes only respondents who gave an answer to both “positive” and “normative” questions, i.e., respondents who declined to answer either question are excluded.

Look at the upper-left cell. There we find information on the 105 respondents who answered (on survey form F1) both the “positive net economic consequences” for humankind immigration question and the “normative” immigration question. We see that the mean of the differences is -0.14. For the “positive net economic consequences” the mean response was 1.75. For the “normative” question the mean response was 1.90. In relation to either of those values, -0.14 is small. The cell also tells the minimum of the 105 differences, which was -3,⁹ and the maximum of the 105 differences, which was 2.¹⁰ Finally, the cell tells what percent of the 105 respondents answered each of the two questions with the exact same response (a difference of 0). In the case of this particular cell, 68 percent respondent to the two questions with the exact same response.

Now look at the lower right-hand cell, showing the remarkably small mean differences of the mean differences by “positive” question: 0.01. We focus on that result as the most pertinent finding for assessing, or at least illustrating, our contention. The reasoning for regarding it as the best test of our contention now proceeds in three basic propositions: (1) the justness of focusing on humankind (present and future), rather

than current Americans; (2) the justness of using differences, rather than gaps; (3) the justness of doing a roll-up over the three differences, rather than keeping the three issues strictly separate.

VI. The justness of focusing on “humankind (worldwide, present and future)”

It is natural to see “ought” statements as implicitly relating to some notion of the whole. But which whole? The sentence, *Ralph ought to exercise more*, might relate to the whole of Ralph’s life. But Ralph’s life is a part of larger wholes—his family, his circle of friends, his neighborhood, his country, humankind, all living things. It may well be that we come to the same conclusion whether we think of the whole of Ralph’s life or the whole of humankind, but we can also imagine how the conclusions might differ.

The situation of a discourse will tend to make certain wholes more focal than others. Our survey posited a discourse situation—the NPR interview setting—which is American in nature. Also, there was the setting of the survey itself: It was written in American English, sent by USPS mail, from fellow US-based economics professors, to US-based economics professors, about American reforms, etc. We cannot deny that the survey gives great prominence to the American whole.

Despite all, we feel that the more natural whole behind “ought” is humankind, and so we focus on the humankind results (contained in Table 2). (In Appendix F, we provide a table with present-day Americans results.) Now we expatiated on why we think humankind is the more natural whole.

Our suggestion is that “normative” statements are practically the same as suitably formulated “positive” statements. Our understanding of “suitably formulated” entails the idea of *regard for the extensive human whole*.

Most Americans are of the Western monotheistic heritages, which teach that all people are the children of God. Many argue (e.g., Siedentop 2014)—and we agree—that the ethical outlook of Western humanism or liberalism is patterned after such universality. *The Declaration of Independence* declares as a self-evident truth that “all men are created equal, that they are endowed by their Creator with certain unalienable Rights.” Such universality rejects any profound variation in ethical standing by political jurisdiction. Say what one will about differences across ethnic, national, or racial populations, we are one species: We bond and raise up families that mix such petty distinctions: We may quarrel about how to describe human nature, but we all agree when it comes to distinguishing human and non-human.

Should we imagine that, in responding to “ought,” the survey respondent who happened to reside in Texas focused on Texas as the whole? Or on county or town? All of humankind—our highly distinct species—is the natural stopping point of ethical consideration. Do we doubt that the survey respondents see Canadians, too, as mattering equally to “ought”? And their Spanish-speaking neighbors in Mexico? Is not America itself a nation of immigrants and descendants thereof?

We think it natural to suppose that, when doing “ought,” our respondents, who are economics professors, principally respond with respect to the larger whole of humankind, present and future, as opposed to just present-day Americans. One question, preceding the “ought” question, asks explicitly about “humankind (worldwide, present and future).” The respondent was explicitly reminded of the largest human whole.

Such a universalistic ethic would not, of course, preclude special sentiment, sympathy, and concern for our more local wholes, for a love of home and a healthy patriotism. One of Smith’s central ideas is that universal benevolence is generally best served by our focusing on the local, because the effectiveness of our service to the whole of humankind declines as we try to act beyond the local. But nonetheless, for Adam Smith, universal benevolence (that is, the beauty of the great scene of humankind as it is perceived by a super-knowledgeable beholder who is benevolent) still sits as the proper, though loose and vague, conception behind “ought.” We think that civilization in America is, in that regard, Smithian enough to justify our focus on the humankind results.

The case for using humankind in formulating “positive” net-consequence questions to match “normative” questions is general. But as regards the results of our survey in particular, it turns out that even if we use the US version of the “positive” questions, the differences are—as shown in Appendix F—still small

enough to illustrate our contention that “normative” statements are practically the same as suitably formulated “positive” statements. (In Table 2 above, using humankind, the mean of all 12 means is the vanishingly small 0.01. When using current American citizens instead, it is merely 0.09.)

VII. The justness of using differences (rather than gaps)

Consider again a pair of statements that we feel intuitively are practically the same:

- God exists.
- There is a divine being.

If we had data on people answering both questions in that pair, we would naturally feel that sameness ought to take into consideration differences, rather than mere gaps (absolute values). Suppose 100 people answered both questions. Now consider two different results outcomes:

Outcome 1: 50 people answered the two questions identically, and 50 answered with agreement to “God exists” one notch above how she answered “There is a divine being.”

Outcome 2: 50 people answered the two questions identically, 25 answered with agreement to “God exists” one notch above how she answered “There is a divine being,” and 25 people answered with agreement to the first one notch below how she answered the second.

In measuring mere gaps, both Outcomes yield a mean gap of 0.5. (Each has 50 people with a gap of 1 and 50 with zero, so $50/100 = 0.5$.)

But don’t we feel intuitively that Outcome 2 better evinces practical sameness? In Outcome 2, the separations balance out; Outcome 2 has a mean difference of zero. But Outcome 1 has a mean difference of 0.5. It is reasonable to think that the variations shown in Outcome 2 are the results of vagaries, such as respondents reacting to a non-redundancy effect (Strack, Schwartz, and Wänke 1991), prompting them to give not-exactly-the-same answers to two similar questions.¹¹ Half of the variations in Outcome 2 go in one direction, half in the other, as though people decided to vary by flipping a coin. But in Outcome 1 we see a systematic direction to the variation, which more strongly suggests that people on the whole *do* see the two statements as really somewhat different. To see such indications of real differentness we need to use signed differences, not merely gaps.¹²

VIII. The justness of doing a roll-up over the three issues

We hope that the preceding reasoning justifies our focusing on Table 2. Now we justify our focusing on its ‘roll-up,’ the lower right-hand cell showing the mean of all 12 means, which is 0.01. To justify the roll-up we start by imaginatively entering into the respondents’ thinking.

As previously noted, on the immigration liberalization, respondents agreed on average with ameliorative “positive” outcomes for humankind, but tended somewhat to reduce their “ought to favor” agreement. In Table 2’s column for Immigration, observe in boldface: -0.14 , -0.16 , -0.38 , and -0.07 . Not big, but the consistently below-zero figures make a pattern. On the marijuana liberalization, respondents agreed on average with ameliorative “positive” outcomes, and on average responded with *stronger* “ought to favor” agreement. In Table 2’s column for Marijuana, observe in boldface: 0.22 , 0.23 , 0.32 , and 0.26 . Again, not big, but the consistently above-zero figures make a pattern.

Here we may ponder two questions: (1) Why are immigration differences (for humankind) below zero? (2) Why are marijuana differences above zero? In the following two sidebars, we speculate on possible answers to those questions. These speculations are intended to persuade the reader, not that we accurately ex-

plain the particular factors in play in each pairing, but simply that any particular pairing will give rise to particular factors that do create slight systematic differences in how people answer the “positive” question and how they answer the “normative” question.

Sidebar 1: Why are immigration differences (for humankind) less than zero?

Enter into the situation of the respondent as she answered the immigration questions. She finds a “positive” question concerning outcomes for present-day Americans, the same “positive” question concerning humankind present and future, and the “ought” question. She imagines her role in the NPR interview. She knows that immigration is a gnarly and heart-wrenching issue involving considerations of liberty, compassion, identity, and complex political and cultural dynamics. Many of the factors relevant to her “ought” judgment are things that, as an economist, she is unlikely to be able to speak to in a way that impresses as expertise.

“Ought” judgments should give attention to all things that matter; that is common knowledge, more or less. But it is unclear whether one can say the same about our “positive” statements, which say the reform “would, on the whole,”: (1) “yield positive net economic consequences,” (2) “yield positive net consequences,” (3) “increase social welfare,” and (4) “be good for.” One of us might be prepared to mount a case that all four formulations, too, entail due attention to all things that matter. But we would be much less inclined to argue that *it is common knowledge* that they entail that. The discourse situation of a survey does not afford an opportunity to elaborate how one understands such phrases, and, instead, the discourses must mind how other people understand them. The point is that such “positive” phrases (particularly 1, 2 and 3) are more susceptible to narrowing by the economist. So narrowed, the economist might then feel greater readiness to assert agreement about the thusly narrowed outcomes being ameliorative. But when it comes to the “ought,” the economist *cannot* dodge or hide from all things that matter. We find that “ought to favor” elicits less slightly less agreement. Perhaps respondents did not wish to come across as definite on what is a large, complex, controversial issue, and, because of such factor, therefore shaded their “ought to favor” response, making it closer to “neutral.”

Yet another possible factor is worth pondering. On the immigration reform’s yielding positive net economic consequences for humankind, Mr. 3 responded “agree strongly,” but for “American citizens at present” only “agree, not strongly.” His response on “ought to favor” was also “agree, not strongly.” Perhaps Mr. 3 and others with similar patterns would not wish to display to an NPR audience a response pattern that might be construed as globalist as opposed to America-first. Such shading might be more rhetorical tact than genuine partiality toward Americans.

Sidebar 2: Why are marijuana differences greater than zero?

Why does the shading on the marijuana issue go the other way? What factors might have played a role there?

The center of gravity is again toward agreement with the specified liberalization, but now agreement on “ought to favor” is a bit stronger than agreement on ameliorative “positive” outcomes for humankind. Perhaps one factor was that in responding to the “positive” statements our economists shrank a bit from seeming to propound stoner consumer surplus. There is a simple side to argumentation for liberalizing a product, but that simple argumentation isn’t so simple for products widely disapproved of. Perhaps our economists, again, hedged a bit from a concern about being construed as indifferent toward pot smoking and hence being dismissed. And yet their “ought to favor” agreement is slightly more robust, perhaps, first, because an NPR audience would probably lean that way, and, second, because such audience likely finds the issue not to be momentous. The reform was simply to regulate marijuana as alcohol is regulated. The economist who really does favor such reform faces no great difficulty in plainly saying so. In defending the “ought” judgment the NPR guest could speak directly of issues of law enforcement abuse, racial disparities, mass incarceration, disorder in foreign countries—matters that defy the semblance of precision connoted by the “positive” statements. Indeed, the results from the control surveys (survey forms 5 and 6) make for comparisons that support the reasoning of this paragraph; we elaborate those comparisons in Appendix B “Control Table.”

Or, instead of shying away from any semblance of precision, the respondent is perhaps simply less sure of how the “positive” statements will be understood by others, as well as of how the statements should be understood. The uncertainty leads them to moderate their “positive”-statement agreement. But “ought to favor” perhaps requires less in the way of presupposed common understandings: It asks more directly about how they feel it all stacks up, what they feel is the bottom line. As such, one feels less accountable to how exactly the accounting is done. The greater certainty about speaking to merely the bottom line, as opposed to speaking to what exactly the system of accounting is, results in this case (a widely held position on a fairly minor issue) in expression of stronger agreement.

Thus, in the Sidebars, we suggest explanations of how particular factors combined to push the agreement a bit one way or the other. Now, our reader might say to us: “OK, but don’t your Sidebar explanations just show that, assuming we think that the pushing in each case is something real, something calling for explanation, that in fact the ‘positive’ statements therefore *are not* practically the same as the ‘normative’ statement?”

To that we respond: Yes, indeed, in each case (that is, the case of the immigration reform and the case of the marijuana reform), for *that particular position on that particular issue in that particular discourse situation*, there are particular factors that make for small differences between the two sorts of questions. But the contention is larger: That particular factors tend to balance out across the wide span of issues and discourse situations. The contention is that “normative” and suitably formulated “positive” statements are practically the same *in general*.

Think of a universe of myriad pairings between “normative” and suitably formulated “positive” statements. We can, using a questionnaire such as ours, draw out pairings, to test the practical sameness of the two statements in a pairing. Such a universe could never be well-defined, and the number of pairings to test is innumerable. In this paper we have sampled only a very few of the pairings as could be drawn from such a universe. The pairings we test are but instances of more general ideas of a *“positive” statement being practically the same as a “normative” statement*. Our investigation, then, achieves two things: It instantiates par-

ticular pairings of the wider universe of such pairings, and it provides results that might illustrate the practical sameness of “normative” and suitably formulated “positive” statements.

Both amount to statements about the beauty or goodness or healthiness of the whole.¹³ We see that factors particular to the issue/situation push one way on immigration and the other way on marijuana, which illustrates our contention that such particularistic differences presumably tend to wash out when we think about the practical sameness, generally speaking, of “normative” statements and suitably formulated “positive” statements.

Thus, we maintain that focusing on the ‘roll up,’ combining the means over the policy issues, is just. Human beings develop a sense of the overall, as well as of the by-and-large. We navigate semantic action using associations wide and worldly. In terms of assessing our results, that authorizes our combining results spanning the differences sampled. In Table 2, the mean of the 12 means in the table comes to 0.01.¹⁴ That the below-zero immigration differences and the above-zero marijuana differences would tend to cancel each other out was entirely unpremeditated on our part. Had we “drawn” different issues from the “universe,” we may not have hit so close to zero.

It was without guile that we formulated the wording of the four “positive” phrasings or the three policy reforms. We never even thought about how results would differ over the three policy reforms.

IX. Concluding remarks

It has been said the one never steps into the same river twice—indeed, even that one never steps into the same river once. Two things cannot be the same because the very premise that they are two presupposes some differentness. The apple on the left cannot be the same as the apple on the right, because it is on the left, not the right.

But we humans naturally reject extreme skepticism, instead embracing Humean natural beliefs about the existence and continuity of things, and of causal relations between them. We embrace Humean natural beliefs from practicality. Any instance of sameness can be regarded as being a matter of *practical* sameness.

Just as we say that a question that is repeated verbatim in a survey is the same question, we are suggesting that an “ought to favor” statement that many pos-normers would be apt to deem “normative” and a suitably formulated statement that they would be apt to deem “positive,” are, though not the same verbatim, practically the same. Maintaining that humankind provides the most suitable “whole” to assess such sameness, we have provided survey evidence suggesting that answers to “ought to favor” and answers to four different “positive” formulations are very similar, and remarkably so when the results over the three different issues are brought together. We defend such ‘roll up’ because our contention is that “ought to favor” statements are practically the same as (for example) “positive net economic consequences for humankind on the whole” statements, not for every particular position, issue, and discourse situation, but over all positions, issues, and discourse situations, or *in general*. Any notion of two things being the same must entail some such extension of generality: Saying that these two apples are the same must draw on a sensibility regarding what it means *in a more general sense* for apples to be the same.

Survey evidence of the sort offered here can show only that certain necessary conditions for practical sameness are met, and we have argued that the evidence does meet such necessary conditions. *Sufficient* conditions for practical sameness are harder to define, and harder to meet. But we hope to entice readers to ponder practical sameness between “normative” statements and suitably formulated “positive” statements.

If we are right about such practical sameness, then pos-normers should perhaps rethink the habit. When we hear economists employ the positive-normative distinction, we do not regard it as meaningless. But imputing meaning to their words does not imply that we find it worthwhile to use such words. We invite readers to consider the possibility that in virtually every discourse situation the positive-normative distinction is a dominated strategy.

Sometimes a word remains outside a person’s active vocabulary because she lacks the competence to include it, and sometimes because she has the competence to exclude it.¹⁵

NOTES

- 1 Economists whose attitude seems to be like ours include Davis 2016; Hands 2012; Walsh 1996; Heyne 2008, p. 14; McCloskey 1985, pp. 42–46; 1995, p. 553; Coase 1994[1975]; Feser 2009, pp. 175–80; and philosophers would include Quine 1953; Putnam 2002; Pakaluk 2013; and see “Two-Score or More of Witnesses against the Fact-Value Split” in Booth 1974, pp. 207–211.
- 2 At the head of this paper appears a passage from Adam Smith that nicely joins “the supreme judge” of action (think *ought*) and “representative of mankind” (think *what advances the wellbeing of humankind*) (Incidentally, that passage appeared in editions 1 through 5 of *The Theory of Moral Sentiments*, but not the final edition.) Smith writes of the rules of all virtues (think *ought*) as the laws of the Deity (pp. 165–6), and says: “That to obey the will of the Deity, is the first rule of duty, all men are agreed” (p. 176), and: “[B]y acting according to the dictates of our moral faculties, we necessarily pursue the most effectual means for promoting the happiness of mankind, and may therefore be said, in some sense, to co-operate with the Deity” (p. 166). Since ought/duty/virtue please a being whose pleasure corresponds to the good of the whole (or serving “benevolence” to humankind, p. 305, or “universal benevolence,” pp. 235–7), Smith is affirming the correspondence between the two goods. Smith speaks of the Deity, but we think that his work fully allows that the being may be only allegorical, as opposed to divine (see Klein et al. 2018 forthcoming).
- 3 Since nothing in the survey or cover-letter indicated that the survey was sent only to *American* economics professors, a respondent might wonder whether the survey was exploring differences between American and non-American economists.
- 4 We provide an overview of results at this level in Briggeman et al. (2017) and the FDA questions have been used in a simple way in a short popular article by Klein and Davis (2015).
- 5 Here let us describe what did influence our decision about what policy reforms to ask about. One factor was that the respondent would see potentially see that the posited reform would work out differently, in terms of net benefit for Americans as opposed to for humankind (thus, we would not ask about, say, rent-control or minimum wages, because such reforms would be so inconsequential for people outside of the United States). Another factor was that we wanted to asked questions that we are simply interested in (that is, at Level 1 of the survey). Yet another factor was that we wanted to present a set of reforms that would allay concerns among the survey recipients that the project had an ulterior motive of devising an ideological criticism of the economics profession, and thus, with the possible exception of the FDA reform, we avoided reforms that divide classical liberals and left-liberals.
- 6 Data found at http://www.briggeman.org/papers/KBDD/KBDD_Appendixes.pdf.
- 7 The “ought to be favored” question was in all surveys except for Form 5, one of the two auxiliary versions, as explained below.
- 8 Access the survey instruments at http://www.briggeman.org/papers/KBDD/KBDD_AppendixA.zip.
- 9 The only respondent to generate such a –3.0 difference (namely, respondent 75) responded “agree, not strongly” to the “positive” question and “disagree strongly” to the “normative” question, thus a difference of –3.
- 10 The only respondent to generate such a +2 difference (namely, respondent 34) responded “disagree, not strongly” to the “positive” question and “agree, not strongly” to the “normative” question, thus a difference of +2.
- 11 As *OECD Guidelines on Measuring Subjective Well-being* (2013, 100) puts it, in summarizing findings of Strack et al 1991: “respondents may assume that two similar questions asked on the same survey must require different responses because asking the same question twice would be redundant.”
- 12 We recognize that differences can mask differentness: Consider two outcomes, one with 100 people returning identical responses to paired questions, and one in which 50 people returned response pairs yielding +4 differences and 50 returned response pairs yielding –4 differences. Overall, each outcome would show a mean difference of zero, but clearly the first outcome evinces practical sameness much more than does the second. So, we think gaps are worth taking into consideration, as we do in Appendix G, but in a capacity *that is secondary* to looking at the differences, which should be primary.

- 13 In fact, the words *health*, *whole*, and *holy* are etymologically linked (Klein 2016), as are *good* and *god*, *owe* and *ought*, and *schooled* and *should* (Klein 2014).
- 14 There are three ways to roll up all twelve of the mean differences into a single statistic. The most direct way of doing so is, forgetting Table 2 altogether, simply to calculate the mean of all the differences, that is, of all the instances in which a single respondent answered both a “positive” question and the “normative” question (for any of the three reforms). There were 1261 instances. Averaging of the 1261 differences yields the remarkably small difference of 0.017. A second way to do the roll-up would be take a mean of the four means-of-the-three-means shown in right column of Table 2, yielding 0.015 $(= (0.02+0.04+(-0.04)+0.04)/4)$. The third way to do the roll-up would be to take a mean of the three means-of-the-four-means shown in the bottom row of Table 2, that yielding 0.013 $(= (-0.19+0.26-0.03)/3)$. Whichever way we do the roll-up—over the four variations in “positive” questioning, over the three policy issues used in the survey—the differences between “positive” and “normative” come out to be remarkably small.
- 15 Acknowledgments: For funding of the survey, we thank the College of Business and Global Affairs at the University of Tennessee at Martin. For helpful comments we thank Adam Gurri, Eric Hammer, and Erik Matson, Andrew Humphries, and anonymous referees.

APPENDICES

The appendixes listed below are available at http://www.briggeman.org/papers/KBDD/KBDD_Appendixes.pdf.

- Appendix A: The six survey forms (4 core, 2 auxiliary)
- Appendix B: The data
- Appendix C: Description of mailing-list creation and the fielding of the survey
- Appendix D: The control table, which makes use of the auxiliary survey forms F5 and F6.
- Appendix E: Test-retest variability: A discussion
- Appendix F: Differences between “positive”/US and “normative”
- Appendix G: Gaps (absolute values) between “positive” and “normative”
- Appendix H: Kappa analysis

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Sacrifice & Stigma in the Four Addiction Treatment Models for Opioids

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Abstract: There are currently four national models to treat opioid addiction. These models use different methods, have different costs, and have different success rates (Bose 2020). This paper hypothesizes that the way the models are structured are key to understanding their success rate. The economics and sociology literature that deals with churches and sects provides a valuable framework when considering the addiction treatment models. Iannaccone (1992) posits that sacrifice and stigma are used in religious organizations to change behavior. Stigma reduces free riding and increases the benefits of club goods that are integral to recovery. The literature on cults will also be used to understand addiction treatment models. Three of the four models emphasize abstinence (harm avoidance), whereas the fourth and the current national model focuses on harm reduction. I will build on Lembke's (working paper) work on Alcoholics Anonymous to broadly cover all four models of addiction care.

Keywords: Minnesota Model, Florida Model, Pennsylvania Model, Massachusetts Model, sacrifice and stigma, free riders, opioids

In the U.S., between 1999 and 2017, the opioid overdose death rates per 100,000 population (age-adjusted) has increased from 2.9 to 14.9 (an 414% increase).¹ There are currently four national models of addiction treatment for opioids. They are the: Minnesota Model, Florida Model, Pennsylvania Model, and the Massachusetts Model (Bose 2020). The Minnesota, Florida, and Massachusetts models for addiction treatment are abstinence-based or harm avoidance models where the focus is on helping the substance abuser give up their addiction.² Whereas the Pennsylvania Model, which is the current national standard of addiction treatment uses medication assistance and counseling to keep patients off illegal opioids and would be a harm reduction model.

The sacrifice and stigma model has been widely used to understand cooperation in a club like setting. The nature of club goods results in opportunistic individuals who over-consume and under-contribute. Club goods in the religious context includes things such as religious service, charitable activities, potluck dinners, bible studies, etc. The success of the group is based on the idea of limiting free-riding via what may seem as unproductive costs and this is because monitoring of members is difficult (Iannaccone 1994). The sacrifice and stigma model was first introduced by Iannaccone (1992, 1994) as a rational choice solution to

understanding some of the costly demands members in cults, communes, and sectarian groups faced. The costly demands were effective in reducing the free-rider problem and screening out the less committed. Sacrifice and stigma prevented one from participating in alternative groups. You either “participate fully or not at all” (Iannaccone 1992). However, at some point increased costliness will drive away patients resulting in less success. As Iannaccone (1994) states, “even though hundreds were willing to join the Bhagwan Rajneesh in Antelope, Oregon, few would have followed him to the Arctic Circle.” Hence an optimal level of costliness is ideal to prevent scaring off potential worshippers and on the other hand to preventing free-rider problems.

The sacrifice and stigma model has been widely applied to study religious phenomena such as the growth of sectarian groups (Stark and Iannaccone 1997), the decline of liberal/mainstream Protestantism (Finke and Stark 1992), effectiveness of radical religious groups in providing services and terrorism (Berman 2009), success of medieval craft guilds (Richardson and McBride 2009), and so on. The model has also been extended beyond the religious marketplace. It has been extended to study environmental groups and sects (Bose 2018, Bose and Komarek 2015), military units (Hirofumi 2011), Chinese communist party (Bram 2010), Alcoholics Anonymous (Lembke 2013), outlaw motorcycle gangs (Piano 2017), etc. In this paper I extended the application of the sacrifice and stigma model to the four national models to treat addiction to understand the effectiveness of these models.

The underlying biological basis for the sacrifice and stigma model is that “[t]he oxytocin we experience from *love* or *friendship* or orgasm is chemically replicated by the molecules derived from the poppy plant” (*italics added*) (Sullivan 2019). Further, there is evidence that Oxytocin “seems to attenuate, even inhibit, the development of opioid use disorders” (Kovatsi and Nikolaou 2019). Hence, I hypothesize that treatment models with high levels of sacrifice and stigma that result in stronger relationships will result in less addicted individuals from the poppy due to increased levels of oxytocin that would be naturally generated.

The literature provides a valuable framework when considering the structure of the four addiction treatment models and how their success rates can be understood. In section 1 we focus on the sacrifice and stigma theory found in the economics of religion literature. In sections 2, 3, and 4, we apply the sacrifice and stigma theory to the four addiction treatment models. Section 5 concludes.

I. THEORY

To explore the relationship between membership in treatment communities and membership in illegal drug communities, we use a club-based model, following Iannaccone (1988, 1992, 1994). This model highlights the relationship between participation in treatment communities and illegal drug communities and uses participation through “human capital” formation (Iannaccone 1990) subject to income and time constraints.

We assume that an individual obtains utility from treatment (T), illegal drug usage (D), and secular (S) commodities. T depends on time spent in treatment activities, purchased treatment goods (e.g., legal drugs, books), treatment experience and treatment human capital (knowledge gained via rituals, practices, friendships, etc. (Iannaccone 1990)), and conduct. Similarly, D depends on time in illegal drug activities, purchased illegal goods, illegal experiences, illegal drug human capital, and conduct (Bourgois 1998, Biernacki 1986, p. 22; Burroughs 1977). Finally, S depends on time spent in secular activities, purchased secular goods, secular experience and human capital, and conduct. An individual hence maximizes his or her utility, $U(T, D, S)$, subject to time and income constraints. Conduct is uniform and remains the same in all three settings; for example, abstaining from sex affects all contexts (Iannaccone 1988).

An individual has to decide whether to join a treatment community, illegal drug community, both, or neither. The communities will either facilitate drug taking and reinforce abuse norms or discourage drug taking and reinforce sober norms (Biernacki 1986, 24ff). A person’s preferences will influence which group or groups the person joins or does not join. In joining a group, the person makes the decision whether to be a committed member (high level of participation) or an uncommitted member (low level of participa-

tion). Because of the issue of free riding, which is common in collective action scenarios, groups that make membership costly will attract committed members and screen out less committed members. The remaining highly committed members will see the average levels of group participation rise, benefiting themselves. Iannaccone (1992) argues that stigmatizing behaviors such as shaving heads and wearing robes can reduce participation in alternative groups.³ “Distinctive diet, dress, grooming, and social customs constrain and stigmatize members, making participation in alternative activities more costly” (Iannaccone 1994, p. 1188).

Individuals who join costly groups are forced to participate fully or leave the group. This is true for both treatment groups and illegal drug groups. Because every person has a time and income constraint, it is unlikely that a person who is highly committed to a costly illegal drug community—hence is augmenting up their human capital there—will have time and income to devote to being a highly committed member of a costly treatment community and also build up their treatment human capital. An individual who is a member of a costly treatment or illegal drug community would be discouraged from joining other groups and secular activities; the conduct⁴ that is expected of the person will not be compatible across groups, as the distance between treatment community norms and illegal drug use norms will be quite large with trade-offs required. If we use the imagery of religion and environmental groups: imagine being a member of a costly religious group and being expected to attend church two or three times per week, give 10 percent of your income to church, refrain from sex outside marriage, wear appropriate clothing, refrain from alcohol and smoking, and so on. The decision also to join a costly environmental group would come with its own expectations of behavior, appearance, and time commitments, among other things (e.g. not drive SUVs, air dry clothes, etc.) (Bose 2018). Thus, you would face trade-offs between the two groups because of income and time constraints. Hence, we assume that being involved in high-cost treatment groups and being involved in high cost illegal drug groups are substitutes.

However, a person who is a member of a low-cost treatment group could also be a member of a low-cost illegal drug group. This is because the treatment group norms and the illegal drug group norms of low-cost groups will be closer to each other and to the secular norm (Iannaccone 1988). The code of conduct that an individual adopts could be compatible with both the treatment group and the illegal drug group. For example, using the analogy of religion and environmental groups, individuals who attend church once a quarter, give a small percentage of their income to church, and have only minor restrictions on food, clothing, or conduct from their church will find it easy to join an environmental group that requires an annual membership payment, recycling, and an occasional email writing campaign to their senator. One’s time and budget would allow for one to be a member of both groups if one so desired. Under this latter circumstance, the individual would not build up large amounts of either environmental human capital or religious human capital.

II. THE MINNESOTA AND FLORIDA MODELS AS CULTS

Minnesota model saw addiction as a behavior that needed to be corrected. It also worked synergistically with the Alcoholics Anonymous (AA).⁵ It involves an initial 28-day inpatient immersion which includes attending AA meetings, followed by participation in AA after the 28-day program (Finberg 2015). The 28-day limit has no scientific basis. It is based on the amount of leave personnel from the U.S. Armed Forces could get from military duty for addiction treatment without being reassigned.⁶ The 28-days, became the norm for opiate addiction.⁷ While inpatient, the patients go through a highly structured program and are kept busy and integrated with professional and nonprofessional staff, many of whom might also be recovering addicts themselves (Anderson, et al. 1999). These 28-day programs occurred in exotic locations away from friends and family. Explicit costs were between \$26,000 to \$58,000⁸ and implicit costs were high also as one has to sequester themselves initially for 28 days continuously, hence requiring tremendous sacrifice.

The Florida Model is the lower-cost variant of the Minnesota Model. As there are no costly luxurious facilities, treatment longer than 28 days is made affordable. The demand for such a program came about due to the needs of patients in the lower income brackets who could not afford tens of thousands of dollars to get

treated in the luxurious Minnesota Model type centers. Many patients left their family and moved to Florida to settle down there for treatment. Patients received clinical services in an office-type venue while living in supervised residential settings. The traditional Florida Model is a 28-day inpatient program where patients were kept segregated, following which they would be returned to the community for outpatient treatment and intensive rehab for up to 90 days. This model afforded flexibility and provided a modular framework for the consumers and insurers to pick and choose what treatments they want to pay for. For example, a patient can choose an adult residential program, or adult outpatient program, or detoxification program, etc., based on their budget and time they had (Alexandre et al. 2012). Costs could be a 1/3 of the Minnesota Model and higher with sobriety rates similar to the Minnesota Model.

Monitoring in the MN model is minimal during the 28 days as one has self-selected to seclude oneself, thereby committing to sobriety. After leaving the program virtually no monitoring takes place unless one joins AA type organizations where peers and mentors can socially monitor. In the FL model, due to lengthy stays, monitoring is behavioral done via curfews and uses random urine testing. Individuals can be expelled if they violate contracts signed like coming after curfew.

These models require isolation but at some point the individual returns home. The success rates are low.⁹ One can model the MN and FL model by using highly sectarian groups or cults. In *Cult Controversies*, Beckford states (1985, p. 118):

NRMs [New Religious Movements] which are insulated against, and isolated from, the influence of the outside world either by vicinal segregation or by strict rules restricting contact with outside influences to a minimum tend to have stringent entry requirements and relatively liberal procedures for withdrawal. The only people who are recruited are those who have actively sought out the movements and who have shown themselves to be suitable for admission.

Within the cult there are different levels of commitment such as “devotees, adepts, patrons, and.... clients” (Beckford 1985, p. 119). While in cults, people do disengage from them for various reasons whether it be disillusionment or other reasons. Joining cults is through networks and is costly as unusual dress, different diet, communal living, deviant lifestyles (e.g. unusual sexual practices) were their features (stigma). Cults encouraged members to “withdraw from secular society and severely limit[ed] communication with family and friends” (Iannaccone 2006), i.e. high sacrifice.

In the MN and FL model people segregate themselves from the influence of the outside world for 28 days or longer which is a costly proposition. Once graduating from the program, they are encouraged to engage with the local AA type programs to maintain sobriety. AA is one of the more successful programs as it uses stigma (identify as alcoholic) and sacrifice (abstain from alcohol, attend regular meetings, etc.) (Lembke 2013). However, over time, many leave these programs. Having come home, they come to an environment with numerous cues for drug craving and they can re-engage with old connections in the drug community and lose sobriety (Biernacki 1986, p. 79; Burroughs 1977, 72ff). The self-reported sobriety rate is between 5 to 20% at the one-year mark for the MN and FL type models (Hunt, et al. 1971). A study regarding AA suggests that at the end of one year 95% of newcomers have departed, but if one discards those newcomers who leave within 90 days (the “introductory interval”), then the effectiveness or retention rate is 55% at one year and 50% at 5 years (McIntire 2000, Finberg 2015). However, it is not clear why the 90-day benchmark is used, as ignoring the first 90 days would create a biased sample. Further, even secularized versions of AA like LifeRing have similar success rates of around 5 to 10% at the one year mark (Hull 2019).¹⁰ These numbers are similar to what the cults face with their recruitment efforts. Data from the Moonies show that at the end of one year, only 7% membership was retained and at two years only 5% retention (Barker 1984, p. 146). Figure 1 shows the retention rates for AA and Moonies. Those who stayed in cults were those with close social attachments (e.g. close friends in the cult) resulting in positive social benefits, but those who left, primarily it was because “a person maintained strong attachments to a network of non-members” (Iannaccone 2006). Those who stay in AA or Narcotics Anonymous do so due to the com-

munity of mutual support that exists and where there is a “sense of acceptance and belonging” (White 2017, p. 164) and in a sense their whole life belongs there. This is because highly sectarian groups impose corner solutions (Iannaccone 1992, p. 287).

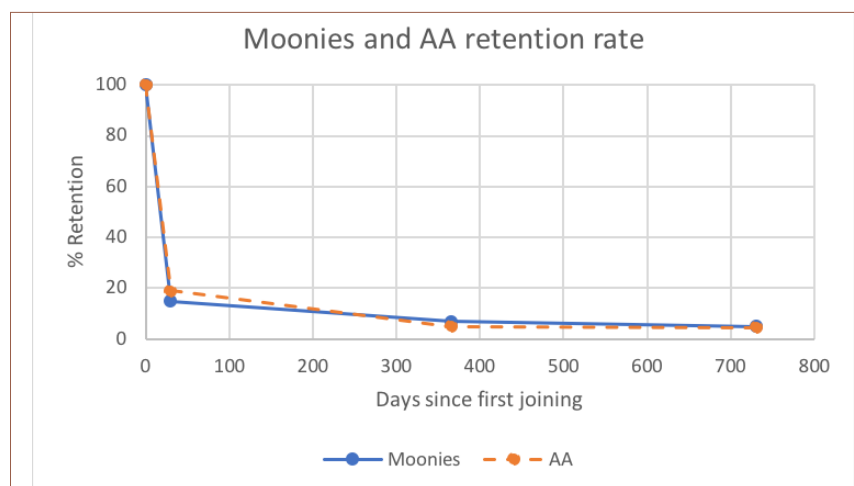


Figure 1: The retention rate of Moonies and Alcoholics Anonymous over a period of 2 years.

III. THE PENNSYLVANIA MODEL AS A CHURCH

In the 1970s, several states mandated insurance coverage for inpatient and outpatient mental health care. Therefore, with the rise of third-party insurance reimbursements for mental health an opportunity/incentive arose to help people through the creation of a new model (McGuire and Montgomery 1982). This model is the psychopharmacology and psychotherapy model of addiction treatment. Further, the Diagnostic and Statistical Manual of Mental Health Disorders 3rd edition (American Psychiatric Association 1980) classified substance use disorders as primary mental health disorders, i.e., it regarded addiction as a mental illness. The overarching conceptual framework is that pharmaceutical agents are needed to help a substance abusing person and hence medications are integrated into treatment with counseling needed to redirect thinking (Volpicelli et al. 2001, p. 78). In opioid addiction, this method uses maintenance doses of methadone and buprenorphine (prescription opioids) to stabilize the disorganized life of the opioid using person.¹¹ Daily visits to the clinic are needed for methadone with fewer visits for buprenorphine to get the prescription and patients meet weekly with a licensed counselor and also meet once a week as a group requiring time commitments of about 1 to 2 hours per week. However, it is well known that patients receiving inpatient opioid detoxification via the methadone taper protocol or via buprenorphine, with counseling and case management, usually relapse once they leave the facility with a majority relapsing within a month, and 90% relapse after one year, rendering inpatient detoxification a moot choice (Nosyk et al. 2013, Weiss et al. 2011). While costs are around \$6500 for methadone (Siegel 2016) ongoing medication assistance costs can last many years. The success rate is between 10 to 33.7% (Stewart, Gossop, and Marsden 2002), with success being defined as avoiding illegal opiates (Dennis, Foss, and Scott 2007) i.e. harm reduction.

Monitoring in the program occurs with random drug tests of at least eight per year with few consequences if one fails.¹² During counseling sessions, patient progress is noted. Hence program monitoring is minimal and generally without consequences.¹³

The PA model for opioids can be seen as church in the church-sect paradigm. Churches are low cost, suffer from free riders, and adopt positions closer to societal norms. Partly for this reason, this is the current national model. Being a member in a church with its low time commitment allows for commitment in

other organizations. For this reason we see between half the patients on methadone maintenance fortify themselves with cocaine and heroin (Cone 2012) to numbers as high as 92.3% using heroin found in earlier studies (Epstein 1974) indicating individuals having links with both treatment networks and illegal drug networks.

Similarly, Moderation Management (MM) proxies as a church, where drinking in moderation is the prevailing norm vs. abstinence in AA (Lembke 2013) this is similar to how many addicts continue to use illegal drugs and do not give it up. The PA model also focuses on reducing stigma (Volpicelli et al. 2001, p. 179). Satel (2007) writes that stigma helps individuals transform themselves and overcome their addiction, hence removing stigma, reduces success and in some sense a redefinition of what success is i.e. avoiding illegal drugs. Further, stigma has been an important component in ending the cocaine (early 1900s) and methamphetamines (1970s) epidemic (Stobbe 2017). The low cost and the emphasis on de-stigmatization results in low success rates in the PA model.

IV. THE MASSACHUSETTS MODEL AS SECTARIAN AND SECT-LIKE

The Massachusetts Model emerged in the 1990s with an emphasis on continuum of care. It was primarily a primary care-based addiction practice. It had four goals: 1) Withdrawal Management, 2) Relapse Prevention, 3) Preventive Health Education, and 4) Lifelong Primary Care. To achieve these goals, the model developed techniques for home and outpatient detoxification. In addition, lifelong surveillance of the disease state is afforded through primary care visits.¹⁴ As a shelter in place model, it keeps people in the environment where drug use occurred to facilitate cue extinction and reinforce family and community support to live a drug free life. The sustained sobriety rate at one-year mark of the program had increased from 37% in 1990s to 60% in 2010 as the process was refined. Surveillance of the sober state was secured objectively via blood, urine, saliva, sweat, and hair samples (Selbrede 2014) in addition to face to face interactions and family reports. The model perceives addiction as a potentially lifelong illness and employs a standard public health approach to unremitting illnesses such as asthma. The first-year cost is around \$11,000 subsequent year costs are between 10 to 20% of first year costs (Kishore 2010). Additional costs for medications need to be added and will depend on the patient.

The MA model can be seen more as a mix of sectarian and sect-like model. While visits to the practices are quite often and costly the first month, they reduce in frequency over the course of the year. During the second year, there are usually fewer visits the clinics as patients maintain their sustained state of sobriety. In a sense the model is very sectarian at the beginning as it helps patients build new or reestablish old sobriety (treatment) based networks, and once those networks are built, and sobriety is achieved, the model moves towards a sect-like group where costs are lower. Behavior change is sought within the first month in part mediated by sacrifice in terms of money and time and by extensive monitoring, which enhances participation and augments club goods that make participation worthwhile. The increased costliness and monitoring results in closer ties with the sobriety groups and reduces involvement in competing illegal drug groups. Active monitoring/surveillance of the patient increases participation in treatment, this is unlike sects where monitoring of individual behavior is difficult (Iannaccone 1994, p. 1186). This model also focuses on reducing stigma (IUEast 2019) which may not be as important when the model uses sacrifice and monitoring. Additionally, some of the practices were co-located with the sheriff's office and the judge's office allowing for those on probation to work together as a team on behalf of the patient (IUEast 2019).

As stated earlier, monitoring is very high. Both covert and overt surveillance is used. Patients are tested regularly via urine, saliva, and sweat. Individuals are assessed individually and further, key persons (like the sober support person that the patient is to come with to their appointments) help with monitoring.

Due to high monitoring, this model falls somewhere in the middle of the cost-based continuum between the mainstream and radical sectarian/cult groups. One of the key features of the MA model is rebuilding treatment networks. In this model, someone from the home must be involved in bringing the patient to the centers for treatment. Further, home visits are completed by medical professionals to remove

drug related items. As a primary care system, there is continuity in care with continuing networks in place. People who are sober become ambassadors given token economies who then visit schools to talk about the dangers of addiction. Advocates such as “sober support people”, ambassadors,¹⁵ recovery coaches and pastors are also extensions of the practice thus involving wider social networks. For example, a person who has abused their mother when addicted, once sobered up might despair and seek drugs again and descent into the illegal drug networks, but the presence of a pastor and their counsel might be helpful to maintain sobriety (Kishore 2018).

Table 1 summarizes the features of the four models of addiction treatment using the lens of the sacrifice and stigma model.

Table 1: Overview of the features of the four models of addiction treatment for opioids.

	MN/FL Model	PA Model	MA Model
Sacrifice	Very high	Low	High
Stigma	Yes, in the AA component (Lembke 2013).	Deemphasized	Deemphasized (IUEast 2019)
Monitoring	Low level. MN Model: during 28 days not necessary, minimal surveillance after leaving. Surveillance with peers & mentors in AA (or Narcotics Anonymous). FL Model: Behavioral surveillance via curfews, and contracts.	Low levels. Random testing, and via counseling	High level. Urine, saliva, and sweat tests, frequent visits, and direct and covert surveillance.
Retention	Low	Medium	High
Measure of Success	Program completion. Sobriety based on self-reporting (Bose 2020).	Continued medication assistance and avoiding illegal opiates based on self-reporting (McKeganey et al. 2006, Zhu et al. 2018, Darke et al. 2015).	Sobriety based on toxicology testing and direct observation (Bose 2020).
Benefits (success at 1 year)	5 to 20% (Hunt, et al. 1971, McIntire 2000)	10% to 33.7% (Stewart, et al. 2002) (with medication assistance)	60% (Selbrede 2014)
Feature	Cult/Highly sectarian	Church like	Sect like

V. CONCLUSION

The MA model is very successful in helping people off drugs and part of the strength of the model is because it is modeled between a sect like and sectarian group encouraging strong social and sober networks. Further, since it is a primary care based model, lifelong monitoring is possible. Overall, a dynamic model

that avoids a one size fits all type of treatment would be the best model. For example, for those without good sober networks, a sectarian and hence costlier model would be appropriate to help develop those networks, but for those with good networks, a sect-like (less costly) model would work better. Even the PA model could enhance their model by incorporating programs that help addicts develop capital among those who are not addicts (Biernacki 1986, p. 196). Similar modifications to MN/FL models could be developed especially related to when patients return home to AA type models. Development of all encompassing type AA models such that existed in the 1940s and 1950s would need to be available. Further, the AA network would need to be made up of primarily sober people or those seeking to be sober (Dufton 2020).

One complication when understanding costs (or sacrifice) is that some of the costs are subsidized or paid by third party payors like insurance or government. For this reason, the relative success of the models could change without the role of the third-party payors. This is similar to government funding of churches that results in churches going from religious and innovative firms into rent seekers and inefficient (Iannaccone and Bose 2010). Similarly, an Iowa community based program to help alcoholics, once it became funded by the state and federal government, immediately resulted in costing double and resulted in helping less alcoholics (Peele 1990).

Another area of study that needs to be analyzed is the issue of spontaneous remission. One of the reasons over half of the addicts give for giving up substance abuse on their own (without medical intervention) is finding new relationships and avoiding old relations plus support from family and friends, etc. (Walters 2000). This indicates the importance of social networks, and the right type of social networks that are important for success. For this reason, treatment models that are catalysts to building new social networks would see increases in their success rates.

Further, it will be interesting to see what the socio-economic status of patients are who try different models. Iannaccone (1992) finds that sects have members that are poorer, less education, and with less opportunities than those who attend churches. However, in sectarian environmental groups we see wealthier individuals joining them. This seems to contradict the opportunity cost (substitution effect) argument of Iannaccone, however, this is because the income effect dominates the substitution effect (Bose 2018). A final extension of this paper is to look more in depth at faith-based treatment centers to see if there is any variation in how they operate and what role sacrifice, stigma, and monitoring might play (Neff, et al. 2006).

NOTES

- 1 <https://www.kff.org/other/state-indicator/opioid-overdose-death-rates/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D> (accessed January 11, 2020).
- 2 Today, some treatment centers mix the models they use.
- 3 Although the examples provided here are true for highly sectarian groups, even groups that are moderately sectarian have costly restrictions such as limitations on smoking, drinking, and sex outside of marriage. While these private activities might be hard to monitor, members can be kept in line via feelings of guilt (Iannaccone 1992).
- 4 Conduct such as selling sex for drugs in the illegal drug world would not be compatible with treatment community norms (Bourgois 1998).
- 5 When dealing with opioids, Narcotics Anonymous (NA) is the organization.
- 6 <https://castlecraig.co.uk/blog/2014/06/11/why-28-days-for-inpatient-addiction-treatment/> (accessed November 20, 2018).
- 7 <https://www.npr.org/sections/health-shots/2016/10/01/495031077/how-we-got-here-treating-addiction-in-28-days> (accessed November 20, 2018).
- 8 <https://www.businessinsider.com/best-celebrity-rehab-centers-2011-9#wonderland-los-angeles-calif-8> and <https://drugabuse.com/luxury-rehab-centers/> (accessed November 24, 2018).
- 9 Due to the heterogeneous nature of firms, there can be a wide variation in success rates, but overall, the MN/FL type models have low success rates (see Table 1).

- 10 A recent meta study suggests success rates (primarily based on self-reports) are higher for AA when dealing with alcohol, but not when narcotics are involved (Kelly, et al. 2020) (Bøg et al. 2017).
- 11 Anti-craving meds are used for alcoholism.
- 12 <https://medmark.com/resources/comprehensive-guide-to-methadone-clinics/> (accessed January 31, 2020).
- 13 Consequences could be more frequent visits for buprenorphine, and even cessation of prescribing.
- 14 As primary care system, the patient could be seen for various other ailments beyond substance abuse, e.g. heart health. During visits for other ailments, one can continue to monitor patients for substance abuse.
- 15 <https://ambassadorarticles2004.wordpress.com/> (accessed December 17, 2018).

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Shooting an Elephant: A Public Choice Explanation of Caste

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Abstract: The following paper proposes the furtherance of a rational choice explanation for the caste system. Using ethnographic and qualitative evidence on the history of institutional changes in the caste structure of India, I show that caste has been used in India by invaders and power-vying local rulers as a way to systematically exert administrative, political, and economic control over a populace. I also use instances of caste in other parts of the world throughout time as well as how caste has changed since a ban on discrimination based on caste three years after the end of British occupation over India to provide further evidence. While I do not make claims that my theory is mono-causal, I make the much milder claim that it has worked in tandem with other theories of the origins, continuance, and structure of caste systems.

Keywords: Public Choice, Rational Choice, India, Caste, Colonization, Religion, Hinduism, British Raj

At last, after what seemed a long time—it might have been five seconds, I dare say—he sagged flabbily to his knees. His mouth slobbered. An enormous senility seemed to have settled upon him. One could have imaged him thousands of years old. I fired again into the same spot. At the second shot he did not collapse but climbed with desperate slowness to his feet and stood weakly upright, with legs sagging and head drooping. I fired a third time. That was the shot that did for him. You could see the agony of it jolt his whole body and knock the last remnant of strength from his legs. But in falling he seemed for a moment to rise, for as his hind legs collapsed beneath him he seemed to tower upwards like a huge rock toppling, his trunk reaching skyward like a tree. He trumpeted, for the first and only time. And then down he came, his belly towards me, with a crash that seemed to shake the ground even where I lay.

—George Orwell (1970, pp. 1950-1953)

If there were ever a human-devised institution that earned the description of “irrational,” the Indian caste system, most notably its elements of endogamy and inherited social status, is it. Accordingly, pushes to abolish the caste system not only by law, but also by practice, are testament to this view. It is the purpose of this paper to explore the origins behind

these more nefarious components of India's caste system, namely the features of endogamy and inherited social status.

Viewed as one of the most morally reprehensible institutions in human history, Gandhi spoke of the caste system, "I think we are committing a great sin in treating a whole class of people as untouchables and it is owing to the existence of this class that we still have some revolting practices among us" (Gandhi 1958, p. 120), and although the institution still continues to be informally, and systematically, practiced throughout India (Thorat and Neuman 2012), reform efforts aimed at ending the practice of systematic discrimination based on caste culminated in 1950 when a ban on discrimination based on caste was added to the Indian Constitution (Galanter 1963).

Indeed, in an effort to correct what is viewed by many as the injustices of the caste system, the government of India has developed one of the most extensive affirmative action programs in the world, a controversial program designed to aid those from low caste backgrounds with scholarships, subsidies, reserved government jobs, and special political representation (Kumar 1992). It has been widely accepted, at least on the superficial surface, the old practices of forced endogamy, hereditary transmission of occupation, and social exclusion based on notions of purity and pollution (Scott and Gordon 2005) practiced not only in India, but elsewhere, are not to be tolerated, and this widespread view is best summarized with a quote in a TIME interview from the current Prime Minister of India, Narendra Modi: "All religions and all communities have the same rights, and it is my responsibility to ensure their complete and total protection. My government will not tolerate or accept any discrimination based on caste, creed, or religion" (Nancy et al 2015, May 7).

Not only is the Indian caste system denounced on a moral basis, but also on economic grounds. Rao (2010) documents a linkage between poverty and caste systems in India, Nepal, and Sri Lanka, citing occupational barriers to entry as an important mechanism. The author goes further to note correlations between degrees of how restrictive caste classifications are in each area and percent of people living below the poverty line. Das and Dutta (2007) find caste to still be a determining factor in how individuals in the Indian labor market are compensated, with those of lower castes compensated substantially less than their higher caste counterparts, and Banerjee and Knight second this notion by pointing out significant gaps between the gross wages of "scheduled" (untouchable) and "non-scheduled" castes, identifying assignment to "dead-end jobs" as a causal mechanism (1985). Additionally, Anderson points to caste as an impediment to trade, using the finding that agricultural yields among lower caste water buyers are 45% higher if these buyers reside in a village alongside water sellers of a similar caste (2011).

With all of these moral and economic arguments against a caste system, why has it been able to develop and prosper for so long on the Indian subcontinent? Explanations range from religious (Dumont 1980), to economic (Freitas 2006), to historic (Dirks 2001). The purpose of this paper is to expand on one of these theories, particularly the theory of caste as an historically malleable institution, to explain why the caste system has remained such a staple of Indian culture. Specifically, this paper seeks to provide a Public Choice explanation with rational choice foundations for the origins and continuance of a caste system characterized by endogamy, hereditary transmission of occupation, and notions of ritual purity and pollution. In particular, I theorize the caste system, particularly the aforementioned features of caste systems, as a tool used by invaders to consolidate power over a hostile populace by providing a mechanism by which the invaders are not only able to engage in a strategy of "divide and conquer" by winning over portions of the population with the prospect of special favors, promotions, and monopoly opportunities, but also by which invaders are able to create clear, visible distinctions between themselves, their allies, and their enemies by promoting and institutionalizing endogamy within a rigid, hierarchical caste system. Like George Orwell's shooting of the elephant in his tragic but famous story, the caste system has been used in India by multiple invaders to slowly but methodically exert administrative and military control over the Indian subcontinent's populations.

The first part of this essay will provide a literature review of the various explanations for the reasons behind the caste system in India, at the same time detailing this paper's proposed, broadened theory. The

second section will provide evidence for this theory using India's unique historic experience with caste. The third section will broaden the Public Choice theory of caste by using historic evidence to consider alternate theories of the reasons behind caste systems not only by taking a look at caste across societies outside the Indian subcontinent, but also by examining how caste has changed in India since its legal demise in 1950.

1. LITERATURE REVIEW AND THEORY

There are several theories as to the origins of and reasons behind the caste system in India. The first of these theories can be summarized as a religious theory, and French anthropologist Louis Dumont is one of the leading proponents of this theory. In one of his most famous works, *Homo Hierarchicus*, Dumont begins his theory by contrasting traditional societies as emphasizing society as a whole against their western, modern counterparts' emphasis on the individual. He goes on to differentiate between Western concepts of hierarchy and Indian theories of hierarchy. Further, Dumont explains Western notions of hierarchy are based on linear relationships of power and authority between subordinate and superior, while Indian notions of hierarchy are based on religious ideals of the four *varnas*, or castes, and their relationships to the whole, or society. Indeed, Dumont characterizes his description and role of the caste system not as economic or historic, but as inherently religious, stating the institution of caste is "founded on an implicit reference to the whole, which, in its nature, is religious, or if one prefers, a matter of ultimate values" (1980, pp. 105-106).

However a-economic Dumont's depiction of the role of the caste system in India may be, others have posited more economic rationales for the role of the caste system in Indian society. Freitas (2006) hypothesizes the caste system as a means of contract enforcement by facilitating trade in an environment where the consumer has an opportunity to default. By providing recourse to collective punishments coupled with unique, hereditary specialization in occupation, the caste system in India aids in facilitating trade, which Freitas models as a version of a one-sided prisoner's dilemma game. One of the central mechanisms by which caste is hypothesized to coordinate collective punishment is through its usefulness as an information sharing device, and Freitas goes on to provide evidence that as the population of a village increases and coordination of collective punishments becomes more costly (Olsen 1971), the number of castes increases. Indeed, a role for the caste system in Indian society as a means of collective punishment is similar to Peter Leeson's description of gypsy law as a means to enforce social cooperation amongst individuals absent government (2013). Interestingly enough, both gypsy law and India's caste system contain notions of purity and impurity as central tenets, though unlike gypsy law, impurity and its associated "untouchability" in the Indian caste system are inherited (Shah 2007).

Finally, Dirks (2001) provides an historic explanation of the reasons behind and continuance of the modern Indian caste system. In direct contrast to Louis Dumont's view of caste as an inherently Indian institution based on religious values (1980), Dirks contends the caste system in India is neither a static survivor of ancient Indian religious doctrine nor a single, all-encompassing system reflecting core social values. Instead, the caste system has been a malleable institution that was drastically reshaped during Britain's colonial rule over the Indian subcontinent. According to Dirks (1992), the institution of caste took on a different kind of importance in the 19th century, particularly after the Indian Rebellion of 1857, a major but unsuccessful revolt against rule by the British East India Company (David 2003). Not only did the suppression of this revolt result in transfer of rule to the British Crown, but according to Dirks, the consolidation of British rule in India also resulted in the continued expansion of the institutional importance of caste, increasingly affecting the recruitment of soldiers, the implementation of legal codes applicable along caste lines, the criminalization of certain castes for policing purposes, the curtailment of private property rights to land, and assessments of the political implications of various local colonial policies. Rather than claiming the modern caste system of India an invention of British colonialism, Dirks makes the much milder assertion that caste was redefined and used as a tool by the British to consolidate colonial power.

This analysis broadens Dirk's theory of the Indian caste system under British rule to develop a more generalized theory of the caste system. According to this theory, the caste system has undergone various pe-

riods of relative intensity because of different periods of colonization, invasion, and foreign rule of Indian soil. In essence, the caste system helped enable colonizing/invading powers to consolidate control over the Indian subcontinent through a strategy of “divide and conquer,” in which caste was used to curry special favors, differentiate between friend and foe, and provide a structure for administrative legislation and policing. Under this theory, colonizers and other rulers, particularly those politicians maintaining administrative control over particular geographic areas, represent rent-extracting politicians, as explained by McChesney (1987). In essence, political actors are able to extract economic rents from private actors with the threat of imposing costs that could destroy private profits. Indeed, McChesney highlights how the simple threat of rent extraction and regulation may be enough to ensure payments. Within this theory, caste represents a way to provide a much more credible threat of rent extraction by employing the cooperation of local populations through offers of special favors, particularly high caste status.

I further broaden and expound upon Dirk’s theory by providing examples of caste outside the Indian context and by emphasizing a Public Choice explanation of caste. Because of the mechanisms driving my theory of caste, throughout this paper, my definition of caste will be more specific and narrower than standard notions of caste systems—my definition of caste is a system of social stratification based on endogamy and characterized by inherited social status in the form of occupation. The reader will also notice notions of purity to be a recurring theme among caste systems, though I do not consider these notions essential to my definition of caste systems.

2. THE INDIAN EXPERIENCE WITH CASTE

Origins and Early Development of the Caste System in India

To test my theory, I first consider it in the context of Indian’s history with the caste system, as India has been home to arguably the most developed and paradigmatic example of caste in ethnographic history, and the history of the caste system in India exhibits different episodes of waxing and waning that provide valuable variation to help provide evidence for my above theory of the caste system as a means of colonial, foreign, or internal rule.

The *varnas* originated in Vedic society (1500—500 BCE), and during the time of the *Rigveda*, the first volume of an ancient Indian collection of hymns, there were but two *varnas*: the *arya* (the nobles ones) *varna* and the *dasa varna* consisting mainly of individuals in a servile role, giving rise to the eventual interpretation of *dasa* as servant or slave (Sharma 1990). Scholars also note the time of the foundation of these original two *varnas* (1500 BCD) coincides with the Aryan migration into modern-day northwest India (Witzel 2005).

However, these original two *varnas* were expanded during the time of the *Atharvaveda*, the third volume of the ancient Indian collection of hymns containing the aforementioned *Rigveda*. Those previously known as *dasas* were rebranded as *Shudras*, partially to distinguish them from slaves and servants who came to be known as *dasas*. The *aryas* were renamed *vis* or *Vaishya* (“members of the tribe”), and two additional, elite *varnas* were added: the *Brahmins* (priests) and the *Kshatriyas* (warriors), bringing the total number of *varnas* to four. Further evidence of the caste system as a tool used by invaders to consolidate power over invaded territories in these early times can be seen by the fact that the *Shudra* caste included not only those previously known as *dasas*, but also those belonging to aboriginal tribes that assimilated into Aryan society as the Aryans expanded into settlements along the Ganges River. Further, though *Shudras* were referred to early as *Pusans*, or “nourishers,” they were later excluded from other tax-payers and given away along with sold or gifted land. In this context, the Aryans may have represented ancient rent-extracting agents, with the aboriginal tribes representing the private actors from whom rents were extracted. Indeed, the rents associated with the ancient caste system appear quite high, as *Shudras* were not simply taxed, but outright bought and sold. In this context, it is entirely possible early Aryan invaders used caste to transfer property rights from aboriginal tribes to themselves in the form of unpaid human labor. How-

ever, it is important to note in these early stages of the caste system in India that although the foundations of what modern scholars refer to as the Indian caste system arose during this time, the caste system before the common era was fairly undeveloped during this time, evidenced by the lack of caste restrictions regarding food and marriage during the Vedic period (Sharma 1990).

Knowledge of the caste system during the period 500–200 BCE is supplemented by Buddhist texts, and these texts tell us that Indian society was stratified along the lines of *jati* or *kula*, a concept that can be likened to *varnas*, but at a different level of analysis: while there are four *varnas*, there are thousands of *jatis* (Chakravarti 1985); however, *jatis* are differentiated mainly along occupation. Indeed, according to anthropologist Dipankar Gupta, guilds developed during the Mauryan period (322–185 BCE), crystalizing later into *jatis* (2000). However, while there was a correlation between *jati* and occupation at the high and low ends, with “high” *jatis* performing jobs of high rank (trade, agriculture, cattle-keeping, computing, accounting, writing) and “low” *jatis* performing jobs of low rank (basket-weaving, sweeping), there were no strict ties between caste and occupation (Chakravarti 2003), and anyone could perform most professions, especially amongst the “middle” *jatis*. Further, the *Nikaya* texts also imply endogamy was not mandated (Masefield 1986).

The *Mahabharata*, one of the two ancient Indian epics, also discusses caste, and the implications of this discussion are important in understanding the caste system before later invasions of India by the Mughals and the British. In this discussion of caste, a character named Bhishma characterizes the caste system as a system of colors, with *Brahmins* taking the color white and *Shudras* taking the color black. However, this characterization is questioned by the character Bharadvaja, who claims all colors are seen among all the *varnas*. The *Mahabharata* goes on to claim, “There is no distinction of *varnas*. This whole universe is *Brahman*. It was created formerly by *Brahma*, came to be classified by acts,” implying the *varnas* are not meant to be based on genealogy at all (Hiltebeitel 2011, pp. 529–531). The preceding evidence as a whole indicates the use of caste as a form of rent extraction in these ancient times was limited in large part to the original invasions of the Indian subcontinent by the Aryans. Once these Aryans established themselves as the primary residents of the Indian subcontinent, the importance of caste seems to have declined.

Early Medieval Period: What Happened to the Caste System?

Evidence of the importance of *varnas* and *jatis* in medieval India has been hard to come by, leading many scholars to question the importance of caste during this time. For instance, professor of history Richard Eaton cites evidence *Shudras*, the lowest caste, were part of the nobility and many fathers and sons had different occupations, suggesting social status in this period was earned, not inherited, at least in the Kakatiya population of the Deccan region (2008). Similar evidence cited by historian Cynthia Talbot comes from medieval records from Andhra Pradesh, where one of the few mentions of *Shudras* come from temple donor records that state *Shudras* are the bravest and purest (2001).

Evidence from other areas of India also supports the consensus caste was not an organizing institution in Indian society during the medieval period: in Tamil Nadu, Leslie Orr finds caste did not provide the sharp demarcations among members of society that were present during later periods of invasion and occupation by Mughal and British forces (2000), and in northern India, Susan Bayly finds caste was of limited importance for the local population (2001). Finally, for western India, professor of humanities Dirk Kolff claims medieval Rajput history was characterized more by open status social groups than by a hereditary caste system characterized by endogamy (2002). Again, it seems as the Aryans established themselves as the primary residents of the Indian subcontinent over centuries, the importance of caste as a means of political rent extraction declined significantly.

Islamic Sultanates and Mughal Rule

The late medieval period in India is marked by a series of Islamic invasions. While a few historians have claimed lower-caste Hindus converted *en masse* to Islam to avoid harsh conditions under the caste system, these assertions have been found to be false (Maclean 1997). Rather than lower caste Hindus converting to Islam, the few Hindus that did convert were high caste *Brahmin* Hindus. Further, Eaton (1993) and Irfan Habib (2002) both find social stratification and caste lineage were utilized as tools for tax collection from and rule over non-Muslims. These were the beginnings of the modern caste system as it has come to be known and condemned. In line with theory presented above, although the importance of caste declined as Aryans established themselves as the primary residents of the Indian subcontinent, caste made a seemingly immediate comeback as soon as Muslims invaded the continent. Further, we see clear beneficiaries of the caste system at multiple levels. In this context, Muslim invaders represented rent extracting politicians, and these rents were extracted from high caste Hindus. At the same time, these high caste Hindus converted to Islam and began utilizing caste to extract their own rents from the private profits of lower caste Hindus. Indeed, the use of caste as a tool for tax collection highlights quite well how caste fits in McChesney's theory of rent extraction (1987).

During the 18th century, the Mughal Empire began its decline, and various local ruling elites began to stake their claims, using symbols of kings and priests already utilized in the caste system to divide populations and consolidate power. Further, in this volatile period resulting from a stateless environment, previously casteless groups were incentivized to group themselves into "new" castes, though many merchants and armed ascetics ignored the rules of caste, and those that did adopt a caste did so only when it suited them. For example, some adopted a caste in order to maximize assets and provide insurance against loss in a society where there was no state to provide contract enforcement. However, even when adopted, caste was catered to individual or group circumstance (Bayly 2001). Indeed, this description of the role of caste is quite similar to Freitas' (2006) description of the caste system as a means of contract enforcement, showing the compatibility of my theory of caste as a means to control an invaded population with Freitas' description of the caste system and how the two worked in tandem during the post-Mughal period of power grabbing and relative statelessness. Not only did individuals use caste as a method of contract enforcement, but local politicians also attempted to utilize caste as a means of maintaining political control and the ability to extract rents through taxation. Though local Islamic rulers were not controlling an invaded population in that these rulers were born in India, they were nonetheless emerging powers actively seeking control over local populations. The similarity between foreign invaders' and local power-grabbers' use of caste to control local populations and extract rents is a topic to be revisited later in this paper.

It was in this environment of chaotic power-grabbing statelessness that the British East India Company landed, and this group began its ascent to power by aligning with local rulers, one by one, and in order to align different religious and caste interests, especially different Hindu and Muslim interests, British East India Company officials created constitutional laws segregated by caste and religion (Peers 2012). Instead of local Muslim rulers using caste as a means of political control and rent extraction, British officials began doing the same thing.

The British Raj and Centralization of the Caste System: Shooting an Elephant

On May 10, 1857, a mutiny formed amongst a group of *sepoys*, Indian infantrymen, under the command of the British East India Company. This rebellion created a ripple effect, and mutinies occurred throughout the nation, creating a serious threat to British power in the area, until the revolt was finally squashed on November 1 of that same year. This would mark not only a change of command from the British East India Company to the British Crown, but also an increase in British use of the caste system as a centralized means of controlling India's vast population. This expansion in the importance of the caste system would affect the recruitment of soldiers, the implementation of legal codes applicable along caste lines, the crimi-

nalization of certain castes for policing purposes, the curtailment of private property rights to land, and assessments of the political implications of various local colonial policies (Dirks 1992). Instead of using caste to collect taxes and garner the support of local rulers, the British began using caste to prevent another widespread rebellion, particularly by privileging certain local populations. This created an incentive to maintain the status quo of British occupation as well as a further disincentive to engage in another rebellion—those groups the British chose to privilege now had more to lose if they decided to form a mutiny.

Jatis were used as the demographic basis in British colonial India, known as the British Raj, and starting in 1881, the census would use *jatis* to classify Indians (Bayly 2001). By the time of the 1891 census, there were 60 subgroups divided into six occupational and racial categories (Dirks 2001). The British then used census-determined *jatis* to determine who was qualified for certain government positions, formulate land tax rates, and target “criminal” classes more susceptible to rebellion (Raheja 2000). One of the earlier acts using caste to determine criminality was the Criminal Tribes Act of 1871, a law declaring all individuals belonging to certain castes as having criminal or rebellious tendencies (Cole 2001). The British government would further use the caste system to alienate certain groups with the Land Alienation Act of 1900 and the Punjab Pre-Emption Act of 1913, laws classifying which castes could and could not own land (Ballantyne 2007).

It is this centralized, rigid British Raj caste system, according to Dirks, that most people think of when they think of caste. In contrast, pre-colonial caste was quite fluid (2001). Corbridge and Harriss second this notion by asserting Britain’s policies of divide and rule by targeting India’s multitude of princely states one by one along with the rigid categorization of individuals along caste lines led to the hardening of caste identities (2000). The caste system as it is known today was meant as a tool to bring India to its knees little by little, much like George Orwell’s elephant was killed shot by shot (1936), and the caste system accomplished this job exceedingly well for the time it was implemented, evidenced by the caste system’s continued impact in Indian society today (Thorat and Newman 2009).

Eventually, calls to abolish harsh caste system laws, along with nonviolent protests of British occupation (Gandhi 1993), were raised, and social unrest led to a reversal in British caste policies, favoring positive discrimination in favor of lower castes. Three years after India achieved independence in 1947, a ban on discrimination based on caste was enshrined in the Indian Constitution (Galanter 1963), representing an almost immediate, formal abolition of the caste system right as India finally achieved independence.

3. ALTERNATIVE THEORIES OF CASTE AND FURTHER EVIDENCE

Clearly the history of India’s caste system lends credence to a theory of caste as an administrative tool for invading or rule-vying powers to control local populations. However, there are alternative theories that are worth considering, as well as pressing questions that deserve answer. First, what does the above analysis imply regarding religious theories of caste? Second, what does the evidence on caste imply regarding theories of caste as an inherently Indian institution? Third, how can we square our theory with the fact that, although caste was legally abolished soon after India achieved independence in 1950, it still remains an important *de facto* institution in India today? Finally, why did the British utilize caste in India, but not elsewhere? Similarly, why was caste, as I have defined it, in particular the weapon of choice of invaders? In other words, why were other variables not used to divide and conquer, like geography, language, or culture?

Debunking the Religious Theory of Caste

According to Louis Dumont (1980, pp. 105-106) and a number of other scholars, the caste system is “founded on an implicit reference to the whole, which, in its nature, is religious, or if one prefers, a matter of ultimate values.” Is this true? According to the above evidence, as well as other evidence to be presented, the answer is no.

First, we must keep in mind the caste system in India, though thought by many to be an ancient, enshrined institution, has actually been quite fluid and adaptive throughout most of its precolonial history. Recall, even before the medieval era, a period in India where caste seems to have held relatively little importance, there were no strict ties between caste and occupation (Chakravarti 2003), and the *Mahabharata*, one of two ancient Indian epics, classified *varnas* as closer to personality types than hereditary traits (Hiltelbeitel 2011). Further, endogamy was not even mandated, implied by *Nikaya* texts (Masefield 1986).

Indeed, caste seems to lose importance as we move through Indian history from the Aryan migration into the medieval period, a period in which some scholars are hard pressed to find even mention of *varnas* and *jatis* in primary texts, and the few mentions that do occur characterize *Shudras*, the lowest caste, in a relatively positive light (Talbot 2001). It is not until India begins being invaded again that caste begins to gain its significance, and it is not until widespread rebellions of foreign rule in 1857 that this significance is magnified and codified into centralized census data affecting legislation.

However, there is another, more serious, blow to the religious theory of the caste system and the idea that caste is inherently Hindu. Caste has been practiced by *every major religious group* in India, and a few examples will provide ample evidence of this fact. One particularly interesting example is that of the Saint Thomas Christians of Kerala, a group regarded by Hindus as occupying a high caste (Amaladass 1989).

Muslims have and do also practice a form of caste characterized by inherited occupation and endogamy as well. Although their form of caste is slightly different than the Hindu form, both contain essential characteristics of caste systems mentioned above. Indeed, in the early days of Islamic arrival into India, Muslims were part of the upper castes, and, as mentioned above, many upper caste Hindus converted to Islam and became part of the governing class, freeing themselves from non-Muslim taxes (Chaudhary et al 2013).

Even among Sikh communities, a religion that expressly criticizes discrimination based on caste, a caste system exists, and often *Dalits*, or untouchables, (a designation reserved for those even lower than a *Shudra*) have not been allowed to serve *langar* (the communal meal) at *gurdwara* (Sikh holy temple) service (Jodhka 2002). So, although Sikh holy books and literature do not recognize caste hierarchy *de jure*, it has still been practiced among Sikhs *de facto*. In fact, *Gurus*, the spiritual leaders of early Sikhism, married within their own *zat*, the Punjabi word for *jati* (Nesbitt 2005).

Jains have also been known to observe a caste system, and while some claim caste does not play a significant role in Jain life in modern times (Dunda 2002), others contradict this assertion by providing evidence of caste rankings among Jains in the Indian state of Rajasthan (Carrithers and Humphrey 1991).

Clearly, the religious theory of caste cannot account for the above facts; however, this evidence supports a theory of caste as a means of administrative and political control—if my theory is true, we would expect *everyone*; Christians, Muslims, Sikhs, Jains, and Hindus; to be subject to the caste system, not just Hindus.

Debunking the Theory of Caste as an Indian Institution

Another argument that could be presented against my above evidence could be that caste is simply an inherently Indian institution. After all, the whole of the above qualitative evidence comes from Indian history. However, besides relying on the above evidence on the waxing and waning of the rigidity of the caste system throughout Indian history, a theory of caste as an Indian institution can be debunked by looking at caste-like institutions across the world. Moreover, these various examples also provide further evidence for my theory of caste as a means of exerting political and administrative control over a given population.

Before taking a look at caste systems around the world, it helps to reiterate my definition of caste—my definition of caste is a system of social stratification based on endogamy and characterized by inherited social status in the form of occupation. Part of the reason I focus on these two characteristics of what is commonly known as a caste system is because of the mechanism I cite in my theory. I theorize caste as a way for invading or power vying groups to gain administrative, social, and economic control over a populace. In-

stitutionalized endogamy and inherited or quasi-inherited social status in the form of occupation are two of the more obvious mechanisms by which caste systems act as a means of control over local populations. All the following examples contain aspects of these two over-arching mechanisms. Moreover, although I do not consider notions of purity and pollution essential in my definition of caste, these notions show up in each of the following cases.

Perhaps one of the closest parallels to the Indian caste system is the Japanese caste system of the Edo Period, and the history of the caste system in Japan can also be understood in the context of a theory of caste as a means of military, administrative, and social control. Social stratification began in Japan with the Taika Reform in 645 A.D. (Batten 1986), based off Confucian ideals and following a coup attempt that exterminated entire clans. However, the Taika Reforms did not prevent further warfare and conflict, and during this time of political instability, even low caste individuals were able to rise through the ranks, evidenced by the rise of Toyotomi Hideyoshi, a man of low birth who eventually became ruler of Japan for a short period before dying of natural causes and leaving a vacuum for Tokugawa Ieyasu to finally consolidate power long-term in 1603 (Berry 1982). This is partly why Tokugawa instituted a more rigid caste system when he finally did take power: he was afraid of another man of low birth vying for control. Like the Indian caste system, there were four castes, and Edo Period Japan even had a parallel to untouchables in Indian society: *Eta*. Like Indian untouchables, *Eta* were also ostracized and considered impure (Newell 1961).

While it may seem a blow to my theory that the Tokugawa did not represent foreign invaders, recall post-Mughal local Islamic rulers also did not represent foreign invaders. Indeed, it is not the idea of being foreign that matters; a variant of the caste system can be used by any group attempting to consolidate political power and extract rents.

Further qualitative evidence from Korea lends credence to my above theory. The *baekjeong* were the untouchables of Korea, and this class originated with the Khitan Invasion in the 11th century (Twitchett and Tietze 1994). The meaning today of *baekjeon* is butcher, because these individuals were known for their skills in butchering, and this group formed the bottom layer of society. Further, in 1392 at the beginning of the Joseon Dynasty, Korea created its own systematic caste system, including four castes above the *baekjeong*, like the four Indian *varnas* above the untouchables (Rodriguez 1997). This caste system lasted officially until 1896 with the Gabo Reform (Hwang 2004).

However, instead of considering caste as an Indian institution, one may be tempted to simply consider caste an *east Asian* institution, as all the above examples; India, Korea, and Japan; can be said to be in east Asia. However, there have been traces of a caste system closer to home in the form of Jim Crow laws in southern U.S. states in the mid-20th century. Gerald D. Berreman compares caste in India to race relations in the United States in the 20th century and notes in both systems, certain groups had an incentive to systematically subjugate another group in order to retain political and economic control. Further, both systems contain elements of purity, pollution, and contamination (Berreman 1960). Indeed, legal separation of basic amenities like drinking fountains, restrooms, and waiting rooms on the basis of color eerily resembles caste-like notions of pollution and contamination (Blight 2002), notions also found in gypsy law (Leeson 2013). Old Jim Crow era signs reading phrases like “Waiting Room for Colored Only,” “Public Swimming Pool: White Only,” and “Dade County Parks, Virginia Beach: Colored Only” attest to these notions. Further, there were traces of hereditary social status in the form of occupation, evidenced by southern Democrat Woodrow Wilson’s initiation of the segregation of federal workplaces in 1913 (Gardner 2002). This mechanism was illustrated with signs like, “Help Wanted: White Only.”

Caste: Alive and Well?

Another fact to square away is that although the caste system has been outlawed, it still remains intact throughout the subcontinent *de facto*. How do we explain this? One easy explanation is those benefiting from a system that systematically provides special favors to those in a privileged position have an incentive to continue such a system. In other words, if invaders set up beneficiaries to their new implementation of

the caste system, who the invaders can extract rents from, but then the invaders disappear, it seems the beneficiaries of the caste system would still have an incentive to maintain it. However, as we have seen in many of our examples, these types of systems generally break down with the dissolution of power. Yet, many Indians continue to adhere to caste principles more than half a century after legal reforms. We can turn to a theory provided by Boettke et al (2015) on institutional stickiness to explain these facts. According to this theory, the likelihood of institutions to continue in the future depends on that institution's relationship to indigenous agents in prior periods. The issue of some benefiting from continuance of a caste system provides an explanation in this case, but one may also want to turn to the deeply ingrained nature of the Indian caste system. An institution like that of the caste system in India is deeply set, and a system started in 1500 BCE and revitalized multiple times, especially in the 18th and 19th centuries, may take time to die out, partially because of the incentives described above. Further, my theory is not diametrically opposed to Freitas' (2006) theory of caste as a means of contract enforcement. Many parts of India remain underdeveloped, and caste can act as a means of contract enforcement in an area with a relatively weak state or relatively little access to the enforcement mechanisms of that state. Indeed, we have already seen in my above qualitative evidence how my theory and the theory of caste as a means of contract enforcement can work in tandem. During the post-Mughal power grab, not only did local Islamic rulers utilize the caste system to exert control, but local, previously casteless groups also created "new" castes in order to deal with an institutionally insecure, virtually stateless environment where contract enforcement was a looming issue (Bayly 2001).

To further back the above point, there does seem to be a "loosening" of the caste system, and this loosening began almost immediately after British occupation. Leonard and Weller (1980) report a rise in exogamous, inter-caste marriages, particularly since the 1970s. This timing further backs my above theory, as those who were children, as well as those just about to be born, in the 1947-1950 period when India gained independence would be old enough in the 1970s to begin to marry. Possible other reasons for these exogamous marriages cited by the authors include youth, economic development, mobility, and education—all of which would also be correlated with lower instances of caste-related behavior under a theory of caste as a means of contract enforcement. Again, there seems to be no mono-causal theory of the caste system, but multiple theories working in tandem.

Moreover, *The Telegraph* touts the commonality of inter-caste marriage and dating in urban India, citing rising literacy and education rates, particularly among women, and mass media as having a "loosening" effect on caste (Rao 2003).

Finally, the persistence of caste can also be explained by pointing out low caste individuals now have an incentive to continue caste distinctions because of reverse discrimination and affirmative action laws.

Why Didn't Britain Employ Caste Elsewhere?

One final question is: why didn't the British employ caste in other colonies, and why did the British use religion to demarcate caste. To answer the first, one can turn to research by Acemoglu et al (2001). According to Acemoglu et al, colonization strategies differed depending on local conditions.

In areas where settler mortality was high, like India, colonizing agents had a disincentive to populate the area heavily and an incentive to set up extractive institutions. On the other hand, in areas where settler mortality was relatively low, like the modern-day United States, colonizing agents had an incentive to populate the area heavily and an incentive to set up wealth-generating institutions. Indeed, colonization strategies in the United States and India provide a wonderful comparison, because both areas were colonized by the British. However, the British suffered relatively high settler mortality rates in India and enjoyed relatively low settler mortality rates in the United States. As a result, wealth-enhancing, inclusive institutions were set up in the U.S., like property rights. On the other hand, extractive, redistributive institutions were set up in India, particularly a caste system with an increased focus on endogamy and inherited occupation.

Why did the British use religion and caste as a strategy of divide and conquer? Different geographies, cultures, languages, and dialects could also be used. The most obvious reason is the history of the caste sys-

tem in India; because it was used by prior rulers and represented such a deeply ingrained aspect of Indian culture, despite its malleability, it represented a way for British officials to alter Indian institutions in a way that stuck (Boettke et al 2015) or in a way that would provide less resistance, especially considering many Indians represented clear beneficiaries to Britain's hardening of the caste system. Another reason may be the ubiquity of caste in India compared to other variables like culture and language. While India contains a great deal of heterogeneity in terms of culture and language, this heterogeneity is geographically based. For example, while India is heterogenous in terms of religion, culture and language, the Indian area known as Punjab is homogenous in terms of the following traits: most Punjabis speak Punjabi and share the Sikh faith, meaning culture is relatively homogenous in this area. However, caste is not homogenous in any area of India. Thus, if British officials chose to divide and conquer India based on religion, culture, or language, they would be able to divide India into coarse regions, but that would be the extent of it. Once the British reached Punjab, for example, their demarcations based on language, culture, or religion would no longer work. However, by using the caste system as a means of demarcation, the British were able to divide and conquer India on a much finer scale. Further, British officials were primarily worried about insurrection when designing the caste system in India, and propensities for insurrection may not have been correlated with geography, culture, or language. If this was the case, it would make perfect sense to use a more arbitrary form of designation, like caste, to differentiate between individuals more likely to rebel and individuals less likely to rebel.

4. CONCLUSIONS/IMPLICATIONS

What are the implications of the above analysis? First, it moves us towards a fuller rational-choice explanation of the caste system. However horrendous the caste system was and still is, its continuance and degree of rigidity is based on the incentives individuals working together, and against each other, face. By better understanding any general origins of or influences over caste systems around the world, we are better able to address them by focusing on the root causes. In the case of caste, it seems the root causes have been invasion, poverty, and a weak or new state in the midst or aftermath of widescale power grabs over particular areas. The root causes of invasion and political instability due to a virtually stateless environment have been addressed in India, at least in large part; India no longer faces constant invasions and colonization. However, there are still some that benefit from the caste system, high and low caste alike, especially those in rural areas. Luckily, institutions are slowly changing in India, making a rigid caste system as a means of contract enforcement largely unnecessary and irrelevant. It will be an interesting topic of study to see how concepts of caste change as India modernizes and develops further.

Second, it is important to note my above theory is not meant to be a mono-causal theory of the caste system. As I have shown, my theory can and has worked in tandem with the theory of caste as a means of contract enforcement (Freitas 2006), and my theory of caste represents a broadening of Dirks' description of caste as a somewhat malleable institution utilized by colonial powers for their advantage (2001). I have simply taken Dirks' historic observations and analysis and generalized them to show how caste can and has been used in difference contexts in instances of invasion or political instability. The caste system is a complex and ancient order, and it is only fitting no single theory can explain such a complicated and malleable institution.

Finally, my theory of the caste system is relevant for discussions on Public Choice and the economics of autocracy (Tullock 2012). In his work on autocracy, Tullock explains the various, rational ways in which autocrats maintain political control. One particular method is to maintain a military presence that is strong enough to be effective but weak enough domestically that it does not present the possibility of mutiny. The caste system, especially as practiced by the British Raj, and colonialism generally, performed this function with tragic efficiency. By creating a colony and managing it through military control, the British were able to behave like democrats in Britain, with relatively low military presence, and like autocrats in India, with relatively high military presence. The caste system further allowed the British to perform this job more eas-

ily in India by creating two, very broad, classes of Indians: those whose caste allowed them special privilege and favor from the British in the form of positions of authority and those whose caste did not afford such privileges. British government officials were then able to maintain a strong military presence in India, with the help of high caste Indians, while at the same time avoiding another nation-wide mutiny by giving those same high caste Indians disincentives to join another uprising and incentives to help squash any future uprisings.

This analysis and explanation for the Public Choice reasons behind the historic waxing and waning of the rigidity of India's caste system is an important first step in a deeper understand of such a confusing institution. However, there is room for more analysis. There are a variety of instances of endogamy and inherited occupation in societies throughout the world and over time, and there is particular variety among tribes in Africa, with caste-like practices in some, but not all, societies in Africa. A more comprehensive cross-cultural analysis of the different instances in which caste-like structures have been used throughout history and geographic space would shed more light on the mechanisms behind and reasons for the adherence to rigid caste structures. For example: was religion used to demarcate caste in places in Africa, or were other mechanisms used, and why? Caste may be a horrid, confusing, sobering institution, but it is not inexplicable using the tools of economics and Public Choice; it is also not inexplicable assuming rational human action. Indeed, when we use these tools, caste becomes less confusing, though possibly more heinous.

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Who Now Remembers the Armenians: Mass Deportation as a Homogenization Technology in the Late Ottoman Empire

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Abstract: The deportations and massacres of religious and ethnic minorities in the late Ottoman Empire are prime examples of a homogenization technology (Alesina et al. 2013), a policy implemented in order to homogenize a population along some identitarian margin (ethnic, religious, etc.). The Sultan Abdülhamid II encouraged the massacre of Armenians by Kurdish raiders from 1894-1896 in order to suppress Armenian nationalist parties. Similarly, the ideologically malleable Committee of Union and Progress attempted to unify the Ottoman Empire against the West, first through a failed policy of multi-ethnic Ottomanism, and then through an ethnically exclusionary Pan-Turkism. Turkism resulted in the mass deportation of Greeks on the eve of World War I and the Armenian Genocide, resulting in the deaths of more than one million Anatolian Armenians. The Turkish government was able to offset the costs of the genocide by an organized campaign to take land from Armenian citizens, and give it to new Muslim refugees from the Balkan states. I incorporate Johnson and Koyama's (2019) work on religious toleration and state capacity. I describe the conditions for a genocide to be a viable homogenization technology.

Keywords: Public Choice, Armenian genocide, Ottoman Empire, Nation-Building, Political Economy

At noon on November 11th, 1895, a crowd of Kurds and Turks, some 800 strong, halted in front of a military outpost in Harput, an Armenian town in Eastern Anatolia. After a meeting, the Ottoman military receded along with its cannon, and the crowd, shouting "Allah, Allah!", assaulted the Armenian residents. The soldiers did not participate in the killing but seemed to "superintend it" (Morris and Ze'evi 2019, p. 81). Hafız Mehmet, a Turkish soldier, informs his family that "We have killed 1,200 Armenians, all of them as food for the dogs...20 days ago we made war on the Armenian unbelievers... I myself fired 47 cartridges... If you ask after the soldiers..., not one of their noses has bled" (Ibid., p. 82). In the nearby village of İçme, fifty-two Armenian villagers were burned inside their church. The Armenian Church was turned into a mosque and the Protestant church was made into a stable. In the village of Oozoonova, Armenians were compelled to convert to Islam, but many drowned themselves in the Euphrates rather than deny their faith (Ibid., p. 83). These were just a few of many religiously and politically motivated massacres that took place between 1894 and 1896 under Sultan Abdülhamid II.

On March 13, 1914, almost twenty years later, in the town of Zeytun, government officials arrested a handful of notable Armenians in response to Armenian deserters who had shot some Turkish gendarmes. On March 25 and 26 the Ottomans burned the Armenian Orthodox monastery in Zeytun to the ground (Antreassian 1993). On April 8th, deportations from Zeytun began. All of those whose “residence in Zeytun or Maraş is deemed to be harmful” were to be deported (Morris and Ze’evi 2019, p. 167). By May 1915, U.S. Consul Jesse Jackson reported that “between 4,300 and 4,500 families, about 26,000 persons, are being removed by order of the government from the districts of Zeytun and Marash...taken southeasterly as far as Dier-el-Zor...The misery that these people are suffering is terrible to imagine” (Ibid., p. 169). Cemal Pasha, one of the leaders of the Young Turks, requested that *muhacirs*, Muslim refugees from the Balkan wars, be settled in Zeytun for “political reasons” (Ibid., p. 168). On April 20th, Constantinople queried on the fertility of Zeytun’s land, and whether or not it could support Balkan *muhacirs*. The events at Zeytun were only the beginning of an orchestrated plan to eliminate Armenians from Anatolia and replace them with a loyal Muslim and Turkish populus. The number of casualties in the Armenian Genocide (called by Armenians the *Medz Yeghern*, meaning Great Calamity) is estimated between 700,000 and 1.5 million. Today, the Armenian Genocide remains a contentious topic. Countries that recognize the Armenian Genocide may find themselves on bad diplomatic terms with Turkey. Any mention of the genocide in Turkey is a dangerous taboo (Akçam 2004, p. 24).

For a majority of Ottoman history under the *millet* system, the status of non-Muslim minorities was one of conditional toleration. Non-Muslims were allowed to hold their faith, but they operated under a different set of rules. A number of exogenous shocks began to break the *millet* equilibrium down. In 1908, the Committee for Union and Progress (CUP), commonly known as The Young Turks, took power from the sultan, and attempted to unify Turkey under a secular state with universal rights. The previous sultan legitimated his rule based on religion, but the CUP was far more ideologically malleable and attempted to unite the Empire against the West under an Ottoman national identity. The CUP needed a united nation from which it could produce a much needed public good: defense against the West. Early attempts at creating an ethnically and religiously heterogeneous Ottoman identity failed, so the CUP shifted to the more exclusive Turkish identity. World War I served as an expedient moment to engineer the population to their design. Taner Akçam (2004, p. 24), a leading scholar on the Armenian Genocide, notes:

The logic of the national state requires an unavoidable homogenization. The national state must rest upon the unity or totality of feeling of persons who have decided to live together ‘no matter what.’ A shared cultural foundation that can attain this must be established. The Republic indeed did this. The remaining non-Muslims were defined as ‘the other.’ Turkish cultural identity, then, became the cement with which to build this homogenization.

The Armenian genocide is a perfect case study of state secularization and modernization, and its interaction with previous religious institutions, as well as the roles that religion and ideology play in state-building.

I will describe the persecution and massacre of Christians in Anatolia as a process of nation-building (Alesina et al. 2013). I will also employ elements of the model of religious persecution developed by Noel Johnson and Mark Koyama in *Persecution & Toleration: The Long Road to Religious Freedom* (2019) to describe the political economy of persecution, and elements of the political economy of homogenization technologies (Alesina and Spolaore 1997; Alesina et al. 2013; Alesina et al. 2017). The essay is organized as follows: Section I is a description of theoretical concepts in institutional economics and economic history that I will use to describe the events. Section II is a broad overview of religious and ethnic persecution in the late Ottoman Empire from the Tanzimat reforms to the 1915 Genocide. Section III employs the conceptual elements to explain specific aspects of the massacres. Section IV concludes.

I. A THEORY OF PERSECUTION AND STATE-BUILDING

In *Persecution and Toleration* (2019), Johnson and Koyama develop a model of religious persecution and apply it to the development of religious freedom in Europe. Their model is built on a few fundamental concepts, primarily the dichotomy between identity rules and general rules. To an identity rule, someone's identitarian characteristics (race, family, religion, gender, etc.) determine the judgment. Your race determined if some law applied in the Jim Crow South. Who your parents are determines whether or not you are in line to rule in a hereditary monarchy. To contrast, a familiar example of general rules are traffic laws. They apply to everyone equally regardless of status. Even the President can be pulled over for speeding (at least conceptually). The standard of an entirely general rule is admittedly difficult to define and is near impossible to implement in practice (Hayek 1960, p. 316). The idea of general rules and their importance to a liberal polity is prevalent in the social thought of F. A. Hayek, but can be traced all the way back to David Hume and Adam Smith (Hayek 1960; Hayek 2013; Hume 1978; Smith 1976). Douglass North, John Wallis, and Barry Weingast apply the concepts of general and identity rules to economic history in *Violence and Social Orders: A Conceptual Framework for Interpreting Recorded Human History* (2009).

Another important concept is state capacity. State capacity is a way of measuring the effective capabilities of a state. It is made up of fiscal capacity, the ability for a state to levy taxes, and legal capacity, the ability of a state to effectively administer law (Johnson and Koyama 2017; Piano 2019). Core to Johnson and Koyama's framework is the relationship between state capacity and general or identitarian nature of rules. They find two self-reinforcing equilibriums: one where identity rules and weak state capacity mutually reinforce one another, and another where general rules and strong state capacity do likewise (Johnson and Koyama 2019, p. 37).

Identity rules are cheaper to enforce and thus are attractive to a weak state. Weak states cannot establish a legitimate rule by force, and often have to "buy" their legitimacy in the eyes of the people. They can be seen as legitimate if they successfully convince the masses that they are supported by a prevailing religious or cultural authority, which they develop by enforcing identity rules. Johnson and Koyama discuss an exchange between European nobles and the Roman Catholic church, in which the nobility would enforce conformity to the faith in exchange for legitimacy from Rome (*Ibid.*, p. 32).

Identity rules also prevent a nation from developing widespread impersonal exchange, a key component of economic growth. Weak growth in turn supports weak states creating a vicious cycle. General rules and a strong state together create a virtuous cycle. The costs of enforcing general rules can be borne by a strong state, and the economic growth that comes from widespread impersonal exchange supports high fiscal capacity. The two equilibria are shown in Figure 1. For a polity to transition from one equilibrium to the other, some exogenous force must make the equilibrium unstable.

Johnson and Koyama discuss the application of their model to 20th century states that committed genocides such as Nazi Germany (*Ibid.*, p. 399). The development of state capacity is necessary but not sufficient to develop general rules. Fascist states have high state capacity, but they use it to enforce identity rules more effectively. Nationalism and democracy had risen as alternatives to religious legitimacy. Nationalism could be inclusionary or exclusionary. Inclusive nationalism was built on the idea of citizenship, a status that anyone could take on. Exclusive nationalism is founded on immutable and non-transferrable characteristics such as race. Rulers employing exclusive nationalism buy their legitimacy through forcing out populations who do not fit into their strict national identity.

The work of Alberto Alesina comments on the dynamics of heterogeneous populations that are relevant to the choice a ruler will make between inclusive or exclusive nationalism. In "On the Number and Size of Nations" (1997) Alesina and Spolaore discuss the equilibrium quantity and size of political boundaries. A nation's elite want the population to be as large as possible in order to maximize the tax base, develop public goods at lower rates, exert more efficient forms of taxation, benefit from economies of scale and trade, and have more insurance against negative shocks. However, as a nation grows in size, the likelihood of its people being dissatisfied with central decisions is higher. Thus, there is a reason for larger nations to

prevail: they are stronger and can produce more public goods. There is also a reason for larger nations to break up. Subsets of the population are more likely to be distant from the public decision-making process and revolt or at least hinder the development of the state.

In “Nation-Building and Education” (2013), Alesina, Giuliano, and Reich discuss nation-building. Nation-building is “a process which leads to the formation of countries in which the citizens feel a sufficient amount of commonality of interests, goals and preferences that they do not wish to separate from each other” (Alesina et al. 2013, p. 2). The state and the nation are not always the same. When the new Italian state was founded, one of the coalition’s leaders Massimo d’Azeglio remarked, “Italy has been made; now it remains to make Italians.” The process, if successful, eliminates the issue discussed in Alesina and Spolaore (1997). If a state successfully homogenizes the population, then it does not have to worry about disloyalty and disharmony more likely among a larger population. A policy with such a goal is called a “homogenization technology.” If we imagine that the state has a choice between bifurcating the nation or employing a homogenization technology to maintain control of the populous, they will make the decision on the cost margin. If the cost in terms of public goods is greater in a split than the cost of implementing the policy, then they do not implement it, but if the policy is cheaper, then the state will set out to make a nation of itself.

The homogenization process is likely to take place during the transition from an autocratic state to a democracy. When the state starts to look down at its people for legitimacy as opposed to other elites, they begin to wonder how they can shape the population in their favor. The elites in the autocracy want to set up the populous so that under democratic rule, they reserve power and keep the nation together. Alesina, Giuliano, and Reich use the example of compulsory education as a homogenization technology. They find an empirical link between the implementation of compulsory education laws and the threat of democracy.

From the perspective of elites who want to homogenize their population, the choice to promote inclusive or exclusive nationalism is dependent on the existing demographics. If certain groups are more distant from public goods production and the benefits of citizenship, they will identify less with the nation. For inclusive nationalism to successfully homogenize a population, the disparate social groups need some higher uniting interests, a situation that is unfortunately too rare. John Jay in Federalist No. 2 noted that the thirteen former colonies were in such a unique position as they were composed of a population who were of similar ethnic, linguistic, religious, and philosophical background and who recently fought a successful revolution together, a once in a millennia opportunity for a new formative identity (Hamilton et al. 2001, p. 6). When this coincidence of interests fails, inclusive nationalism may incite rebellion against the center. Exclusive nationalism in favor of some majority population may be a cheaper option for a country that is desperate to homogenize and legitimize the state under an ethnic narrative.

A genocide presents itself as a horrifically straightforward homogenization technology. However, there are some unique differences with the model that Alesina et al. (2013) present.¹ If the goal of the nation-state is to obtain a large homogenous population, a genocide may not be the best option. It may make the population more homogenous, but it will also make it smaller. Genocide only functions as a viable alternative homogenization technology if the cost in population is sufficiently counterbalanced. For genocide to be an effective homogenization technology some or all of the following conditions should hold: (1) A significant portion of the population is seen as holding distant interests from the whole, (2) the cost of otherwise converting the minority population into the primary identity is high, (3) a complementary population influx that can smoothly assimilate is available, (4) the likelihood of successful resistance or foreign intervention is low.

II. RELIGIOUS AND ETHNIC PERSECUTION IN THE LATE OTTOMAN EMPIRE

a. The Ottoman Empire and the Millet System

For most of its history, the Ottoman Empire legitimized itself on Islam and the enforcement of sharia law. The Ottoman state was autocratic with the sultan in command of the whole empire. The Ottoman Empire had no dominant landowner class. This is likely a reason that no constitutional limits ever developed endogenously on the sultan. In the West, barons were instrumental in providing a check on the king and developing early constitutions such as *Magna Carta* (Blaydes 2017). By the end of the eighteenth century the imperial center often had only nominal control over the periphery (Hanioğlu 2008, p. 3). “In practice, the reach of the Ottoman government in Istanbul rarely extended beyond the central provinces of Anatolia and Rumelia, and then only weakly” (Hanioğlu 2008, p. 7).

An Ottoman subject’s primary identity was more often religious than ethnic (Hanioğlu 2008, p. 25). Sharia does not require that all subjects become Muslims. Christians and Jews can obtain *dhimmi* status. The rules of *dhimmis* are examples of identity rules in the Muslim context. *Dhimmis* are allowed to practice their religion freely, but they must pay additional taxes called *jizya* and follow specific regulations laid out for *dhimmi*. For example, Jews and Christians were barred from military and bureaucratic service. Islam prohibited the lending of money on interest granting non-Muslim minorities an effectual monopoly. The Pact of Umar is the name for these ad hoc arrangements that resulted in the *millet* (meaning nation) system. Each minority would obtain and regulate their own *millet* under a Sultanate. The Ottoman state also banned printing in Arabic, an action that potentially deterred an Islamic parallel to the Protestant Reformation (Rubin 2017). Printing in other languages such as Armenian, Greek, and Latin were not prohibited. Various sultans persecuted marginal Muslim groups such as the Mu’tazilites (Martin, Woodward, and Atmaja 1997).

The millet system was the conditional toleration equilibrium in the Middle East, the vicious cycle of identity rules and a weak state. Muslim heresies were condemned and suppressed as they threatened to split apart the sultan’s rule, while non-Muslim minorities were granted special status. Non-Muslim minorities were tolerated on the condition that they continued to obey the rules of the *millet* system and pay the *jizya* taxes. The system relied heavily on identity rules, and prevented the Ottomans from developing a strong state. Local rulers were more often legitimized by the consent of the governed (Hanioğlu 2008, p. 56). It was a self-reinforcing equilibrium that could only be broken by some exogenous event.

b. The Rise of the West and the Tanzimat Reforms

The Modern Era began in Europe. A combination of military technology spurring state capacity and the Protestant Reformation generated the perfect storm for general rules to be both demanded and supplied. Most of Europe was headed on a track towards liberalism, general toleration, and economic growth. Western nations began to dwarf even classical empires. Timur Kuran argues in *The Long Divergence* (2011) that the lack of adaptability in Islamic institutions put them behind the West. The great powers struck fear into the heart of the sultanate and placed the future of the Ottoman Empire on unstable ground. “In some ways, the imperative of change facing the rulers of the Ottoman Empire was a direct result of the upheavals in Europe, which had unleashed new and dangerous forces. But the growing awareness of the need to evolve or perish stemmed equally from internal weaknesses” (Hanioğlu 2008, p. 40).

The fact that the West was predominantly Christian provided some interesting interaction effects with the local minority population (Kuran 2011, Chapter 10). As the West became dominant in trade, so did non-Muslim minorities. By 1912, while only 19% of the population was non-Muslim, 85% of major local traders were non-Muslim with 66% being Christian Greeks and Armenians (Kuran 2011, p. 193). Not only did they dominate the trade in numbers, but they pioneered the new insurance industry and expanded the banking sector. A Western consul could establish himself in the Ottoman Empire in order to trade while

operating under Western legal systems. The consuls could extend these privileges to *dragomans* whom they would hire. A *dragoman*, an official interpreter, would offer local knowledge to European consuls in exchange for the ability to operate as European citizens. Local rulers would limit the number of *dragomans* in a region so that they could protect Ottoman merchants (Hanioğlu 2008, p. 47). The Ottoman rulers would charge fees to individuals who wished to become dragomans. Their decision was on the margin of selling a productive asset in the form of a taxable citizen. The ability to operate under a Western legal system allowed the non-Muslims in the Middle East more freedom and adaptability to change than Muslims in the same region. Often French consuls would select Catholic *dragomans*, while Russian consuls would select Orthodox ones. The *dragomans* were considered native foreigners. Many Western consuls would later serve as valuable witnesses to the events of the Armenian Genocide.

A major moment in nineteenth century Ottoman history was the Tanzimat Reforms of 1839. These reforms kept the *millet* system intact, but relaxed many of the regulations on the *dhimmi*, granted some autonomy to millets, and simplified the *jizya* poll tax system (Hanioğlu 2008, p. 76). The purpose of the reforms was both to advance equality under the law to unify a fractured empire and to improve European public opinion about the empire (Ibid., p. 77). The Tanzimat Reforms and increasing Western influence spurred a period of uproar within non-Muslim minority communities in the nineteenth century. In the 1820s the Greeks waged a successful war of independence. Greek consulates propagated the *Megali Idea* - the Great Idea - of Greek geopolitical expansion. In 1864 King George I of Greece represented a Greece that would support all ethnic Greeks no matter where they lived (Morris and Ze'evi 2019, p. 26). The Ottoman Empire was ripe for the rise of pocket nationalisms because of the weakness of central control, numerous socioeconomic problems, and being encircled by Christian powers (Hanioğlu 2008, p. 51).

The Armenian religious community, one of the oldest Orthodox Christian communities in the world, began to fracture. Western missionaries spread both Catholicism and Protestantism to Armenian villages. Because of the Tanzimat reforms they were able to establish two new *millets*. Western ideas of nationalism also began to seep into the Armenian consciousness. The ideas of Auguste Comte, Victor Hugo, and Jules Michelet influenced Nahapet Rusininan to begin the Ararat Society in 1849 (Ibid., p. 32). Now that religious conviction was no longer the binding force for the Armenian community, an edict was passed in 1847 to establish a civic government distinct from the spiritual authority in the original Armenian *millet*. Armenians formed a National Assembly and ratified their own constitution in 1863. The Armenians called it The National Constitution of the Armenians. The Ottomans called it The Regulations of the Armenian Millet. By 1880, the Armenian Patriarchate found that in six eastern provinces of Anatolia there were 1,561,600 Armenians, outnumbering 1,054,800 Muslims (Ibid., p. 23).

c. Sultan Abdülhamid II

On December 23, 1876, the Ottoman Empire adopted a modern constitution drawn up by minister Midhat Pasha and his Armenian companion, Krikor Odian. The constitution put a check on the sultan and promised general rules. It was mostly backed by the existing bureaucracy and the Islamic scholars called the *ulema* (Hanioğlu 2008, p. 114). Midhat hoped to stave off European pressures by protecting Christian minorities (Ibid., p. 15). The previous sultan, Abdülaziz, was replaced by his nephew Murad V, who only lasted three months due to mental instability. Murad V was replaced by his brother Abdülhamid II. The constitutional period was short-lived. "The major blind spot of the reformers consisted in their assumption that the 'old,' being unable to compete with the 'new,' would gradually disappear from the scene" (Hanioğlu 2008, p. 105). Abdülhamid soon overstepped his boundaries and dissolved the parliament in order to crush a rebellion that had arisen in Bulgaria. Former British Prime Minister William Gladstone decried the cruelty of the Turkish Race in Bulgaria. Russia, declaring themselves protector of Slavic peoples, now had the opportunity to attack Turkey (Ibid., p. 17).

After the Bulgarian war of independence, Romania, Serbia, Montenegro, Bosnia, Herzegovina, and of course Bulgaria, received independence or greater autonomy from Constantinople. Russia established a

foothold in the Caucasus. The Armenian Patriarchate attempted to gain protection from the Russians, but their hopes were dashed. Article 61 of the Treaty of Berlin (1878) commanded that the Ottomans improve conditions in the East where Armenian villagers were being raided by Muslim Kurds and Circassians. Eastern Anatolia was a whirlpool of political authority. Whoever held a gun to your head was your ruler for the day. “The countryside was dominated by shifting groups of local notables, insurgents, semi-nomadic Kurdish and Turkmen tribes, and the occasional governor sent from the capital who might ‘go native’ and disregard Constantinople’s ‘instructions’ on guidelines” (Ibid., p. 24). The Kurdish and other nomadic tribes had been driven into Eastern Anatolia by Russian armies or wars in Northern Iran, causing heightened tensions with local Christians. Constantinople largely neglected article 61. The Sultan hoped to restore the pre-Tanzimat *millet* system.

Two radical Armenian nationalist parties were formed in response to the dissolution of the Armenian National Assembly and the failure to protect Eastern Armenians. These were the Social Democrat Hunchakian Party (Hunchak), formed in 1887, and the Dashnaktsutyun (Dashnak), formed in 1890 (Ibid., p. 40). Soon, two suspicious massacres took place in towns of Yozgat and Sassoun. Both cases follow a suspiciously uniform pattern. An Armenian in the village of Incirli killed a police informant and mass riots occurred in the nearby town of Yozgat, where many Armenians were killed (Ibid., p. 50). In Sassoun, the Ottomans were highly suspicious of Armenians revolting and commanded the Kurds to massacre. The Kurds were accompanied by Turkish soldiers who were disguised as Kurds (Ibid., p. 57). An estimated 3,000-6,000 Armenians were killed (Ibid., p. 60). The Turks had the ability to pass off blame to the Kurds and the general “lawlessness” of the East.

In response to the massacres at Sassoun, the Hunchaks led a demonstration with between 500 and 2,000 supporters on September 30th, 1895 in Constantinople. A clash broke out in the street. When the dust settled, a Turkish police officer was dead. In response, the Turks swarmed the city and took revenge on any Armenians they could find. Beginning the night of October 1 and continuing into October 2, a full-scale pogrom occurred against Armenians. On October 21st, the sultan issued a decree to appease the Western powers who witnessed the events in Constantinople. The sultan promised to allow Western aides to Eastern vilayets and protect Armenians from Kurdish raids. Not only were these reforms never implemented, the sultanate encouraged the further slaughter of Armenians by Kurds, in order to crush a revolution it feared the Hunchakian demonstration had ignited.

The ensuing massacres followed a near uniform pattern, casting doubt on the claims that the massacres were not an orchestration of Constantinople. In the town of Trabzon bordering the Black Sea, two Armenians attempted to assassinate the governor, Kadra Bey (Ibid., p. 73). The actions of a few Armenians led to widespread riots and massacres of Armenians by Muslims. These included Turkish citizens and Kurds. The massacres rarely included Turkish soldiers, but the mere fact that the army did not defend Armenians testified to the government’s intention. Similar massacres happened in Maraş, Harput, Urfa, Diyarbakir, and Aintab. Armenians who willingly converted to Islam were often spared. There was scant evidence that Armenians were planning to revolt. It’s also possible that many of the trigger events were fake. Armenian’s only explicit demands were that reforms promised after the Hunchakian march be implemented. U.S. diplomat Alexander Watkins Terrell received a letter from Caleb Gates, a professor in Constantinople which read, “We are confronting a ...plan...to render the reforms useless by destroying the Christian population.” Gates also heard Turks and Kurds say that they “had orders from the Sultan to kill the Christians” (Ibid., p. 82). Estimates of the casualties range from 88,000 to 300,000. Robert Melson (1982, p. 507) offers a succinct expression of why the 1890s massacres occurred:

The sultan, and indeed the Ottoman system as a whole, could not, at one and the same time, accommodate both the Armenian renaissance, with its implications of Armenian equality, and the millet system, with its implications of Muslim superiority. Something had to give. Either Armenians had to be prevented from becoming the equals of Muslims or the ideology and practice of

Muslim superiority had to be scrapped and replaced by a genuine egalitarian pluralism. As we have seen, the sultan was not prepared to move in the direction of genuine equality.

If he had followed the liberal reformers, he may have maintained social order, but that strategy would have been self-delegitimizing. The more religiously centered massacres of the 1890s were a foreshadowing of the later genocide.

d. The CUP, the First World War, and the Armenian Genocide

In 1908, the CUP, or the Young Turks, successfully reestablished the Constitution of 1876 (Morris and Ze'evi 2019, p. 137). They feared the partitioning of the Empire as much as the sultan did but were more progressive in their outlook as opposed to the reactionary sultan. This would require a centralized modern state, based on a loyal, tax-paying populus. The CUP's first attempt at creating a unified empire attempted to bind together all the heterogeneous cultures and religions under the Ottoman identity. The constitution and inclusive nationalism were the first attempt at this. "Among the plans that had been considered were the linkage of the various regions that did not provide soldiers or pay taxes to a central point, and the implementation of a central educational program in order to create a shared sense of unity" (Akcam 2004, p. 127). Primary schools became free and learning Turkish was mandatory to hold a government position. Bureaucratic and military service were opened up to non-Muslims for the first time.

The officials of the CUP still had not faced their central problem. The Ottoman Empire was too large and the people too diverse to unite under a single banner. They had underestimated how disconnected the people felt from Constantinople:

But it was not only the Christian population that was subjected to suppression: non-Turkish Muslim communities, whether Arab, Albanian or other, were also subjected to similar measures. Efforts were made to force other Muslim communities to learn and accept Turkish as their common language. The inevitable result was rebellion. The Albanian revolt which broke out in 1910 was in this sense an important turning point. Education actually became one of the main causes of the revolt. The revolt by the Muslim Albanians was a warning sign that the unity policies would not work (Ibid., p. 142).

The failure of these policies came to a head in the First Balkan War in which the Ottomans were defeated by a coalition of Bulgaria, Serbia, Greece, and Montenegro (Morris and Ze'evi 2019, p. 138). The Young Turk thinker Ziya Gökalp, started appealing to a "truer" Turkish heritage. Gökalp aspired to grow the borders of the Ottoman Empire to that of a fictional land of "Turan" that includes all ethnic Turks. When inclusionary nationalism failed to retain the loyalty of all Ottoman peoples, the CUP switched strategies to an exclusionary Turkish nationalism. Only a homogeneously Turkish and Muslim population would suffice to build the new Turkish state. The CUP blamed the failure in the war on the sultanate and used the opportunity to take full power.

Another important development of the Balkan Wars was the approximately 500,000 to 600,000 Muslim *muhacirs* (refugees) that immigrated into Anatolia from Salonica, a city which had been annexed by Greece. The first wave of the homogenization of Anatolia included the mass deportation of Greeks to their new homeland (Ibid., p. 148). Between January and June 1914, 100,000-200,000 Greeks were expelled from Anatolia. The CUP initially imposed additional taxes but became increasingly rough with Greeks as time went on. *Muhacirs* were given the abandoned land of Greeks (Akçam 2004, p. 161).

Meanwhile, tensions in Europe had reached the boiling point and the Great War began. One of the first Ottoman campaigns was to take back lands in the Caucasus region from Russia. The Third Army led by Enver Pasha was 120,000 strong and hoped to take the Russian stronghold of Sarikamis. They made the classic mistake of attacking Russia in the winter and lost the battle horribly (Morris and Ze'evi 2019, p. 156). Their

failure was blamed on Armenians who had defected from the Ottoman Army and assisted the Russians. Soon, Armenian men who had been drafted for the Balkan Wars and now the World War were curiously shifted to labor battalions and forced to work hard conditions (Ibid., p. 157). Many died, and their villages were now left defenseless. The attack on Zeytun detailed in the introduction, was the first attempt to mass deport Armenians.

On May 27th, parliament enacted the *Tehcir*, a deportation order. The law was targeted towards rebels and resistors, but was implemented almost exclusively against Armenians (Ibid., p. 172). There were three requirements for deportation. First, resettled Armenians could not be more than 10 percent of local tribal and Muslim inhabitants. Second, new Armenian villages could not contain more than fifty households. Third, once resettled, they would not be allowed to leave their new location (Ibid., p. 173). An important early moment in the genocide is April 24th, 1915, when the Armenian intellectuals and elites were arrested in Istanbul on trumped up charges (Ibid., p. 213). This is the date reserved every year for Armenian Genocide commemoration worldwide.

Deportations seem to follow a pattern. Regions with a larger population have a higher rate of massacre. The Armenians were far more populous in Eastern Anatolia as shown in Figure 2. This is an attempt to follow the 10 percent rule and to reduce the Armenian population to a certain absolute level at which they would be politically irrelevant. Often, deportation orders were sent only days before the population was compelled to leave. The journeys were treacherous, and the Turkish soldiers were brutal. Minister of the Interior, Talaat Pasha sent an order to Dr. Mehmed Reshid in Diyarbekir with the orders to “Burn, Destroy, Kill” (Üngör 2011, p. 71). Often at the beginning of the journey, men were separated from their families and violently executed while the women and children continued their march. Women in Mamuret-ül-Aziz had disfigured their faces with charcoal and coloring to appear less enticing to the soldiers. They rarely took valuables on the journey for fear they would be stolen (Morris and Ze’evi 2019, p. 193). The deportation trains ended in Aleppo. The final stage of the genocide in Spring 1916 was to send Armenians out of Aleppo into the desert of Der Zor. Approximately 350,000 Armenians died in the Syrian desert (Ibid., p. 242).

APPLYING THE MODEL

The conditions that we should expect for a genocide to be a viable homogenization technology developed in Section II are (1) A significant portion of the population is seen as holding distant interests from the whole, (2) the cost of otherwise converting the minority population into the primary identity is high, (3) a complementary population influx that can smoothly assimilate is available, (4) the likelihood of successful resistance or foreign intervention is low.

a. The Great Powers

The *millet* system was a self-reinforcing equilibrium that could only be broken by an exogenous force. This was the rise of the Western states. The *millet* system became unsustainable for two reasons. First, the military threat of a European invasion meant that the weak Ottoman state would no longer suffice. The secession of border territories at the aid of European powers over the past century made the partition of the Empire a waking nightmare for Ottoman leaders. Second, the West’s rise empowered non-Muslim minorities in the Ottoman empire both ideologically and economically. The Tanzimat reforms were put in place because of pressure from the West. Because of the Western pressure, the 1890 massacres had to be disguised under the Kurds, and the WWI deportations could be excused as war casualties or outright denied. Though the West ultimately caused the downfall of the Ottoman Empire, two other factors potentially allowed more persecution.

First, the ideology of human rights, equality, and religious tolerance from the West were met with high suspicion in the East. Turks realized that when the West referred to ‘human rights’ they would rarely mention instances in which Muslims were persecuted (Üngör 2011, p. 43). The West held a double standard and

looked out for the interests of Christians under the guise of secular human rights (Akçam 2004, pp. 110-112). The general toleration language of the West appeared a mere sham to further break up the Ottoman Empire. For example, William Gladstone came out of retirement to protest the treatment of Christians in the Ottoman Empire (Deringil 2009, p. 345). Throughout the nineteenth century, Russia broke pieces off the Ottoman Empire invoking Slavic Nationalism as a cause. When non-Muslims were being oppressed, the West cried massacre, but when 20,000-30,000 Turks were killed in the 1821 Greek Revolt, the West did not bat an eye (Akçam 2004, p. 111). This selective application of general rules² may or may not have been intentional, but it likely cost the West the trust of Turks and the potential for a liberal Turkey.

Second, the main leverage that the West held over Ottomans was sheer military strength. A mass execution of Armenian citizens at any normal time would have incited the wrath of not only Russia, but likely Britain, the U.S., and France as well. As a simple matter of marginal analysis, after World War I began, the Turks no longer had anything to lose in terms of inciting the wrath of Europe. European troops were spread thin across all fronts, and all the armies that could have been deployed to the Middle East were already there. The war was a perfect time to execute a mass genocide that would have ignited a war against the Ottomans if European countries were not already in the middle of one (Akçam 2004, p. 163). This satisfies condition (4) that the marginal cost of a foreign invasion is low.

b. Ottomanization, Turkism, or Islamism

The rise of the West meant that by some means, Constantinople would need to develop high state capacity or risk becoming another puppet of European empires. Abdülhamid II was legitimated by religion, and had no choice but to operate under the old identity rule equilibrium. The ideologically malleable Young Turks had a more diverse range of options to legitimate their rule, and they took full advantage of that repertoire. Abdülhamid II, or any sultan for that matter, had much higher constraints on his available justifications than the CUP. Abdülhamid's strategic position and response can be compared to the early response by the French crown to the Huguenots Calvinists (Johnson and Koyama 2019, p. 198). When the legitimacy of France was questioned by the rise of a new religion, Francois I passed the Edict of Fontainebleau in 1540, giving the state control over the repression of heresies. After a period of heavy persecution against the Protestants, there were simply too many Huguenots and the French state was too weak to successfully eliminate the movement. With the collapse of sultanic authority, legitimacy was not gained by "looking up" to a religious authority, but "looking down" to the acceptance of the people. Uğur Ümit Üngör argues that this shift facilitated the use of population politics and population management as social tools (Üngör 2011, p. 53).

To retain any semblance of a unified nation, the Ottomans would need to create unity by some means. Ottoman unity was thus an important topic for Turkish intellectuals (Akçam 2004, p. 117). The initial attempt to unify by the CUP can be called the 'Ottomanism' phase. This is the period in which the 1876 Constitution was re-established and there was an attempt to defend the rights of all Ottoman citizens and extend general toleration and citizenship. "According to its statutes, it aimed to observe the constitution, pursue the notion of Ottomanism, end tribal warfare, and maintain 'harmony and good relations between their compatriots, the Armenians, Nestorians, and other Ottoman subjects'" (Üngör 2011, p. 47). This period in spirit began with the Tanzimat reforms, but was reborn after the CUP coup in 1908 (Hanioglu 2008, p. 106). The CUP initially opted for a "soup" model, where Ottoman subjects identified first and foremost as Ottoman citizens, and only secondarily with a religious or ethnic group (Butt 2017, p. 136). Ottomanism and constitutionalism was treated as a panacea (Ibid., p. 132). During this period, the CUP met and formed a treaty with the Dashnaktsutyun to preserve "the sacred Ottoman fatherland from separation and division" (Morris and Ze'evi 2019, p. 142). There was an effort to thoroughly "Turkify" the extent ends of the empire. The CUP fully intended to keep the Arabic speaking regions of the empire under new Ottoman terms. Turkish replaced Arabic in schools, and Arabs were demoted to lower level positions in Syria and Iraq (Ibid., p. 139).

As a result of the Balkan Wars in 1912, the Ottoman Empire lost 40% of its landmass and 25% of its population, and by simple demographics, ethnic Turks were now a majority portion of the population and Anatolia became a heightened focus (Butt 2017, pp. 137-139). The Balkan Wars proved to the CUP that the empire was too large and the population too heterogeneous to sustain the former size of the empire, as per the predictions of Alesina and Spolaore. The shock of war shattered the narrative that Ottoman subjects could identify as Ottoman citizens with a common set of interests (Üngör 2011, pp. 43-44). The Young Turk officials were convinced that whatever happened in the Balkans could not be allowed to happen again (Ibid., p. 50). With the Balkan territories gone, the portion of the Empire that was non-Muslim and non-Turkish was even smaller, making a comprehensive homogenization effort more viable.

The lack of Ottoman identity was not simply a religious issue either, as many North Africans and Arabs, similarly did not feel a sense of identity with the Ottoman center (Morris and Ze'evi 2019, p. 138). Ziya Gökalp published "Turkification, Islamization, Modernization" in 1913. Gökalp's ideas became the driving force of the Turkism phase of the CUP. Gökalp claimed that Turkish dominance was always part of the Ottoman dream. Gökalp's vision of pan-Turanian empire spanned all territories in the world where Turkish was spoken, similar to the nationalism of the Greek King George I. Gökalp's ethnic vision was complemented by an economic nationalism that rejected both liberal capitalism and socialism. (Polatel and Üngör 2011, p. 31). The economic nationalist ideology believed that the economic woes of the empire were due to capital being held in the hands of those with foreign interests. The natural response would be to get property into loyal Turkish hands (Polatel and Üngör 2011, p. 34).

Turkism as opposed to Ottomanism was not the preferred rallying point, as the Ottoman vision was larger than even an imaginary pan-Turanian one (Akçam 2004, p. 79). The CUP was originally under the impression that a majority of Ottoman citizens had common interests, and that the inclusive national narrative of Ottomanism would suffice to legitimize the state. The Balkan Wars proved this gamble wrong, and the CUP was able to shift hard to the narrative of exclusive nationalism to maintain the territories they still held in Anatolia. The CUP had the advantage of expanding their ideological toolbox beyond Abdülhamid's capabilities. The experience of the Balkan Wars solidified the perception that the remaining non-Turkish Ottomans in Anatolia, who were primarily Armenian, were untrustworthy citizens and established condition (1).

c. The Question of Conversion and the Muhacirs

Referring back to "On the Number and Size of Nations", it seems antithetical that the CUP would massacre a large portion of their population. If controlling land and maintaining a large population is so important to developing a strong state, it may be worth it to attempt to convert the Armenians rather than massacre them even if it is incredibly difficult to do so. This objection does not stand because both conditions (2) and (3) hold. It would have been incredibly difficult to convert a majority of Armenians in a trustworthy way, and there was an alternate more loyal population to draw on.

First, many Armenians did convert to avoid slaughter in the 1890s massacres, but soon after reverted to Christianity. Many Armenian conversions during this period that appeared genuine may have been to avoid being targeted by Hamidian raids, and officially many of these conversions were not accepted (Derin-gil 2009). Learning his lesson, Talaat Pasha did not trust Armenian convert's authenticity and after a period ordered that even converts be deported (Morris and Ze'evi 2019, p. 254). A similar phenomena occurred with the *conversos* in Spain (Johnson and Koyama 2019, p. 226). Even though the Genocide was not an essentially religious pogrom, conversion would effectually destroy the Armenian community obtaining the same homogenizing effect. Unlike the Jews in the Holocaust, an Armenian could attempt to adopt a Turkish identity and religion. Some governors presented conversion documents as name change documents so that converts would feel less shame (Morris and Ze'evi 2019, p. 256).

More often than mass conversion were the mass rape and abduction of women and children on the deportations (Ibid., p. 255). Some women and children were forced to convert to Islam. Women could be

married to Turkish men and adopt a Turkish lifestyle, whereas Armenian men could not be appropriated so easily. Orders to execute rarely included younger children, though many died during the treacherous marches. Orphans who were left on the streets of Aleppo were a testimony to the masses killed by the CUP (Ibid., p. 234). Many Armenian men had been conscripted into the army, and were either worked to death or disposed of (Ibid., pp. 157-160). The sincerity of Armenian conversions was too difficult to ascertain and the cost of mass conversion was too high, establishing condition (3).

The *muḥacirs* from the Balkan wars provided a readymade population to replace Greeks and Armenians in Anatolia. There is evidence to suggest that the CUP was aware of the importance of the refugees, and it influenced their decision to commit genocide. A comprehensive study of the program to confiscate Armenian properties to distribute them to Balkan refugees and Turkish bourgeoisie is available in *Confiscation and Destruction: The Young Turk Seizure of Armenian Property* (2011). In a 1914 speech, the president of the CUP Chamber of Deputies charged the hall to “not forget beloved Salonica”, the former home of many *muḥacirs* (Akçam 2004, p. 94). He was answered by cries of “We shall not forget!” Immediately after the deportation decision, on June 10, 1915 orders were distributed to local authorities under the guise of “abandoned properties” laws. These same orders often included resettlement protocols for moving Balkan *muḥacirs* into formerly Armenian homes (Polatel and Üngör 2011, pp. 44-45). Movable and perishable property was sold at auction for low prices, while immovable properties were confiscated by the state (Polatel and Üngör 2011, p. 47). In the region of Mamuret-ül-Aziz, the Directorate of Muhacir Affairs specifically requested that an eye be kept on movable property and real estate during the deportations (Morris and Ze’evi 2019, p. 142). Armenians who attempted to sell their properties in anticipation of the deportation were prevented from selling them to foreigners or Christians (Polatel and Üngör 2011, p. 68).

The number of buildings that were abandoned by (and subsequently confiscated from) Armenians, according to Talaat Pasha’s own notebooks, totaled at 41,458 (Ibid., p. 73). Also according to Talaat’s notebooks, in 1915, 20,545 buildings and 267,536 acres of land were allocated to settlers (Ibid., p. 82). Since Armenians made up a large portion of traders in the interior, the damage to the Ottoman economy was enormous. Industries such as coal, wheat, cotton, and many others declined by 50% or more. The Ottoman economy as a whole shrunk by 40%, though it is difficult to ascertain what portion of this fall is due to the war itself (Ibid., p. 96). Motivations for the confiscation and reallocation of properties were primarily ideological from the CUP leaders, but at the local levels, Turkish bourgeoisie and officials used the confusion to take spoils for themselves from the horde of Armenian wealth (Ibid., p. 103). The confiscation of property was used directly to supplant the Armenian population with the Balkan one. This opportunity and measure provide us with condition (3), that an alternate population takes the place of the genocide population.

CONCLUSION

After the defeat of the Central Powers in WWI, Ottoman fears came true. Britain and Russia descended upon Anatolia, and began to break it up into smaller territories, including a new Armenian Republic that still exists today. The invaders would not last long as the hero of Gallipoli, Mustafa Kemal Atatürk, led a Turkish independence movement and retook Anatolia for the new Republic of Turkey, the state of Turkey that currently exists (Morris and Ze’evi 2019, p. 142). The issue of whether or not Atatürk’s rebellion would have been successful without the homogenization measures of the CUP is left to the realm of speculative alternate history. There are other questions not addressed in this paper such as the role of Islam in the massacres and the relationship between the Turks and Muslim minorities such as the Kurds.

The massacres perpetrated by the Ottoman Empire against non-Muslim minorities were not only outburst of racist hatred. Though real resentment existed, there was a degree of cold calculation on the part of the CUP, that mass murder was the only way to preserve a Turkish population upon which to build a nation and thus a state. The genocide occurred because the Armenians were unable to revolt or receive foreign aid, the Balkan refugees provided an alternative population, and the CUP were convinced that massacre was the only path to homogenization. This essay has shown that genocide can be successfully employed as a homog-

enization technology if certain conditions are met. Unfortunately, horrific events such as the Armenian Genocide have not been rare in the 20th Century.³

NOTES

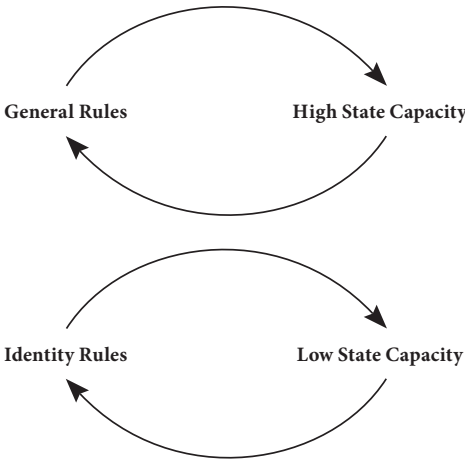
- 1 In Alesina et al. 2017, the authors include a footnote that states, for the purposes of their model, they “do not consider genocide since the size of the population is constant.”
- 2 This would make them de facto identity rules.
- 3 I thank Yahya Alshamy, Hayden Busby, Jacob Hall, Logan Hansen, Clara Jace, Mark Koyama, Caleb Petitt, Ennio Piano, Dominic Pino, Alex Madadjian, Seth Ourfalian, Suzanne Shera and an anonymous reviewer for assistance of various forms over the course of writing this paper.

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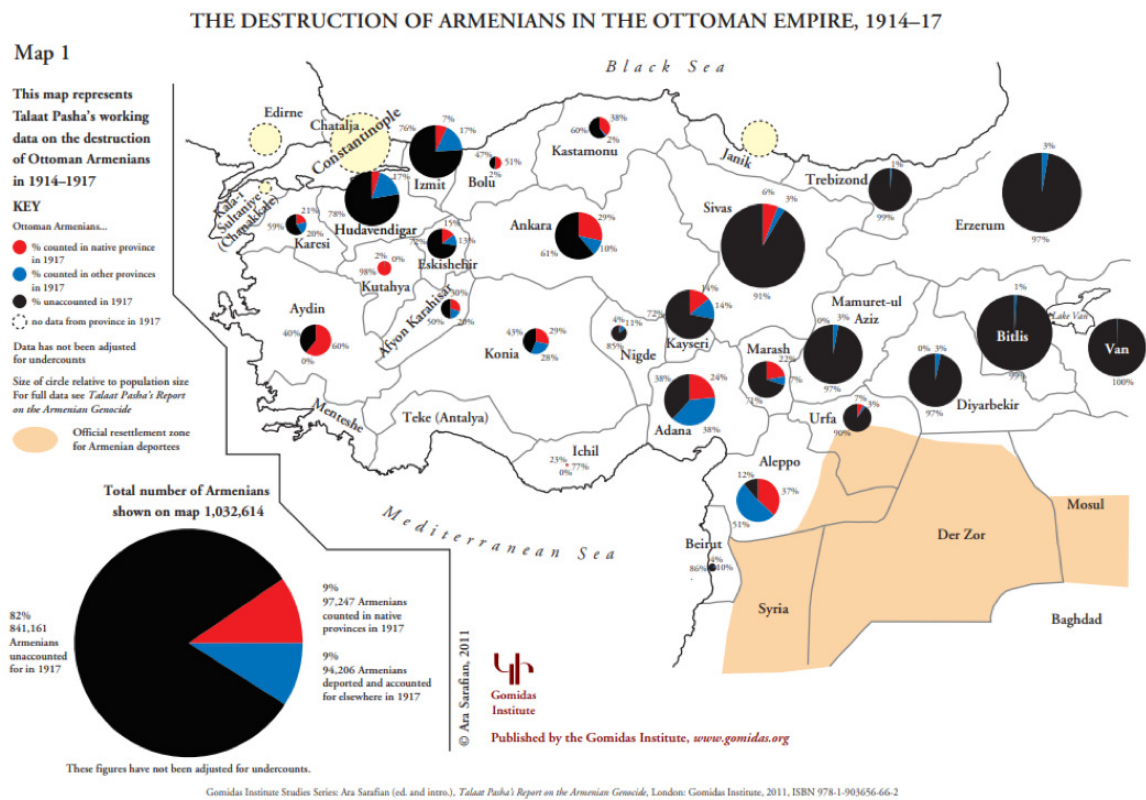
FIGURES

Figure 1. Rules and State Capacity



Source: Johnson and Koyama 2019, 37 and 41

Figure 2. Talaat’s 1917 Report of the Genocide



Source: <http://gomidas.org/uploads/Talaat%20Pasha%20Report%20Map%201.pdf>

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