THE ECONOMICS OF RELIGION, JEWISH SURVIVAL, AND JEWISH ATTITUDES TOWARD COMPETITION IN TORAH EDUCATION

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ABSTRACT

This paper examines the attitude of Jewish law to competition in light of the economist’s understanding of the benefits of competition and the beneficiaries from intervention in the competitive process. The punchline of this paper is simple. Although Judaism has used a whole host of restrictions on competition and has had its share of legislation to promote private interests, there has been one area that has generally been a consistent exception to impediments to competition—the teaching of Torah. This exception is all the more remarkable because those who were in a position to influence the legislation often stood to benefit from such restrictions. From this stress on teaching, we show that the foundation was laid for the survival and perpetuation of Judaism.

1. INTRODUCTION

This paper examines the attitude of Jewish law to competition in light of the economist’s understanding of the benefits of competition and the beneficiaries from intervention in the competitive process. There are at least two reasons to use economics to understand Jewish law, and we will illustrate both. First, the straightforward application of economics to halacha (Jewish law) can be of historical interest—figuring out how certain laws impeded or accelerated economic developments and which groups were harmed and which were helped. This type of analysis is akin to a study of current-day antitrust policy or regulation in which one figures out which group benefited from the government intervention and whether the intervention was based on an uninformed understanding of economics (though the failure to

* University of Chicago and National Bureau of Economic Research, and Bar-Ilan University and Institute for the Study of Labor (IZA), Bonn, respectively. We thank Barry Chiswick, Deborah Dohrnun, Steven Katz, Aaron Levine, Gregory Peltar, Eric Posner, Alex Raskovich, Jacob Rosenberg, Rabbi Gershon Seif, Robert Stillman, an anonymous referee, and participants at the International Conference on Law, Jewish Law and Economics, held at Bar-Ilan University in December 1996, for helpful comments.

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understand economics is a more serious criticism today than hundreds or even thousands of years before economics was developed as a science. The second reason is to investigate not the consequences of a particular decision but the underlying value system that can be inferred from the decision.

The punchline of this paper is simple. Although Judaism has used a whole host of restrictions on competition and has had its share of legislation to promote private interests, there has been one area that has generally been a consistent exception to impediments to competition—the teaching of Torah. This exception is all the more remarkable because those who were in a position to influence the legislation often stood to benefit from such restrictions. From this stress on teaching, the foundation was laid for the strategy that Judaism followed to insure its survival and perpetuation. We also show that the teaching was designed to influence both ritual and ethical behavior by influencing beliefs. The stress on both ritual and belief is important in light of the recent innovative and insightful work on religion by Lawrence Iannaccone.\(^1\) In that work, the emphasis has been on explaining how groups can succeed in avoiding free-rider problems by adopting behaviors that are costly. By sorting out free riders, the group can succeed in attracting and keeping active members who provide each other with collective goods (for example, attendance at services, active participation, friendly environment, social interaction). Iannaccone put less emphasis on understanding how the cult or religion creates values or affects beliefs. Indeed, in that literature, it is difficult to distinguish a bowling club from a religion. It is perhaps more accurate to describe this recent work as deepening our understanding of community formation in small groups. It provides insights into how a religion should internally organize for success. In this paper, we wish to bring to the forefront the desire of a religion—Judaism in particular—to alter beliefs and thereby alter actions and at the same time to perpetuate itself.

Economists are trained to resist the notion that preferences are manipulable and focus instead on using prices as incentive devices. That is why, in part, religion has been regarded as an area outside of economics. But religion is a powerful incentive device that is used in regulating social and economic interactions. Unless economists wish to avoid what is one of the most powerful incentive mechanisms shaping history, they must face squarely the issue of the creation of values.\(^2\) Moreover, the emerging fields


\(^2\) There are at least two approaches to the topic “creation of values.” The typical one is to assume that preferences are determined exogenously and to treat religion and culture as
of entrepreneurship and leadership now taught in business schools and elsewhere are closely related to the study of how religions can create values.

We begin in Section II with a simple model of religion focusing on altering beliefs and actions. We then take some initial steps in Sections II and III to understand how a religion can create and perpetuate its values and, in the Appendix, develop a model to illustrate our points. In Section IV we turn to a description and analysis of the role of priests and prophets during the time of the First Temple and show that, although the priests were given exclusivity in carrying out sacrifices, and although, given their position, they had the ability and possibly even the moral right to corner the teaching market, they left open the teaching of Torah to all. We explain how this dichotomy established a precedent that was to influence subsequent generations and was a key force in explaining how Judaism has survived. In Section V we discuss in some detail the attitudes toward competition in Jewish law since the Mishnah and show the remarkable consistency in the preservation of competition among Torah teachers. Given the huge differences in economic circumstances among Jews over time and space, this consistency reveals the high value that Judaism placed on teaching Torah, with the ultimate result that Judaism has survived.

II. A SIMPLE MODEL OF RELIGION

Religion can have a powerful effect on behavior. Many religions attempt to shape the beliefs of their adherents, with the result that their adherents alter their behavior. By making interpersonal behavior subject to divine scrutiny, a religion can induce desirable interpersonal behavior; in this way religion provides a low-cost enforcement mechanism for inducing such behavior. For example, by making the rule requiring honest weights and measures a divine commandment, the transaction costs of engaging in trade fall. The customer does not have to expend resources to verify the quantity of his purchase, and the state can spend less on enforcing honest behavior. Religion can therefore be a valuable mechanism for a state to use to help enforce its laws.

Let \( R \) be the rules (or more accurately their interpretation) of the religion, \( a_i \) be the actions of individual \( i \), \( c \) be the consumption of individual \( i \), and \( u_i(c) \) be the utility of individual \( i \). Let \( P(R, a_i) \) be the divine penalty associ-
ated with actions $a_i$ (which might include consumption) given rules $R$, and let $\lambda_i$ be the individual’s probability of belief in the existence of a divine authority. The typical utility function for individual $i$ depends only on that individual’s consumption. We allow the penalty function to depend on more than consumption. In particular, it depends on the “distance” between the person’s actions and the actions specified by the “rules” laid down by the religion. So, for example, how one acquires income (honestly or not) could influence the penalty if the religion specifies that honesty is required.\footnote{The penalty function could also depend upon the characteristics or actions of others, so that individual $i$ could incur a penalty if others are hungry while individual $i$ consumes plenty of food. Thus, if, as in Judaism, the giving of charity ($tzedaka$) is required, the failure to do so implies a penalty and thereby negatively affects the individual’s utility. This means that, as a special case, there can be a penalty if the actions chosen by individual $i$ deviate from the actions that would be chosen if individual $i$ had a particular utility function—such as one that specifies altruism wherein the utility of others matters to individual $i$. So, for example, if the religion wants to encourage individuals to care about others, there would be a divine penalty any time the chosen actions differ from those that the interdependent utility function would specify.\footnote{Of course, the religion may also not want its followers to “overdo” it and may place limits on the amount of “good” an individual may do in order to save one from himself. Thus, for example, in Judaism there is a maximum amount (20 percent) of one’s assets that one is permitted to donate to charity.}} The penalty function could also depend upon the characteristics or actions of others, so that individual $i$ could incur a penalty if others are hungry while individual $i$ consumes plenty of food. Thus, if, as in Judaism, the giving of charity ($tzedaka$) is required, the failure to do so implies a penalty and thereby negatively affects the individual’s utility. This means that, as a special case, there can be a penalty if the actions chosen by individual $i$ deviate from the actions that would be chosen if individual $i$ had a particular utility function—such as one that specifies altruism wherein the utility of others matters to individual $i$. So, for example, if the religion wants to encourage individuals to care about others, there would be a divine penalty any time the chosen actions differ from those that the interdependent utility function would specify.\footnote{Of course, the religion may also not want its followers to “overdo” it and may place limits on the amount of “good” an individual may do in order to save one from himself. Thus, for example, in Judaism there is a maximum amount (20 percent) of one’s assets that one is permitted to donate to charity.} Of course, the religion may also not want its followers to “overdo” it and may place limits on the amount of “good” an individual may do in order to save one from himself. Thus, for example, in Judaism there is a maximum amount (20 percent) of one’s assets that one is permitted to donate to charity.

A religion must supply answers to two basic sets of questions. First, how should the rules be chosen? In modern parlance, what are the religion’s mission statement and contents? Second, once the rules are chosen, how does the religion cause people to believe that $\lambda_i$ is sufficiently near one so that they will adhere to the rules? The two tasks are obviously related in that the rules are likely to affect $\lambda_i$. For example, a new religion advocating child sacrifice would today have a difficult time gaining acceptance in most parts of the United States, and such a religion would have a low $\lambda_i$. Similarly, the actions of others could influence an individual’s assessment of $\lambda_i$. Hence, $\lambda_i$ can depend on both $R$ and $Z_i$, where $Z_i$ stands for conditions outside of individual $i$‘s immediate control, including, but not limited to, the actions of others as well as the individual’s past actions.

Individual $i$‘s expected utility is given by

$$U(c_i, a_i; Z_i) = u(c_i; Z_i) - \lambda_i(R, a_i, Z_i) \cdot P(R, a_i, Z_i).$$

\footnote{Although not usual, it would be possible to have $a_i$ enter the utility function.} \footnote{The penalty function could also include community sanctions when actions are observable.}
where \( Z \) includes the individual’s past actions, and where we have now explicitly incorporated the dependence of each relevant function on \( Z \). The individual’s budget constraint is given by \( \sum p_c c_i \leq I(a, Z) \), where \( I \) is the individual’s income, which depends on \( a \) and \( Z \). Note, in particular, that one’s actions affect one’s income and also one’s utility. Treating \( a \) as a continuous variable, in equilibrium we have

\[
-\lambda_i \frac{\partial P}{\partial a_i} = \mu \frac{\partial I}{\partial a_i},
\]

where \( \mu \) is the Lagrangian multiplier. This equality says that the marginal utility cost of one’s actions is weighed against their monetary benefit. Note in particular that there is a feedback from actions into consumption. One may choose actions that would yield less than the maximal income, so consumption is altered by one’s belief structure. The term \( Z \) appears in the income function since others’ behavior can affect the opportunities that are available to the consumer. The term \( R \) does not appear directly in the income function; rather, the rules affect income through one’s actions. In the absence of a belief in divine authority (\( \lambda_i = 0 \)), individual \( i \) faces the usual consumer maximization problem. As \( \lambda \), rises, the individual alters his behavior to conform to the religion’s rules. The same effect occurs as the penalty rises. Therefore, belief and the penalty for actions that deviate from the rules are substitutes for each other in terms of affecting actions.

Assuming a Nash equilibrium, each individual chooses \( a \) and \( c \) to maximize his own utility, taking the actions and consumption of others as given. One immediate consequence is that it is quite possible in equilibrium for both \( U(c, a; Z) \) and \( u(c, a; Z) \) to be strictly greater when individuals believe in divine authority than when they do not. The reason is that the actions of others are altered by religion, and this can benefit individual \( i \), as occurs, for example, when religion causes individuals to act so that transaction costs fall. To take a simple example, if religion forbids fraud at the time of sale, then to the extent that religion decreases fraud, it reduces the resources that firms would otherwise have to spend to detect fraud, causing trade to be less costly to engage in. Not only can believers (\( \lambda_i = 1 \)) be better off than they would otherwise be, but so can nonbelievers. The nonbelievers

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\(^1\) Of course the effect on \( u(c, a; Z) \) could well go in the opposite direction, as the loss in personal freedom of choice (for example, in Judaism, forbidden foods, limitations on activities permissible on the Sabbath, and so on) would tend to lower direct utility from consumption.

\(^2\) Nonbelievers could be worse off if the religious impose negative externalities on them. Thus, for example, the closing of streets on the Sabbath, restrictions on entertainment on the Sabbath, and restrictions on the availability of nonkosher foods negatively affect the nonreligious.
can obtain benefits from the actions of believers. Indeed, religion can cause nonbelievers to behave differently than they would otherwise because of the actions of the believers. If the actions taken by the nonbelievers cause them to prosper at the expense of believers, we would suspect that effect would reduce the number of believers. In such a case, we would expect the religious authorities, if they have the power to do so, to impose taxes or restrictions on the nonbelievers in order to reduce the incentive to become a nonbeliever.\footnote{See the Appendix for simple examples of the principles laid down in this section of the paper in a game theory context, including an evolutionary analysis.}

Religions will therefore have effects on the actions of both nonbelievers and believers. Although it is possible for a religion to make the actions of both believers and nonbelievers more in accord with its rules, the converse can also be true.\footnote{Using the language of Jeremy I. Bulow, John D. Geanakoplos, & Paul D. Klemperer (Monopoly Oligopoly: Strategic Substitutes and Complements, 93 J. Pol. Econ. 488 (1985)), the issue is whether the actions of the two groups are strategic substitutes or complements.} For example, if the religion demands that sellers always accept the first offer of a buyer and that buyers must offer a price no lower than market price, a nonbelieving buyer would be able to offer a price of zero and obtain the product from a believing seller. That is why the way in which the religion’s rules affect interactions with nonbelievers may be critical in explaining its survival and why in many religions, including Judaism, behavior toward insiders is sometimes different from behavior toward outsiders. This reasoning suggests that successful religions will choose rules where the gains to believers exceed those to nonbelievers and that such an outcome is likely to occur in a situation where the actions of believers and nonbelievers are strategic complements (an increase in \(a_i\) leads to an increase in \(a_j\)).

After choosing a set of rules the adherence to which will generate benefits, how does a religion create a group of believers? The behavior of others will matter in the formation of beliefs. There are at least two mechanisms at work. First, many psychological experiments show that people adapt their beliefs about probabilities in order to justify their actions and minimize the dissonance between their beliefs and actions (cognitive dissonance). Therefore, if one is constantly required to take observable actions, such as those associated with ritual, which make sense only if God exists, then one will revise upward one’s probability of belief in God. Communal prayer, as is required in Judaism, is therefore one way of reinforcing or creating beliefs. Participating in ritual acts may be required if one is to avoid being ostracized from society. Individuals may dislike admitting they are engaging in ritual actions just for the sake of keeping their friends from
jettisoning them and so "adjust" \( \lambda \), upward in order to justify their actions. That is why requirements not to deal with nonbelievers on the same terms as believers are potent tools to foster belief, especially when the relative number of believers is large. The notion that actions can affect belief (or preferences) is captured by the principle in Judaism that actions done without the proper intent will lead to them being done with the proper intent (mitoch shele lishma ba lishma). So, for example, a selfish individual, forced continually to donate to the poor, will eventually donate willingly. This is the reason that we believe that \( \lambda \), is a function of one’s past actions.\(^6\)

Second, suppose that individual \( i \) cares about his parents’ (or friends’) utility, which depends on how he behaves.\(^9\) If his parents are believers, then the interdependence in utility will cause individual \( i \) to act as if he is a believer.\(^11\) At this point, whether it is God or parents that one is trying to keep happy is irrelevant for understanding behavior.\(^12\) Indeed, the extraordinary benefit one receives in Judaism for honoring parents highlights the importance of others in fostering belief. (The only one of the Ten Commandments for which there is a reward given in the commandment is the one about honoring parents—the reward is so that "you" shall long endure. The "you" can be interpreted as the Jewish nation.)\(^13\) By stressing honor due parents, Judaism reinforces the taking of actions that the parents approve of and, by the preceding argument, will lead to a change in \( \lambda \)—or equivalently to the transmission of beliefs and values from one generation to the next.\(^14\) This is another way in which \( \lambda \), is a function of outside influences (Z).

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\(^6\) Notice that belief in God is simply an intermediary step in creating "desirable" preferences. If an atheist develops these preferences, the religion has accomplished its goal. Cognitive dissonance could therefore work either through altering belief in God or by directly altering preferences.


\(^11\) If parents care about their children’s utility and independence of beliefs, then there could be a reverse effect. However, since parents tend to raise children to have beliefs similar to themselves, we would expect this reverse effect to be weaker than the one discussed in the text.

\(^12\) What happens when parents die? Does their effect vanish? Not necessarily, for at least three reasons. First, \( \lambda \), may have become large by the first mechanism (cognitive dissonance) and then remain high because a high \( \lambda \), is needed to justify past acts if one is reluctant to admit that their prior behavior was not a reflection of their own preferences. Second, the utility of individual \( i \) can depend on what his parents would have thought of his actions. Third, during his parents’ lifetime, the individual may have made irreversible investments that create gains from continuing to be (or act as) a believer.

\(^13\) R. Saadya Gaon Exodus 20:11.

\(^14\) As parents of children whose ages range from 6 to 23, we are also well aware of the limitations parents sometimes have over their children’s actions and beliefs.
III. Transmission of Values

Once a religion is created, it will survive only if it can transmit its central principles to succeeding generations while at the same time being adaptive enough to adjust to changed circumstances. Inflexible rules could create distortions that would impose, especially in changed circumstances, such huge costs that the net benefits of belonging to this group diminish. The recent studies of addiction\(^\text{15}\) and religion\(^\text{16}\) teach us that institutions or social capital have to be created and enhanced so that the costs of staying in the group remain small. Exactly what constitutes successful survival strategies for a religion will depend on a whole host of factors, such as wealth, political power, and geographic dispersion of the population. A comprehensive theory of survival is a rich research question that we examine only in its relation to Judaism.

We discuss three factors that we believe are important in understanding Judaism's survival: its ability to reconcile its religion with hardship; its lack of political power that led to the accumulation of human, not physical, capital; and its reliance on debate and decentralized teaching.

First, a religion that teaches that times will always be prosperous is unlikely to survive in the face of contradictory evidence. But when a group loses power and is, for example, subjugated and impoverished, why would they not join another group? Why should they not believe that they bet on the wrong God and should switch? Although that undoubtedly occurred, sometimes in large numbers, Judaism introduced a crucial innovation relative to surrounding ancient pagan religions. That innovation was the lesson that even when times are bad (and at least early on Judaism taught that times are bad because people have done wrong—a position that has adherents to this day), God will never abandon the Jews and eventually prosperity will return provided the Jews return and follow the Torah.\(^\text{17}\) Such an optimistic belief guarantees not only that the necessary economic investments for prosperity will be made but also that the necessary investments in human capital, specifically, the study of the Torah, will be made.\(^\text{18}\)

Second, for most of their history, Jews have not had centralized political power. More typically they lived in foreign countries where, for the most

\(^{16}\) Iannaccone, Sacrifice and Stigma, supra note 1.
\(^{17}\) For example, Leviticus 26:3–13; Deuteronomy 28:1–14.
\(^{18}\) The Torah speaks of the collectivity of Jews following the rules. Because it is unclear what percentage must do so to avoid collective punishment, there could be a free-rider problem even for a believer if the divine punishment to him were based solely on collective action and not on any of his individual actions.
part, their rights to own valuable physical property and amass wealth were at the often unpredictable discretion of foreign powers. This suggests that physical institutions were unlikely to provide any necessary infrastructure. Hence, after the destruction of the Second Temple (70 C.E.), investments shifted almost exclusively to investments in human capital.19 The development of Rabbinic Judaism (the Judaism of today)—including the codification of the Mishnah, the debates that formed the basis for the Talmud, together with the continuing Torah commentaries and development of Jewish law—represent this enormous investment in a body of knowledge that forms a historical inheritance for future generations. This body of knowledge continues to accumulate and provides a rich and portable form of social capital. If this knowledge is considered relevant, it represents an asset whose value is increasing over time.20 In terms of Iannoconne’s model, it explains how the odds of surviving can grow over time. But we must turn to the third feature of Judaism, its reliance on debate and decentralized teaching, to understand why this body of knowledge should remain relevant and valuable.

The dispersion of Jews across the world meant that the circumstances faced by Jews varied enormously.21 As is well known from the economics of franchising, the optimal response to widely varying conditions is to significantly decentralize decision making. The trick, of course, is to do so without undermining the central body of rules and beliefs so as to cause the religion to splinter.22 One mechanism Judaism used to allow decentralization without splintering was to elevate the role of scholars who make decentralized decisions but, at the same time, to give greater precedential weight

19 Indeed, these investments in human capital began during the Babylonian Exile after the destruction of the First Temple (586 B.C.E.). Many scholars believe that during this time the Torah was codified and brought back to Israel by Ezra and Nehemiah when they led the return from Babylon to Israel. A large Jewish community was likely left in Babylon, where centralization of animal sacrifice was not being practiced.

20 No doubt one response can be utter rejection of the relevance of the inherited wisdom. This did sometimes occur, as for example, in Western Europe during the 1800s and in Russia during the late 1900s and early 1900s.

21 The Dalai Lama has studied Judaism to learn lessons for how his religion can survive now that he and many of his followers are separated because the hostile policies of the Chinese have forced him into exile in India. See Rodger Kamenetz, The Jew in the Lens (1994).

22 The content of the rules together with economic conditions will influence the incentive to take actions that deviate from the rules. As economic conditions change, the rules of a successful religion will have to adapt, otherwise the cost of remaining a believer may be too high. This reasoning would explain why in a cross section of the population one should expect a negative correlation between wealth and the level of adherence to the religious rules (those most able to prosper economically will find it in their interest to be least constrained by rules), but that over time in the face of economic growth, the rules of the successful religion should change (for example, to conserve time as labor increases in value) so that the overall religiosity of the society need not.
to older scholars and commentators. In this manner, poskim (scholars who set the law) can be divided into four groups according to chronological order—Tana’im, Amora’im, Rishonim, and Acharonim. The Tana’im are those scholars who lived during the time the Mishnah was composed (until about 200 C.E.)—they are the rabbis cited in the Mishnayot. The Amora’im were the rabbis during the period of the Gemara (until about 500 C.E.), the Rishonim were the early commentators (until about 1550 C.E.), and the Acharonim are rabbis from then until today. It is clear from the Talmud that an Amora never disagreed on a point of law with a Tana unless there was another Tana to back up his opinion. Similarly, in later responsa, commentaries, and codifications, Rishonim never set law in disagreement with Amora’im, and Acharonim never disagreed on a point of law with Rishonim. Such a hierarchy also appears within categories, strictly based on chronology. This technique demands that even radical reformers must have a thorough knowledge of the historical tradition.

The model Judaism followed was to discuss and debate from a common text. This model creates at once a connection to tradition and a built-in adaptive mechanism. The power of this approach is that, even though separate communities can pursue different paths and interpretations, they can remain identified as the same religion. Consequently, despite the existence of some quite different laws and customs across communities, the study of Torah has remained central in all Jewish communities. ("The study of Torah is as important as all the mitzvot combined.") Perhaps the most striking current example is that of Ethiopian Jews, whose isolation from other Jews for at least a thousand years did not prevent them from being recognized as Jews and being reabsorbed (but not without significant difficulties) into Israel. The knowledge of Torah and the adherence to halacha (Jewish law) immediately linked a population isolated in a primitive economy to their modern coreligionists.

The only way to transmit the knowledge of a religion’s rules from one generation to another is to teach it to the younger generation. And, presumably, the best teachers will be highly prized for playing a key role in perpetuating knowledge (or, alternatively, in interpreting the rules in a way that is both engaging and sensible in light of the circumstances). In Judaism, the

23 The Midrash says that there is a continual lessening of understanding of the Torah as we move further away chronologically from receipt of the Torah at Sinai.

24 Much of Jewish study, especially Talmudic study, is not about rules but about interpretation and debate. The Talmud poses far more questions than it answers and, in sometimes excruciating detail, reports various sides of an argument.

25 For example, among Ashkenazi Jews polygamy was banned about 1,000 years ago, but this ban did not apply to Sephardic Jews until recently.

26 Shabbat 127a.
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Torah teaches that the parent has the responsibility to teach his children Torah. To the extent that parents do try to teach Torah, this creates an incentive for parents to become better informed about the Torah than they would otherwise be. As every teacher knows, the best way to learn material is to be required to teach it. No teacher wants to be embarrassed by lack of knowledge before one’s students, especially when the students are one’s own children. Interestingly, the placing of the responsibility of teaching Torah on the parents makes both the parents and the children more knowledgeable about Torah. However, specialization produces gains, so there is a trade-off between having a parent (who may be ignorant) try to teach instead of a trained teacher. The obligation of a parent can be discharged by hiring a teacher, but even here the parents’ duty would be to remain involved with the teaching. The value of specialized teachers was recognized early in Judaism, and, as we report in Section IV, public education was instituted around the first century B.C.E.

Competition among Torah teachers fosters the goal of creating high-quality decentralized education. It also is a surefire way to simultaneously transmit a common heritage and allow adaptation to changed circumstances. We now turn to a more detailed discussion of the rules aimed at competition among teachers.

IV. THE EARLY PERIOD: UNTIL THE DESTRUCTION OF THE FIRST TEMPLE

The teaching of Torah was not the central religious activity of the early Hebrews; instead, animal sacrifice was. The priests were assigned the exclusive right to perform these sacrifices, which were used in part to support the priests. Perhaps because sacrifice was so important to the early Israelite religion, severe restrictions and fights on who could perform religious rites (and how) proliferated (for example, the story of Korach, the story of Aaron’s two sons, the conflict between the Aaronite priests centered in Jerusa-

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2 See, for example, Deuteronomy 6:5-9. This passage ("Take to heart these commandments... Teach them to your children. Recite them when you are at home and when you are away, when you lie down and when you arise... Inscribe them on the doorposts of your house") is said three times each day by observant Jews, and both Orthodox and non-Orthodox Jews commonly affix this prayer to their doorposts (mezuzah).

28 Although the discussion in this section has focused on Judaism, the underlying ideas are applicable to any religion. So, for example, it is a general principle that a benefit of decentralization of authority is its greater ability to adapt over time and over space to disparate conditions. One would therefore expect religions (for example, Catholicism) with a very central hierarchy to change slowly, to have difficulty in countries where its central hierarchy is not politically supported, and to work best when applied to relatively homogeneous groups. In contrast, religions (for example, Protestantism) with less hierarchical structure should be able to change faster and be better suited for turbulent times and heterogeneous populations.
lem and the Levitical priests elsewhere.\textsuperscript{29} Although the priests were the exclusive agents to perform animal sacrifice, it would appear that the priests were not the exclusive agents to disseminate or interpret the Torah. Indeed, quite the opposite appears true. Each father is charged with the responsibility to teach his sons the Torah,\textsuperscript{30} and the Torah emphasizes that it should not be regarded as esoteric laws known to only a select few. As the Torah explicitly states, "For this Instruction [namely, the Torah] which I command you today is not hidden from you nor distant from you. It is not up in the heavens to say 'who will go up to the heavens and take it down for us and tell it to us so we can do it'. Nor is it across the sea to say 'who will cross the sea for us to take it and tell us so we can do it'. For it is very close to you, in your mouths and hearts to do it."\textsuperscript{31} This passage from Deuteronomy could reflect the decision by Josiah to centralize the economically important sacrifices in the Temple in Jerusalem and decentralize the (then) less important function of teaching. Moreover, it is clear that the prophets play an important role in disseminating God's commandments, and the prophets are not drawn exclusively from the class of priests or from any other closed social group. In short, in the time of the First Temple, performing sacrifices, not teaching, was the service with exclusivity.

And yet, the Kohenim had the right to demand such exclusivity in teaching.\textsuperscript{32} The Levites were not given a part of the land of Israel—instead their portion was in the service of the Lord, and each tribe supported the Kohanim and Levites in their midst. Part of this job of servicing the Lord was in the dissemination of the Torah, as written in Malachi: "For the lips of the Kohen will keep thought and the Torah will be requested from his mouth, for he is the Angel of the Lord," with the meaning of the first section being that this is one of the jobs given to the Kohanim.

Why is it that the priests did not seek exclusivity in teaching, despite already having such exclusivity in the giving of sacrifices? Possibly someone may have recognized the benefits that competition brings and realized that restricting competition in teaching would be undesirable for belief and knowledge transmission. Or possibly the initial economic value of cartelizing teaching may have been small, especially in comparison with the economic value of controlling sacrifices, upon which early Judaism was based.

\textsuperscript{29} See Geoffrey P. Miller, Ritual and Regulation: A Legal-Economic Interpretation of Selected Biblical Texts, 32 J. Legal Stud. 477 (1993).
\textsuperscript{30} Deuteronomy 6:5–9.
\textsuperscript{31} Deuteronomy 30:11–14.
\textsuperscript{32} The Levites (one of the tribes) comprise the priestly class. The Kohanim are members of the tribe of Levi and are descendants of Aaron.
\textsuperscript{33} Malachi 2:7.
By the time centralized animal sacrifice temporarily ceased, after the destruction of the First Temple (586 B.C.E.) and during the subsequent Babylonian exile, the precedent that teaching was not restricted to the Kohanim may have been firmly established and become too difficult to change, especially in light of the loss of power of Israel to Nebuchadnezzar. Whether motivated by altruism, miscalculation, historical accident, divine intervention, or dumb luck, the decentralization of Torah teaching beginning at the period of the First Temple set an important precedent that, as we will see, was followed by later generations.

Our analysis about the role of priests in teaching and sacrifice differs from the insightful analysis of A. Raskovich, who uses the theory of vertical restrictions involving price and territory to understand the role of priests. He argues that the priests were assigned exclusive territories and were required to charge fixed prices (the Torah specifies the in-kind payment that the priest can retain from the sacrifice), thereby creating incentives for the priests to compete with each other through the provision of religious services—such as the teaching of Torah. However, Raskovich’s hypothesis that priests did not compete on price is undermined by his own analysis, which recognizes that Levites raised animals that were likely sold for sacrifice. Price competition could occur through lowering the prices for the priest’s animals. With price competition occurring, the incentive to provide services, such as teaching, vanishes. Moreover, we note that there is some uncertainty among historians regarding the importance of the in-kind sacrifice payment to priests, who were also supported by the wealth of the Temple. If priests were supported primarily by the wealth of the Temple and not by the in-kind payments, then there would not be the incentives that Raskovich discusses to provide services such as the teaching of Torah. We therefore disagree with the preeminent role that Raskovich suggests that the priests had in teaching.

Aside from their role in teaching, the prophets, and not just the exclusive class of priests, play an important role in belief transmission. Recall our

\[\text{\textsuperscript{34}}\text{ A. Raskovich, You Shall Have No Other Gods Beside Me: A Legal Economic Analysis of the Rise of Yahweh, 152 J. Institutional & Theoretical Econ. 449 (1996).}\]

\[\text{\textsuperscript{35}}\text{ In the usual theory of vertical restrictions (see, for example, Dennis W. Carlton & Jeffrey M. Perloff, Modern Industrial Organization, ch. 13 (3d ed. 2000)) the territorial and price restrictions channel a firm’s competitive incentives into the provision of services to attract customers. It also follows that with restrictions on competition, priests would benefit from prophets whose exhortations should have increased demand for the priests’ services. However, we are unaware of any suggestions that priests paid prophets. (See Y. Kaufman, Israel in Canaan and the Age of Classical Prophecy, in Great Ages and Ideas of the Jewish People 59 (Leo W. Schwartz ed. 1956).)}\]

\[\text{\textsuperscript{36}}\text{ Despite these differences with Raskovich, we recommend his paper and thought-provoking arguments.}\]
earlier discussion about how beliefs could be created in an environment in
which everyone is encouraged to engage in rituals in order to avoid ostracism by the existing believing community. The prophets urged the Israelites
to follow all the Torah's teachings, both those involving ritual and those
involving ethics. (The Torah makes no distinction between the two, and in
some instances one can debate which category a particular law fits into.)
The prophets also railed against performing only the rituals (for example,
sacrifices) unless one also acted in accordance with a belief in God.27 The
prophets wanted to raise λ, which would then affect both interpersonal ac-
tions and sacrifice. On the other hand, given their exclusivity in the per-
forming of sacrifice, the priests should have cared only about increasing the
demand for sacrifice regardless of whether other actions were affected.
Accordingly, the prophets, not the exclusive tribe of priests, were critical in
transmitting Torah and beliefs that translated into actions.38

V. RABBINIC JUDAISM: ATTITUDES TOWARD COMPETITION39

The Talmud followed by the subsequent codifications of Jewish law to-
gether with the responsa literature provide a rich source of information re-
garding restrictions on competition over the last 2,000 years. Because the
conditions under which Jews have lived over the centuries have varied so
much, and because restrictions in one set of circumstances may not make
sense under another, one should be wary about leaping to any general prin-

37 See, for example, Isaiah 58.
38 In the language of agency theory, the priests received a reward (they kept a portion of the
sacrifice) when the population understood rules specifying sacrifice, but not when the
population understood the rules specifying interpersonal conduct (with the exception of sin
offerings). Because of their skewed incentives, priests should be expected to have promoted
sacrifice over ethical interpersonal conduct.
39 We draw on the excellent discussions in Aaron Levine. Free Enterprise and Jewish Law:
Aspects of Jewish Business Ethics (1980), and Meir Tamari, With All Your Possessions: Jewish
Ethics and Economic Life (1987). We are especially grateful to Aaron Levine and
Rabbi Gershon Seif for helpful conversations. We have skipped much of the period of the
Second Temple. In brief, the exile of the Jews to Babylon forced them to develop the religion
without the central reliance on animal sacrifice. The leadership of Ezra and Nehemiah in
instituting regular readings of the Torah on market days (Mondays and Thursdays—a custom
followed to this day) when they returned from Babylon to Israel (around 400 B.C.E.) estab-
lished a systematic attempt to teach Torah regularly. The reforms, promulgated by Yehoshua
ben Gamla (Bava Batra 21a) somewhere around the first century B.C.E., instituted education
supported by a community tax for all over the age of 6 or 7. Until Yehoshua ben Gamla (a
high priest during the time of the Second Temple), Torah was taught only by fathers to their
sons, and teaching by scholars was done only for those over the age of 16 or 17. Those
without fathers, and those whose fathers were unable to teach, did not learn Torah. It is stated
(Bava Batra 21a) that but for the decree by Yehoshua ben Gamla, Torah would have been
forgotten from Israel. The drawback of this reform is that the parents' incentive to learn To-
rah was lessened. The advantage is the gains from specialization in teaching.
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principles that would apply under most or all economic conditions from an observation of the laws prevailing in one particular place or time. However, we find a remarkable consistency in the lack of restrictions on teaching across a wide variety of circumstances. This allows us to infer a general conclusion regarding the value that Judaism places on education.40

Although Judaism is generally described as having a favorable view toward competition,41 Judaism has restricted competition on many occasions. We will discuss what have probably turned out to be the two most important general restrictions on competition, hasagat g’vul (yored le’omanut chaverot) and herem hayishuv. In both cases, there is a strong general exception to impeding competition for Torah teachers, a position that would not be consistent with the self-interest of Torah teachers, who would desire to restrict entry.42 As we shall see, this lack of self-interest contrasts with other instances of restrictions on competition that were designed to protect select groups. This lack of self-interested legislation protecting teachers is noteworthy because the rabbis who had the ability to promulgate such rules and would have benefited from such rules chose not to do so.43 This does not

40 In speaking of “the value that Judaism places on education,” we are not propagating the view that there is one central decision maker in Judaism whose preferences we are uncovering. Rather, we have taken the view that the result of any decision is the consequence of various conflicting political and economic interests among different groups. The outcomes of these conflicts are observable; one can then talk of those outcomes reflecting “underlying values,” but such talk is imprecise. The analyst observes the outcomes of an equilibrium, not the underlying demand (or supply) curve for, say, education.

41 For example, Tamari, supra note 39, at 86.

42 If teachers are not paid, then all discussion about free entry is quite beside the point. In fact, although there are clear sentiments in the Talmud expressing disapproval of payment (for example, Nedairin 36b–37a, Pirke Avot 4:5, and later codifications (for example, Rambam (b. 1135 C.E.), Mishna Torah, Laws of Talmud Torah 1:7)), the practicalities clearly prevailed requiring teachers to be paid. As just discussed in note 39 supra, during the Hasmonaean period, communities were required to tax themselves to insure that teachers would be provided. The Talmud explains that teachers could also be considered “babysitters” and so could be paid, or, alternatively they could be paid to teach the punctuation of the Torah (which is not considered part of the Torah since Torah scrolls are written without punctuation) (Nedairin 37a). Rambam explains that if a father could not fulfill his responsibility to teach his son, he is required to hire a teacher. R. Moshe Feinstein (b. 1895) cites R. Moses Isserles for the opinion that being paid for teaching is necessary for practical purposes—”in order to push along Torah, push it [in reference to a hostile attitude regarding payment in the Shulchan Aruch] aside.” The bottom line is that compensation for teaching Torah was and is common.

43 We have tried to come up with explanations based on self-interest for this behavior, but we do not find our possible explanations particularly convincing. Two possible explanations are as follows. First, the rabbis who set the rules (poskim) are not necessarily those who teach children. Suppose that the populations of poskim and “ordinary” teachers are distinct, with the poskim serving only as the teachers of advanced students who become either poskim or ordinary teachers. Suppose further that the supplies of poskim and teachers are not linked. For example, suppose that poskim and ordinary teacher have separate training programs so that it is possible to restrict one program without affecting the other. The poskim would then
mean that scholars never had self-interested rules promulgated in their favor. Quite the contrary, scholars received many special rulings and, in general, were held in high esteem. For example, scholars were exempt from paying taxes in walled cities, were exempt from the entry restriction on setting up shops selling cosmetics, and were given priority in bidding for certain property. It is only in the competition to teach that scholars generally get no respite.

The general restrictions on entry often come under the category hasagat g'vul—the removal of a neighbor’s landmark. The rabbis extended the concept of hasagat g'vul to cover encroachment on another’s business. We begin our analysis of entry restrictions with Bava Batra 21b, in which R. Huna rules that the resident of an alley with a business in that alley can prevent a resident of another alley in the same town from opening a competing business. In contrast, R. Huna ben R. Joshua argues that entry cannot be prevented if the entrant is a resident of another town and pays taxes to that one. Moreover, if the entrant is a resident of the same alley, he cannot be prevented from competing. The opinion of R. Huna ben R. Joshua prevails. What remains unresolved is whether the entry into one alley by a resident of another alley in the same town is allowed. Despite this disagreement, there is a long discussion in Bava Batra 21a of how one cannot block entry

want to restrict their own supply, but would oppose a restriction in the number of ordinary teachers because that would reduce the demand for poskim services as teachers of ordinary teachers. We are not convinced that the bulk of the historical evidence is consistent with this proposed explanation, based on self-interest, for the lack of restrictions on ordinary teachers for several reasons. First, it is not clear that the poskim and ordinary teachers were always completely separate groups. Second, although there is some evidence that occasionally one yeshiva (a center for advanced study often run by a posek) was able to prevent the entry of a rival (see, for example, Piskei Din Yerushalayim, Dinei Mamonot U'viurei Yahadut 5:165, apparently in accord with Maharsham 5:15 & 6:210), there is strong support for the opposing view that no such entry restriction is justified (see, for example, Kol Mevaser 1:8, Hazan Ish 3:1, Machnat Yitzchak 4:75, Piskei Din Rabbanim 8:129 & 6:90, and especially Shool U'meshiv 1:13). Finally it is likely that, contrary to our above supposition, the supply of poskim and ordinary teachers was linked in the sense that they were both students in the same class so that a restriction on the number of ordinary teachers (achieved by a restriction on the size of advanced classes) would also restrict the number of poskim—eventually raising the wages of poskim. Hence, it is not at all clear whether the self-interest of the poskim is advanced by opposing a restriction on the number of ordinary teachers. A second possible explanation, based on teacher self-interest, is that the opposition to entry restrictions is that teachers value mobility highly (for example, to be close to centers of learning) and would therefore prefer to be uncumbered by any restrictions on where they could work.

*Bava Batra 22a.

Shulchan Aruch.

It is useful to distinguish entry restrictions from content restrictions. We speak only of the former in this paper. Excommunication was used to ban individuals with heretical ideas.
related to the teaching of children. R. Huna concedes\(^7\) that even his protectionist views would not apply to those who teach Torah.

The discussion in the Talmud makes clear that each teacher is fearful that a rival will outperform him, and this fear spurs extra effort, with the consequence that more knowledge is disseminated. The thrust of this discussion is the clear recognition of the benefits of competition and the paramount importance of teaching as a central value of Judaism. Indeed, this high regard for education explains why teachers were one of the five groups who could be dismissed without notice if they commit a grievous error. (The other groups are professional tree planters, butchers, bloodletters, and town scribes.)\(^8\) This high regard for Torah education also explains why Torah teachers are exempt from certain “zoning” rules. For example, the Mishna states that if a shop is set up in a residential area, the residents can shut the shop down if they find that the noise of people coming into the shop disturbs their sleep. This rule, however, does not apply if the noise comes from students attending Torah classes.\(^9\) In our view, the emphasis placed on free competition in teaching reflects the strategy that Judaism chose to follow to survive—decentralized teaching.

In subsequent decisions on general restrictions on competition, the free-entry view of R. Huna ben Joshua was not always followed. R. Moses Isserles (b. 1525) indicates in an approving discussion of a protectionist ruling by R. Eliezer ben Joel ha-Levi (b. 1140) of Bonn that deprivation from an incumbent of his livelihood can justify entry restrictions. Elsewhere, however, R. Isserles appears to reject a protectionist view. R. Moses Sofer (b. 1762) similarly adopts the view that financial ruin can justify entry restrictions. R. Moshe Feinstein (b. 1895) agrees and goes further to add that the reduction in the incumbent’s earnings below the average of his peer group can justify entry restrictions. Under the protectionist’s view, these general entry restrictions do not apply if the financial ruin is due to the incumbent’s unwillingness to become more efficient. However, if the incumbent lacks the ability to become more efficient, then protection is accorded. In other words, under the protectionist rulings, a firm with a superior technology can be prevented from entering and competing if the result would be the financial ruin of the incumbent.

We find the protectionist rulings to be in accord with many entry restrictions in modern times—often supported by special interest groups. However, we note that the primary concern expressed in these protectionist

\(^{7}\) Bava Batra 21b.

\(^{8}\) Bava Batra 21a.

\(^{9}\) Bava Batra 20b.
opinions has been with the financial ruin of the incumbent. One plausible interpretation is that the financial ruin of a resident creates a hardship to that community. The resident may need to be supported or could otherwise cause problems to the community from idleness. We simply note that these concerns should be of less relevance in a modern economy in which there is both labor mobility and a social welfare net. In such cases, restrictions on competition are exactly what they seem—special interest legislation. There would seem to be only a weak basis in even the protectionist view of Jewish law for such legislation.

These protectionist rulings would appear to leave open the possibility that a teacher could be prevented from entering into competition if the financial ruin of the incumbent was likely. However, we note that the authoritative code of Jewish law, the Shulchan Aruch (mid-1500s), states, “If there is a teacher of children and another comes who is better, the better teacher must replace the incumbent.” Moreover, according to R. Joseph Saul Nathanson of Lemburg (b. 1810), the freedom of movement that Torah teachers of children possessed must also apply to teachers of Talmud on the Talmudic grounds (Bava Batra 21b) already discussed as well as on the legal fiction that there can be no financial deprivation because the income that such teachers earn should not be regarded as direct wages. R. Moses Sofer (b. 1762) (who we just discussed as supporting a protectionist view on entry in the case of financial deprivation) is opposed to entry restrictions on any religious ministrant to the extent that the person would produce rivalry in Torah teaching. To the extent that there remained any uncertainty about the application of protectionist rulings to education, some recent cases have resolved the issue. The highest rabbinical tribunal in Israel has stated that it would not prevent competition from a rival religious teacher, and in another case it refused to restrict entry for the publication of the Talmud without regard to the possibility of financial deprivation. These views are in

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80. Hence, it may be more efficient to allow an interference in competition than not. In the case of teaching, the externality that teaching creates (survivability) generally trumps any concern with financial distress, as we discuss below.


82. See Levine, supra note 39, at 17.

83. Id. at 18.

84. Id. at 32. A possible exception to this generally favorable view of competition among scholars is R. Moshe Feinstein’s (b. 1895) ruling preventing the establishment of a synagogue near another (Igrot Moshe Responsa Choshen Mishpat 1:38). However, Feinstein makes clear that this ruling applies not to teachers but only to the non-teaching functions of the synagogue. One interesting feature in this ruling is the notion that if a competing synagogue is established for non-livelihood reasons (for example, altruistic reasons) and, for example, the rabbi takes no pay, then that competition can be prevented by an incumbent who does derive a livelihood.
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accord with the high value placed on teaching and dissemination of knowledge in Judaism.

The other major doctrine used to prevent entry is herem havishuv.55 The doctrine was used to prevent outsiders from settling in a town and thereby starting to compete with residents. Unlike the case of hasagar g’val, where the tax payment of outsiders allowed them to enter and compete, no such principle applied here. The doctrine was used commonly throughout medieval times, in parts of Western Europe (France, Germany, Italy, and England) and Eastern Europe. The doctrine was not applied in Muslim countries, where Jews were often under less severe economic restrictions than in Christian Europe regarding the activities that the ruling authorities allowed Jews to do. Despite the view in major codes (for example, Mishnah Torah, Shutchan Aruch) endorsing the free-entry philosophy of R. Huna ben Yehoshua, these herems were widespread and would appear to be of much greater significance in restricting entry than the doctrine of hasagar g’val. However, religious teachers were one of the notable exceptions (another was refugees).56 That is, even when economic circumstances were so dire as to cause (with rabbinic approval) general entry restrictions to be promulgated in clear violation of Talmudic principles (specifically, free entry of out-of-town residents who agreed to pay taxes), such entry restrictions on teachers were uncommon.

There undoubtedly were some cases under both the hasagar g’val and herem havishuv doctrines where interest groups may have succeeded in placing entry restrictions on teachers (though, other than the cases noted in notes 43 and 56 supra, our search of the responsa literature failed to reveal any such cases). Our point is that there was generally a distinction between teachers and other occupations in the placing of entry restrictions and that generally teachers were free of such entry restrictions.

VI. Conclusion

A religion consists of a belief in God combined with rules that God wants adherents to follow. Each religion must follow some strategy to sur-

55 See, for example, Louis J. Rubinstein, The Herem Havishub: A Contribution to the Medieval Economic History of the Jews (1945); and Tamari, supra note 39, at 113.

56 Tamari, supra note 39, at 115. Rabbis were one of the categories of exception. However, toward the end of the 700-year period during which the herem operated, in some locations rabbis were able to prevent entry of other rabbis apparently on the grounds that rabbis performed some functions that were noneducational. We are unaware of a systematic use of a herem against teachers. However, we are aware of one case where a herem was used in Italy against a religious teacher in the late 1400s. Interestingly, Italy also has a case where it applied the herem to prevent entry of refugees, another of the usual categories of exception to the herem. (See Rubinstein, supra note 55, ch. 10.)
vive. Judaism wound up following the strategy of the decentralized teaching of Torah. From its very beginnings, the teaching of Torah became a familial obligation and then later a communal one. Unlike sacrifice, teaching was not the realm of a select few. This failure of any interest group to relegate Torah teaching to itself carried through to Talmudic times and later. While restrictions on general competition arose, Torah teachers typically were free of any such restrictions. It is particularly remarkable that the scholars—who were in large part in control of Jewish law—generally chose not to close their profession or enact restrictions on entry but instead chose to keep competition thriving in their profession. As the Talmud recognizes, there are benefits to such competition: "Jealousy among scholars increases wisdom." 35

APPENDIX

STRATEGIC BEHAVIOR I: A TWO-PERSON GAME

Assume there are two individuals—one with a high value of $\lambda$ and one with a low value of $\lambda$. Each can decide to act religiously (R) or nonreligiously (NR). The payoff table might look something like Figure A1. The high-$\lambda$ player prefers that both act religiously. If, however, the low-$\lambda$ player acts nonreligiously, the high-$\lambda$ player may still be better off if he acts religiously (cases d, e, and f) than if he does not. This would depend on the magnitude of the "penalty" discussed in the text. For the low-$\lambda$ player, the worst-case scenario is when he acts religiously and the high-$\lambda$ player does not. However, when the high-$\lambda$ player acts religiously, the low-$\lambda$ player may be better off (cases a and d) or worse off (cases b, c, e, and f) from also acting religiously. In fact, as in cases c and f, he may be better off when the high-$\lambda$ player acts religiously than when he acts nonreligiously (as per the externality discussed in the text).

The Nash equilibria are as follows:
1. In case a there are two pure strategy equilibria, R-R and NR-NR. Similarity is important, and it is unclear whose beliefs will prevail.
2. In cases b and c, the equilibrium is NR-NR. In this case the negative externality on being different is great, and since NR dominates for the low-$\lambda$ player, it is also chosen by the high-$\lambda$ player.
3. In case d, the equilibrium is R-R. Again there is an externality, but in this case there is a dominant strategy for the high-$\lambda$ player, so his desires prevail.
4. In cases e and f, the equilibrium is NR-R. Only in this case do we get heterogeneity in actions.

STRATEGIC BEHAVIOR II: EVOLUTIONARY CONSIDERATIONS

Assume for simplicity that there are two types of players—those for whom $\lambda = 0$ and those for whom $\lambda = 1$. Each player in the economy interacts with each other player in the economy an equal number of times. Players for whom $\lambda = 1$ will always act in a religious manner (R), since the penalty for not doing so outweighs

other considerations. However, those for whom \( \lambda = 0 \) can act as if \( \lambda = 1 \) (R). Assume that in the initial equilibrium all those for whom \( \lambda = 0 \) act nonreligiously (NR) and that the share of \( \lambda = 1 \) people in the population equals \( \alpha \). The payoff table for the \( \lambda = 0 \) individual would look something like Figure A2.

The player has to decide whether to remain true to his beliefs and act NR or to act R. We assume that each person prefers to deal with his own kind. Hence, the reward one person will receive if the other person who is dealing with him believes they are alike is greater than if that other person believes they are different. This assumption amounts to assuming that \( a > c \) and \( d > b \).

When \( \alpha \) is small, there are two equilibria—(1) all \( \lambda = 1 \) people act R and all \( \lambda = 0 \) people act NR and (2) all people act R. Assume that the first equilibrium holds initially. If \( \alpha \) grows sufficiently large, the \( \lambda = 0 \) player will prefer to act R.

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\( ^{58} \) We could alter this assumption slightly to say that the player deciding how to act receives greater benefit from dealing with one of his own, so that \( d > c \) and \( a > b \). This will not change the conclusions at all.
rather than NR, even if all other NR people act NR. At this point all \( \lambda = 0 \) people will act R. To be precise, this will occur when \( \alpha > (d - b)/[(d - b) + (\alpha - \alpha)] \). (Note that under the assumptions above regarding the relative sizes of these parameters, \( 0 < \alpha < 1 \).)

Other assumptions are, of course, possible. If, for instance, the honesty argument given in the text prevails, it is possible that \( b > d \) since one always does better dealing with an R person than with an NR person. In this case, acting R dominates.

We now expand this analysis to include a third person, for whom \( 0 < \lambda < 1 \). We will denote this person SR (for semireligious). We now assign a payoff table based on the following assumptions:

1. The proportion of SR players in the population is \( \beta \).
2. The more similar the player is to the person with whom he is dealing, the greater the payoff.

These assumptions lead to the payoff table in Figure A3 for all but the religious person (whom, we recall, always acts R).

We now add the following assumption:

3. There is a cost to acting differently from what you are, and this cost grows as you change your behavior more.

This yields the payoff table for the SR player (Figure A4). Solving the resulting inequalities, the SR player will act R if \( \alpha > 3/4 \) and will act NR if \( 1 - \alpha - \beta > 3/4 \). The table for an NR player is different given the penalty associated with devi-
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<table>
<thead>
<tr>
<th>Group</th>
<th>R (α)</th>
<th>SR (β)</th>
<th>NR (1 - α - β)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Act R</td>
<td>7</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Act SR</td>
<td>6</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Act NR</td>
<td>5</td>
<td>7</td>
<td>9</td>
</tr>
</tbody>
</table>

Figure A5.—Payoff table for the nonreligious individual.

vant behavior and looks like Figure A5. The NR person will also act R if α > 3/4 and will act SR if α + β > 3/4 and α < 3/4.

The above examples may help in understanding a fairly recent trend in religious observance. There is a feeling that the level of observance in religious communities has been increasing. This could be understood in our model by noting the markedly higher birthrates among the religious than among the nonreligious. Since these higher birthrates lead to higher values for α (and possibly β), greater portions of the population will decide to act semireligiously (as α + β increases) and then religiously (as α increases). Moreover, as stated in the text, mitoch shelosh leshma balisha—cognitive dissonance can lead people who behave in a religious manner to increase their values of λ—further reinforcing the trend toward greater religious observance.