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THE POLITICAL ECONOMY OF KOSHER WARS *

by

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ABSTRACT

In this paper we develop a theory of “Kosher Wars” under which Rabbis (certifying authorities) compete to enhance the level of Jewish observation of their congregations. The level of observance can be seen as the Rabbi’s rents. Our rent-seeking model explains the establishment of Kashrut standards, first with European style community control under a single Rabbi, and then under America’s voluntary structure with the possibility of competing Rabbis.

Keywords: rent-seeking, kosher, Kashrut, religion, dietary restrictions

JEL Classifications: Z12 (*religion*); D71 (*Social Choice; Clubs; Committees*);
D72 (*Economic Models of Political Processes: Rent-Seeking, etc.*); D74 (*Conflict; Conflict Resolution*)

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1. Introduction

In this paper we develop a theory of “Kosher Wars.” Over the centuries there have been many battles about what is and is not Kosher. Indeed, in the United States, which lacked the centuries of rabbinic tradition found in Europe, the battles over the supervision of Jewish dietary practice were particularly intense.

What is Kashrut? Why the wars? The Hebrew word kosher means fit or proper. Kosher food must meet all of the various requirements of Jewish dietary laws, or Kashrut (ritual lawfulness of food), in order to be permitted and acceptable to eat (for an introduction, see OU, 2001). The laws of Kashrut are complex and extensive. Because of the complexity and extensiveness of the laws, there is often uncertainty about what the laws require and whether particular products were produced according to the proper standards. In order to be assured that the production process has been proper, supervision by a reliable authority is required. As the intensity of supervision increases, the probability of violating Kashrut decreases.

Kashrut supervision is a very serious business and there are many details that people can reasonably disagree on. Yet the history of Kashrut supervision is marked by many wars – arguments, disputes, and so on – about the proper intensity of supervision, and because of the complexity of the laws, about what is kosher and what is not. At the heart of the Kashrut question is the issue of trust. In which certifying authority, or Rabbi, do you place your trust?

In Europe, the answer to this question was usually quite simple – the Chief Rabbi of the locality was often the final authority.¹ In Europe, the local community basically ran all political, economic and communal matters, including Kashrut supervision. The cost of disobeying the community was ex-communication, and in Europe – especially in pre-Enlightenment Europe – this penalty was very severe.

Strong community control over religious matters, including Kashrut regulation, did not transplant to the United States, where religion and Kashrut observance became voluntary. A multiplicity of competing Kashrut supervising agencies developed, and, especially at the end of the 19th and first decades of the 20th

¹ Even in Europe there were disputes. For example, part of the controversy between the Hasidim and the Mitnagdim in the 18th and 19th centuries was over Kashrut authority in Eastern European towns (see Gastwirt, 1974 page 21).

century, consumers were faced with many disagreements over the Kashrut of products.² Variations of these types of disputes are still with us today.

The theory we develop in this paper examines the establishment of Kashrut standards, first with European style community control under a single Rabbi, and then under America's voluntary structure with the possibility of competing Rabbis and/or certifying agencies. The lack of any standard, or rather any single standard, in the U.S. is generally thought to have led to a lower level of Kashrut standards in contrast to the community-based system in Europe (Gastwirt, 1974). We address this issue, as well as what might happen as the community of Kashrut observers grows larger and larger. Furthermore, our modeling has implications for the establishment of kosher laws by civil authorities. We briefly illustrate this in the concluding section.

Before proceeding, there is one concept we must first elucidate. At the heart of our argument is that the Rabbi or certifying authority is rent-seeking. By rent-seeking we mean that the Rabbi will act strategically to maximize his rents by granting Kashrut status to a product. In the simplest, and crudest formulation, the rent is simply the Rabbi's income, in dollars. Indeed, in the history of "Kosher wars," Rabbis were often accused of behaving in this fashion; in response, the Rabbis often took great pains to separate their own personal incomes from the quantity of Kashrut approval. For example, Rabbi Jacob Joseph's contract as Chief Rabbi of the Association of American Orthodox Hebrew Congregations in 1888 forbade him from receiving any income from kosher certification, though one of his major directives as Chief Rabbi was raising the level of Kashrut in America (Gastwirt, 1974, p. 59).

Our conceptualization of rent is quite different. We think of rent in terms of religious rents. Rabbis are interested in increasing the religious observances of Jews; in this context Rabbis desire the greatest Kashrut observance by the greatest number of Jews. Increasing Kashrut observance by increasing the level of Kashrut supervision may reduce the number of people willing to take on these commitments. This is a tradeoff that the Rabbi must account for. In this sense, Rabbis seek to maximize the observance of Jews (observance of religious commandments or mitzvahs), and they act strategically to do so.

² See Gastwirt (1974) for a description of these disputes. See Sherman (1996) for a description of early U.S. orthodox rabbinical organizations and their disagreements in establishing Kashrut standards in the United States.

We next set out our model, first for an isolated (European style) community and then for competition among congregations (U.S. style).

2. The Model

In general, the level of Kashrut supervision determines how deeply and accurately the producer must divulge the details of food production, and the number of layers in the production process, in order to meet the Kashrut level set by the authority. For example, a “low” level of supervision could be seen as the Rabbi determining that meat and milk products must be produced separately, one of the most basic tenets of Kashrut. A higher level of supervision would entail not only that the meat and milk cannot be produced together, but also the firm cannot use the same equipment for both products. A still higher level of supervision is that the meat and milk products cannot be produced in the same factory and that after the workers come back from lunch they must wear special clothes so to prevent any of their remaining food (left on their clothes from lunch) from entering the production process. Even higher levels would determine the way the meat is slaughtered, supervision of the production of milk, etc.

We consider the level of Kashrut supervision in two highly stylized situations. First we consider a stylized European structure of Kashrut authority, where the local Rabbi in a community/congregation that is assumed to be isolated from other communities sets the level of Kashrut supervision. This community is assumed to have one Rabbi who determines the level of Kashrut supervision. The community is assumed to be isolated from other communities, thus the people in the community buy all their products from firms that produce for this community and are under the supervision of the local Rabbi. It is assumed that the people of the congregation obey all the restrictions set by the local Rabbi.

Later we consider a United States style of supervision where we open our community so that the people in the congregation will have the choice of consuming products other than those under the supervision of the Rabbi in their community.

2.1 An Isolated Congregation

In this situation we are assuming that the community/congregation is isolated from the rest of the world. Reasons for this include high product transportation costs and a population that does not travel much. This case fits the situation in Europe in the

early 19th century (some would argue this is still the case in Europe). Indeed, this is the case during much of Jewish history. An alternative scenario yielding the same results is where there are several Rabbis in a community, but each congregation trusts only its own Rabbi. For simplicity of argument we will discuss the first scenario in which each community/congregation has its own Rabbi who determines the level of Kashrut supervision that his congregation should keep, all the while knowing that the members of the congregation have no or little knowledge of what is going on in the different congregations in their country.

Kashrut supervision is costly for both the supervisor and both for the producer. The cost of supervision to the Rabbi is the time spent supervising, either by the Rabbi himself or by one of his employees. As the supervision level increases the number of supervisors or time spent in each firm increases, thus the cost of supervision increases with the level of Kashrut supervision required. The producer also has higher costs for higher levels of supervision. As the supervision level increases the cost of production increases, either because producers must pay for more supervisors or via increases in the direct costs of production as a result of more supervision in the production process. Additionally, firms may pay fines if they are caught violating the standards that they agreed to follow. As the supervision level increases, the probability of receiving a fine increases and the expected cost of supervision also increases. Moreover, assuming demand for the product decreases in the price of the product, as supervision increases the cost of production increases and the number of products sold decreases. Thus, increased supervision decreases producer profits. Hence, both the supervisor and the producer have higher costs as the Kashrut supervision level increases. There is a direct relationship between the level of Kashrut supervision and the price of the Kashrut supervision.

In order to understand the effect that the Kashrut supervision level has on the producer's costs and profits and the consumers' surplus, let us consider the following interpretation³: The Rabbi's requirements add costs to the producers. As a result of the Rabbi's requirements the producer has to change his way of producing and is limited in the ways and means of production. As described above, the producer's costs rise with supervision costs. For example, if the producer is either a non-Jew, a non-observant Jew or if the level of Kashrut is very high, the Rabbi will have to insist on a

³ We thank the referee for pointing this out to us.

masgiah temiddi (the constant presence of a Kashrut supervisor). This supervisor would receive his salary from the Rabbi, but the Rabbi would charge the producer for this service. As the firm increases its production, more Kashrut supervision is needed and thus, as a result of increasing the Kashrut level, the marginal cost of production will increase moving the MC (marginal cost) of the firm up and to the left (see figure 1 in which we see both the firm's marginal cost and the demand for the product). Given that demand for the product does not change we can see that the price of the product will rise from P_1 to P_2 and the quantity of the product sold will decrease from q_1 to q_2 . As we can see from figure 1, the profits of the firm and the consumer surplus decrease. Therefore, as a result of increasing the Kashrut level both the firm and the consumers are affected negatively.

This paper is an attempt to understand the formation (evolution) of Kosher standards. The starting point of our analysis is an isolated congregation that has a Rabbi who determines the level of Kashrut supervision needed. Therefore, when the Rabbi determines that an increase in the Kashrut supervision is needed the congregation will accept this, and this change will not affect the demand for the product as the Rabbi is the authority and knows what the correct standards are.

We could have approached the problem differently and assumed that the level of supervision affects both the producer and the consumers. Under this setup the analysis changes somewhat. Increasing the level of Kashrut increases the benefit and utility of the congregation. In this scenario the consumers prefer a higher level of supervision. Also, if religious observance and Jewish law are important to the producer, a calculation on his part that profits will suffer as a result of getting certification will not deter him from agreeing to the Rabbi's requirements. In this scenario not only do costs increase, but also there is an increase in the demand for the products. Under this setting, it is not clear what would happen to the profits of the firm and the consumer surplus. A shift of the demand to the right and up will increase the price of the product, however it is not clear what will happen to the total number of units sold, and thus, it is not clear what will happen to the firm's profits and consumer surplus (see for example, in figure 1 a shift in the demand function wither to D_2 or D_3). We could think of two contradicting effects. On the one hand demand increases and thus the quantity increases (a shift of the demand function), while on the other hand the price increases, decreasing the quantity demanded (a movement along the demand function). The total effect is not clear. As mentioned above, we make the

assumption that demand does not increase as a result of the increase in the Kashrut level (especially in the monopoly case) as we are talking about the evolution of the Kashrut formation. However, this assumption is equivalent to assuming that the demand does increase as a result of the increase in the Kashrut level, there the effect of the increase in price (decrease in the quantity demanded) is assumed to be stronger than the effect of the increase in demand and thus the equilibrium quantity demanded decreases. For the remainder of the paper we will assume that the demand curve does not shift when Rabbis vary the supervision level.

The Rabbi of the congregation is the only Rabbi providing Kashrut certificates for his congregation; thus he is a monopoly in the supervision of Kashrut. The Rabbi is assumed to have greater knowledge regarding the laws of the Jewish religion than the members of the congregation and the members of the congregation trust the Rabbi fully. The Rabbi's marginal costs are assumed to be either constant or an increasing function of the level of Kashrut supervision (see figure 2 where the marginal cost is assumed to be increasing). On the other hand, the demand for the level of Kashrut supervision is a decreasing function of the level of supervision and the price of the supervision. As the level of Kashrut supervision and the price of the supervision are positively related we can concentrate in our analysis on one of the two. Hereafter, we call the Kashrut level of supervision and the cost of the Kashrut supervision "the level of supervision". The demand for supervision function is therefore a decreasing function in the level of supervision (see figure 2 where the horizontal axis represents the number of firms willing to have a Kashrut supervision level of k , or it could also represent the number of products that have such a level of supervision).

Define the level of supervision by k and the demand function for supervision by $D(k)$. The cost to the Rabbi for a supervision level of k is defined as $C(k)$. The Rabbi will determine the level of Kashrut supervision k such that he maximizes his rent from the supervision under the constraint that the level of Kashrut is at least above a certain minimum level \underline{k} . This minimum level of Kashrut \underline{k} is the basic level that the Rabbi believes that one could live with if one had to. The problem facing the Rabbi is therefore to determine k as follows:

$$\begin{aligned}
 & \text{Max } k D(k) - C(k) \\
 (1) \quad & \text{s.t.} \\
 & k > \underline{k}.
 \end{aligned}$$

The problem set out in (1) is a simple profit-maximizing price (Kashrut level) of a monopoly. The optimal level of Kashrut k^* set by the Rabbi will satisfy,

$$(2) \quad k^* \text{ such that } MC(k^*) = MR(k^*),$$

where MC is the Rabbi's marginal cost of supervision at Kashrut level k^* and MR is the Rabbi's marginal revenue of supervision at level k^* .

If the Rabbi would set the level of Kashrut supervision at the minimum level possible his "profits/Rent" would equal

$$(3) \quad \text{Rent}(\underline{k}) = B + C + D + E + F.$$

If the Rabbi sets the level of Kashrut supervision that maximizes his rents then he will receive a rent of

$$(4) \quad \text{Rent}(k^*) = A + B + E + F.$$

Under the assumption that $\underline{k} < k^*$, the net profit/rent from increasing the Kashrut level of supervision from \underline{k} to k^* equals

$$(5) \quad \Delta \text{Rent} = \text{Rent}(k^*) - \text{Rent}(\underline{k}) = A - C - D > 0.$$

Thus given that the optimal level of Kashrut is higher than the minimum required by the Rabbi ($\underline{k} < k^*$), the Rabbi can increase the Kashrut supervision level and by that increases by ΔRent the rent he receives from the congregation.

In the case that the optimal level is lower than the minimum level required by the Rabbi ($\underline{k} > k^*$) then the Rabbi will set the level of supervision to the minimum and his rent will be as stated in (3).

Increasing the Kashrut level from \underline{k} to k^* does not go against the Jewish religion. In many cases it is seen as taking better steps to keep a certain level of Kashrut. However, keeping to the minimum level is also fine according to the Jewish religion. The Rabbi is not committing anything wrong, according to the Jewish religion, by increasing the Kashrut level. By increasing the level of supervision, the Rabbi has increased his rent while at the same time increased the firm's and the congregation's costs.

2.2 Competition between Congregations

Now let us consider the case where transportation costs have decreased and the members of the congregation now know what is happening in other communities around the country (or other congregations around the city). This case corresponds to an "American" style of supervision. Additionally, the members of the congregation can also buy products from producers under other Rabbis' jurisdictions. We assumed above that the Rabbi has more knowledge regarding the laws of the Jewish religion than the members of the congregation and the members of the congregation trust the Rabbi fully and only trust their own Rabbi. When information flows more easily among congregations, the number of available products potentially increases, and the Rabbi has to reconsider his optimal level of Kashrut supervision. The members of the various congregations are assumed to possess less knowledge than any Rabbi regarding the laws of Kashrut. Moreover, the members know that as the level of Kashrut increases the probability that they are acting against the laws of the Jewish religion decreases.

Denote the utility of a representative consumer by u , which is a function of the vector of products Q consumed by an individual. Utility is also a function of the Kashrut supervision level of the products consumed. For simplicity we denote the utility as $u(Q, k)$.

Consumers believe that as the Kashrut level of supervision increases there is a higher probability that the level of Kashrut supervision fulfills the laws of Judaism.

Thus, if a consumer has to choose among otherwise apparently homogeneous products, but with different levels of supervision, the consumer is more likely to choose the product with the higher level of supervision. The reason for this is that there is a higher probability that this product stands up to the restrictions given to the Jewish people by their religion. Later we will relax this assumption.

Assume two congregations. Each congregation has R individuals (or consumes R products). Each congregation has one Rabbi who determines the level of Kashrut supervision needed. The members of the congregation do not know the laws of Kashrut so that they will choose to follow the Rabbi according to the level of Kashrut he sets. If Rabbi number one sets a level of Kashrut at level k_1 and Rabbi number two set a level of Kashrut at level k_2 then with probability $\Pr_1(k_1, k_2)$ the members of both congregations will follow Rabbi number one and with probability $\Pr_2(k_1, k_2) = 1 - \Pr_1(k_1, k_2)$ the members of the congregations will follow Rabbi two. These probabilities can also be interpreted as the proportion of the members of the congregations that follow each Rabbi. The total rent facing both Rabbis equals $2R$. Notice, however, that the total rent, as we presented in the first section, is also a function of the Kashrut level of supervision. We assume that the cost of supervision of a level k is equal to k . Thus the problem facing the two Rabbis is given for all $i \neq j$ and $i, j = 1, 2$ by:

$$\begin{aligned}
 & \text{Max } \Pr_i(k_i, k_j) 2R(k_i, k_j) - k_i \\
 & \text{s.t.} \\
 (6) \quad & k_i > \underline{k} \\
 & k_j > \underline{k}.
 \end{aligned}$$

Each Rabbi solves the above problem by determining the optimal level of Kashrut supervision in Nash equilibrium. The first order conditions are given by⁴:

⁴ Second order conditions are assumed to hold.

$$(7) \frac{\partial \text{Pr}_i(k_i, k_j)}{\partial k_i} 2R(k_i, k_j) + 2 \frac{\partial R(k_i, k_j)}{\partial k_i} \text{Pr}_i(k_i, k_j) - 1 = 0 \quad \forall i \neq j \text{ and } i, j = 1, 2$$

Thus,

$$(8) \quad \mathbf{h}_{i, \text{Pr}} + \mathbf{h}_{i, R} = \frac{1}{2} \frac{k_i}{R \text{Pr}_i} \quad \forall i \neq j \text{ and } i, j = 1, 2,$$

where $\mathbf{h}_{i, \text{Pr}}$ is the elasticity of the probability with respect to the level of Kashrut

supervision $\left(\mathbf{h}_{i, \text{Pr}} = \frac{\partial \text{Pr}_i(k_i, k_j)}{\partial k_i} \frac{k_i}{\text{Pr}_i(k_i, k_j)} > 0 \right)$ and $\mathbf{h}_{i, R}$ is the elasticity of the

total rent with respect to the level of Kashrut supervision

$\left(\mathbf{h}_{i, R} = \frac{\partial R(k_i, k_j)}{\partial k_i} \frac{k_i}{R(k_i, k_j)} < 0 \right)$. Note the comparison is to the monopoly situation

above. It is clear therefore that in equilibrium it will hold that in absolute terms, and

the elasticity of the probability will be greater than that of the rent: $\mathbf{h}_{i, \text{Pr}} > |\mathbf{h}_{i, R}|$.

This general problem can be seen as a rent-seeking contest between two groups competing on a rent of $2R$ with a contest success function Pr_i (see Nitzan, 1994). In order to analyze this equilibrium we choose to use the Tullock (1980) contest success function (see also Hirshleifer, 1989 and Hillman and Riley, 1989). The contest-success function determines that Rabbi i 's probability of obtaining rent in competing against Rabbi j is given by:

$$(9) \quad \text{Pr}_i(k_i, k_j) = \frac{k_i}{k_i + k_j} \quad \forall i \neq j \text{ and } i, j = 1, 2.$$

Notice that as Rabbi number one's Kashrut supervision level increases, his probability of receiving the rent increases, and as the level of Rabbi number two's supervision increases the probability that Rabbi number one wins the rent decreases:

$$\frac{\partial \text{Pr}_i(k_i, k_j)}{\partial k_i} > 0 \text{ and } \frac{\partial \text{Pr}_i(k_i, k_j)}{\partial k_j} < 0 \quad \forall i \neq j \text{ and } i, j = 1, 2$$

Moreover, as stated above, as the level of Kashrut supervision increases the total rent decreases (the price increases, less firms are willing to produce the products and consumers buy fewer products): $\frac{\partial R(k_i, k_j)}{\partial k_i} < 0$. For simplicity and in order to obtain closed solutions we assume that the total rent facing both Rabbis is given by $2R(k_i, k_j) = 2R - k_i - k_j$. Assuming $k_i > \underline{k}$ and $k_j > \underline{k}$ Rabbi i 's problem becomes:

$$(10) \quad \text{Max} \left\{ \frac{k_i}{k_i + k_j} (2R - (k_i + k_j)) - k_i \right\} \quad i \neq j \text{ and } i, j = 1, 2.$$

The first order conditions are given by,

$$\frac{\partial \left\{ \frac{k_i}{k_i + k_j} (2R - (k_i + k_j)) - k_i \right\}}{\partial k_j} = \frac{2k_j}{(k_i + k_j)^2} R - 2 = 0, \quad \forall i \neq j \text{ and } i, j = 1, 2.$$

Yielding,

$$(11) \quad \frac{k_j}{(k_i + k_j)^2} R - 1 = 0 \quad \forall i \neq j \text{ and } i, j = 1, 2.$$

As we can see the second order conditions are satisfied

$(-\frac{k_j}{(k_i + k_j)^3} R < 0 \quad \forall i \neq j \text{ and } i, j = 1, 2)$. Solving (11) for both Rabbis we obtain

that the optimal level of Kashrut supervision in a Nash equilibrium is given by

$$(12) \quad k_1 = k_2 = \frac{R}{4}.$$

In a Nash equilibrium, both Rabbis will set the same level of Kashrut supervision. Moreover as the size of the congregations increase the level of the Kashrut supervision will also increase, $\frac{\partial k_1}{\partial R} > 0$.

Earlier we saw that the size of the congregation and the size of the rent are positively related. So we can take the derivative of k with respect to R as the change in k as a result of the increase in the size of the population. As the size of the congregation increases, the rent increases and the Rabbis have more to gain from the competition. Increasing the Kashrut level increases their probability of obtaining a larger proportion of the rent and thus in equilibrium they will increase the Kashrut level as a result of an increase in the size of the congregation.

The notion that competition increases the level of supervision is supported by the role of the Rabbi as the leader of the Congregation, providing guidelines for them to follow. Thus the Rabbi can proclaim that the “level” has to be very high. Some people will be afraid to leave their Rabbi and rely on a different Rabbi, as they are not sure that the new Rabbi would keep the same standard. For example, if the only standard is the basic tenet of the division of milk and meat, a rule that any Rabbi would require, then it is likely that any Rabbi can do this, and congregants would be able to eat almost everywhere there is a Rabbi. However, if the supervision level is very high, each congregant will be afraid that the other Rabbi doesn’t measure up to this standard. So, as a Rabbi sets the level higher he will have a higher proportion of the rent or a higher probability that less will leave him. Mathematically, as R increases the level of Kashrut will increase as the cost of people leaving is higher and the only way to stop them is by increasing this level.

Increasing the number of congregations

With time the cost of transportation and transferring information decreases and thus the number of Rabbis competing for different congregations increases. We now wish to see what happens to the level of Kashrut supervision when the number of congregations increases. Assume that there are m congregations, each has one Rabbi. We assume all congregations are of the same size: R .

Assuming $k_i > \underline{k} \quad \forall i = 1, 2, \dots, m$ Rabbi i 's problem becomes:

$$(13) \quad \text{Max} \left\{ \frac{k_i}{\sum_{j=1}^m k_j} \left(m R - \sum_{j=1}^m k_j \right) - k_i \right\} \quad \forall i = 1, 2, \dots, m .$$

The first order condition is given by

$$(14) \quad \frac{\sum_{j \neq i}^m k_j}{\left(\sum_{j=1}^m k_j \right)^2} m R - 2 = 0 \quad \forall i = 1, 2, \dots, m.$$

The second order condition is satisfied:
$$-\frac{\sum_{j \neq i}^m k_j}{\left(\sum_{j=1}^m k_j \right)^3} m R < 0 \quad \forall i = 1, 2, \dots, m.$$

Solving (14) for all the congregations we obtain that in equilibrium the level of Kashrut supervision is given by:

$$(15) \quad k_i^* = \frac{m-1}{2m} R \quad \forall i = 1, 2, \dots, m.$$

Once again we obtain a symmetric equilibrium under which all Rabbis will set their level of Kashrut supervision at the same level.

Over time congregations are exposed to yet more congregations. The question that we now pose is what happens to the level of Kashrut supervision when the number of congregations that each congregation is exposed to increases:

$$(16) \quad \frac{\partial k_i^*}{\partial m} = \frac{1}{2m^2} > 0 \quad \text{and} \quad \frac{\partial^2 k_i^*}{\partial m^2} = -\frac{1}{m^3} < 0.$$

We therefore conclude that

As the number of congregations that each congregation is exposed to increases, the level of Kashrut supervision of each Rabbi will increase. The increase in Kashrut supervision is with a decreasing marginal increase.

The reason for this result is similar to the one we obtained above. As the number of congregations increase the Rabbi has more to gain and more to lose, thus increasing the level of Kashrut supervision will be the way the Rabbi tries to hold on to his rent and even tries to increase it.

In general what is happening is that as each congregation is exposed to other congregations (or Rabbis or certifying authorities) the Kashrut level increases. As the demand functions facing each separate congregation are decreasing in the level of supervision, aggregate demand will also be decreasing in the level of supervision (see figure 3). Thus, as the Kashrut level of supervision increases the amount of product that the individual can buy decreases.

Assume that in each congregation there are consumers that differ from each other with regard to their preferences regarding the level of Kashrut supervision. Some are not very happy that the level of Kashrut is so high, that the number of products is low, and that the price of products is high. They are willing to “buy” a lower level of Kashrut and enjoy a higher level of consumption. The utility of individual i is given by $u_i(Q(k),k)$. Utility is therefore a function of the quantity of products that the individual can consume Q and the level of Kashrut supervision, k .

Utility is a positive function of the quantity of products Q : $\frac{\partial u}{\partial Q} > 0$. The quantity of products Q is a negative function of the level of Kashrut supervision (see figure 3): $\frac{\partial Q}{\partial k} < 0$. On the other hand, utility is also directly affected by the Kashrut level, k .

As the Kashrut level increases, the consumer has a higher utility as he has a greater probability of keeping Kashrut according the Jewish laws, $\frac{\partial u}{\partial k} > 0$. Therefore the

level of Kashrut affects the utility in two opposite direction:

$$(17) \quad \frac{du_i(Q(k),k)}{dk} = \frac{\partial u_i(Q(k),k)}{\partial Q} \frac{\partial Q}{\partial k} + \frac{\partial u_i(Q(k),k)}{\partial k} .$$

Increasing the level of Kashrut supervision may increase or decrease individual utility. For individuals whom increasing the Kashrut supervision level increases their utility, it holds that $-\frac{\partial u_i(Q(k),k)}{\partial Q} \frac{\partial Q}{\partial k} < \frac{\partial u_i(Q(k),k)}{\partial k}$. These individuals will be happy with the increase in the level of supervision. However, individuals for whom the increase in supervision decreases utility ($-\frac{\partial u_i(Q(k),k)}{\partial Q} \frac{\partial Q}{\partial k} > \frac{\partial u_i(Q(k),k)}{\partial k}$) would prefer an alternative Kashrut level if possible.

In the formulation presented above, the total rent is given by: $m R - \sum_{j=1}^m k_j$.

Total rent decreases as a result of the increase in the level of Kashrut supervision, as a number of individuals do not consume Kosher food because the Kashrut level of supervision is too high. Thus, the value of $\sum_{j=1}^m k_j$ or a function of this can represent the population of individuals that are willing to have a lower level of Kashrut.

If $\sum_{j=1}^m k_j$ is sufficiently high then the population of individuals who are willing to have a lower level of Kashrut enables a new market to open that provides a sufficiently low level of Kashrut (which is higher than the minimum level \underline{k}). However, such a level of Kashrut k^{**} (such that $\underline{k} < k^{**} < k$) will only be generated if the size of the population is sufficiently large. Thus such a formulation of a new, lower level of Kashrut supervision will only exist if there is a sufficient amount of consumers that want it. In order to obtain such a number of consumers, the number of congregations that exist and compete between each other must be sufficiently high and that the level of Kashrut in equilibrium in the competition between congregations would also be sufficiently high.

We therefore conclude that

As the number of congregations (Rabbis or certifying agencies) facing each congregation increases the level of Kashrut increases. As the number of congregations facing each congregation increases, and the Kashrut level increases, there will be a suitable situation for a new Kashrut supervision to exist that will

provide a lower Kashrut level of supervision. However, this lower level of supervision is greater than \underline{k} , and still meets Jewish law.

We therefore obtain that those individuals who have a high utility from the high Kashrut level will continue following the Rabbis that provide high Kashrut supervision levels, while the others will follow different Rabbis who will provide lower levels of Kashrut supervision. This could not have happened if the number of congregations was small with a relatively “low” level of Kashrut supervision. The circumstances arise for a new level of Kashrut supervision when the number of congregations, and the Kashrut level, are sufficiently high.

3. Conclusions

European style Rabbis are independent of each other and want Kashrut to be under local control. In this scenario if an observant Jew knows the Rabbi providing the Kashrut certification he can buy the food, otherwise he does not buy the product. This Kashrut is local, and thus things shipped nationwide carry problems, as Jews on the other side of the country do not always know the certifying Rabbi. Local monopoly control creates rent for the Rabbis and it gives them power, income and an ability to raise ritual observance among their congregants. This is hard for consumers as they can only eat “local” food. In order to eat other things they need a “book” which lists what their Rabbi recommends (it tells them what to eat and what not to eat under the supervision of other Rabbis). While we have characterized this situation as traditional European style supervision, elements of it are present today. It occurs when Kashrut is locally given on a product that is marketed nationally, or when the consumer travels to an area and wants to buy products or eat at a restaurant under a local rabbinic authority.

In contrast, in the United States communal rule was thrown out and replaced by an open voluntary economy. There are, say, two cities that have different Rabbis. Under what conditions can someone from one city buy from the other city? This can happen if the level of Kashrut is not too high, because at a lower level of Kashrut almost anyone can insure that this is performed properly. So, in order to hold on to rents the Rabbis will increase the level of Kashrut so that it will be harder for the consumers to move from one Rabbi to another. This decreases the total rents for the

Rabbi, but at least he will receive more than if he does not do this. Increasing the Kashrut level increases the cost of production and will decrease the number of firms that will produce products with this high level of Kashrut. This gives us two cities with very high Kashrut levels with a small number of products at high prices. Not all consumers are happy. They do not want to eat food that is not kosher but are willing to eat food with a lower level of Kashrut supervision. As we have two cities (or more), the proportion of consumers that need the “minimum” level of Kashrut may be sufficiently large to create a new “Rabbi” to provide Kashrut certification at their level. So we have a situation where there is a basic level of Kashrut provided to the majority of people (which still meets Jewish law), and other smaller groups who will only eat food that their Rabbi (or his people) has supervised. In practice we might consider the Orthodox Union (OU) certification the general level of acceptance, with various other groups having their own special requirements and their own Rabbis certifying Kashrut.

It may be useful to point out some extensions of our analysis. As the size of the group requiring supervision becomes sufficiently large we would find that the Kashrut certification process may give rise external economics – economics of scale. Specifically, each certification episode gives the Rabbi, or Kashrut organization, experience to draw on how to set up the supervision. In addition, any research on ingredients done on one job can be used in subsequent jobs. The operation of the OU illustrates this. The cumulative experience and growth of the number of supervised firms has allowed this organization to set up a computerized data base of ingredients and to create supervisory positions that would not otherwise be economically feasible. The economies of scale described here are feasible when a sufficient number of people leave their congregational Rabbi and seek new supervision as a result of the competition between Rabbis.

Our modeling explains the appearance and consequences of kosher wars. The stories we tell help us understand kosher wars in other contexts as well. For example, the State of New Jersey had a Kosher law which established what was Kosher, adopting Orthodox standards. This law was challenged in court and replaced in 1993 with the Kosher Enforcement Bureau of the Division of Consumer Affairs, State of New Jersey. This Bureau works to enforce representations made, but it does not decide what is the standard. Information provided by retailers under the law enables

consumers to make informed decisions when buying local foods represented as kosher.

In New Jersey we have a scenario in which there was a law that was not a good one that really did not work that was replaced by a more efficient law. The new law is merely checks the truth in advertising. By court order rents cannot be obtained by the first law, so a new law is established that is stronger in a few ways. It holds for different interpretations of kosher (conservative, orthodox, etc.) all in one simple law. In reality, this is the same story as the kosher history we have already discussed. Here, again, one group of Rabbis wants rents and urges by a law or rules that will make sure all is produced with their Kashrut. This would result in a very big rent. However, there are other groups that want part of the rents and want into the game. So in the end a general form is established that provides an opening for all groups in a simple, bare bones law. Here, like our analysis above, the issue is one of trying to hold onto rents. In the long run, part, if not most, of the rents disappear. However, by using their vast knowledge of religious tenets over their followers, Rabbis can hold onto some of the rents, and increase religious observance among their congregants.

Figure 1
First profits

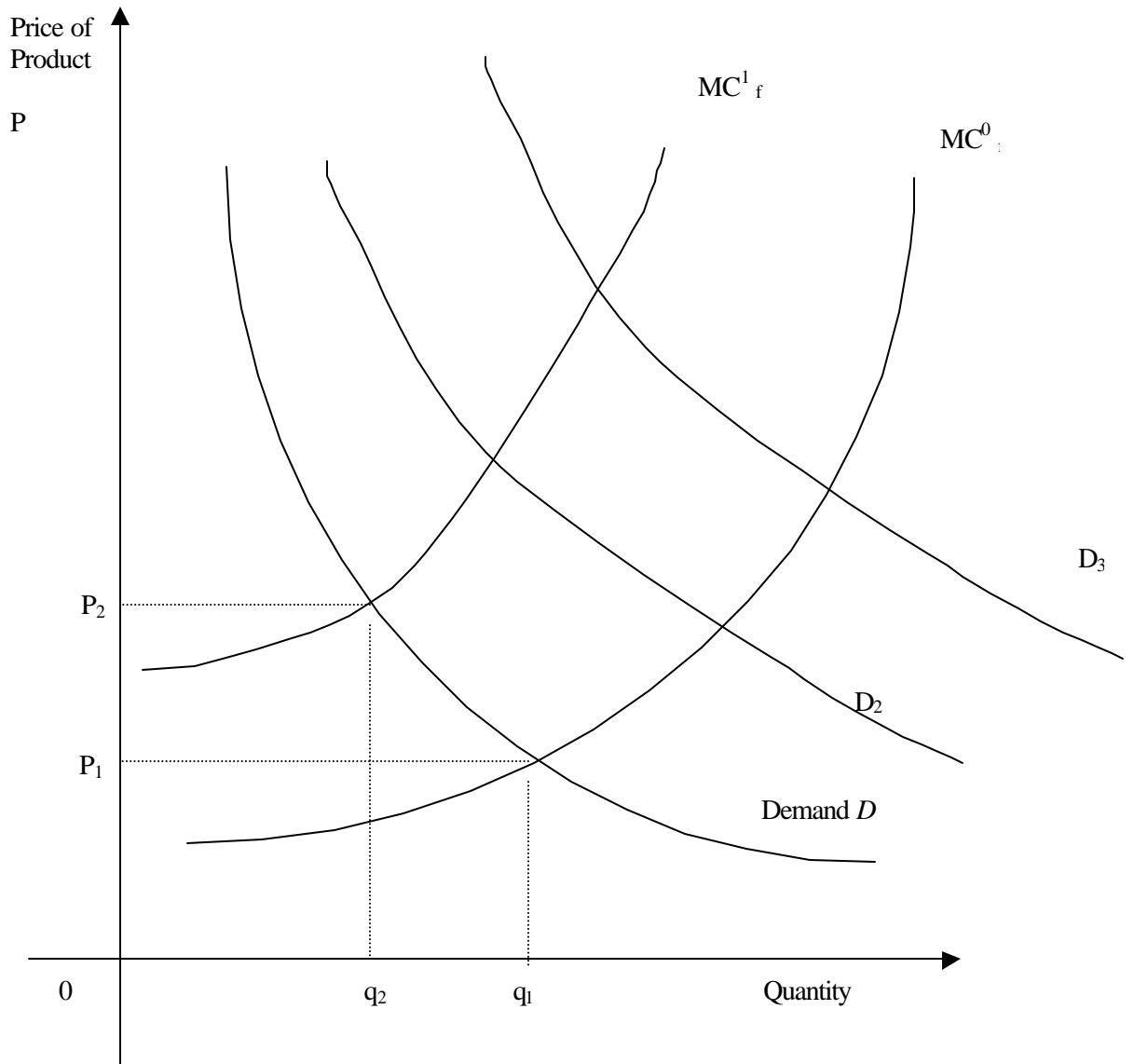


Figure 2
The Rabbi's Monopoly

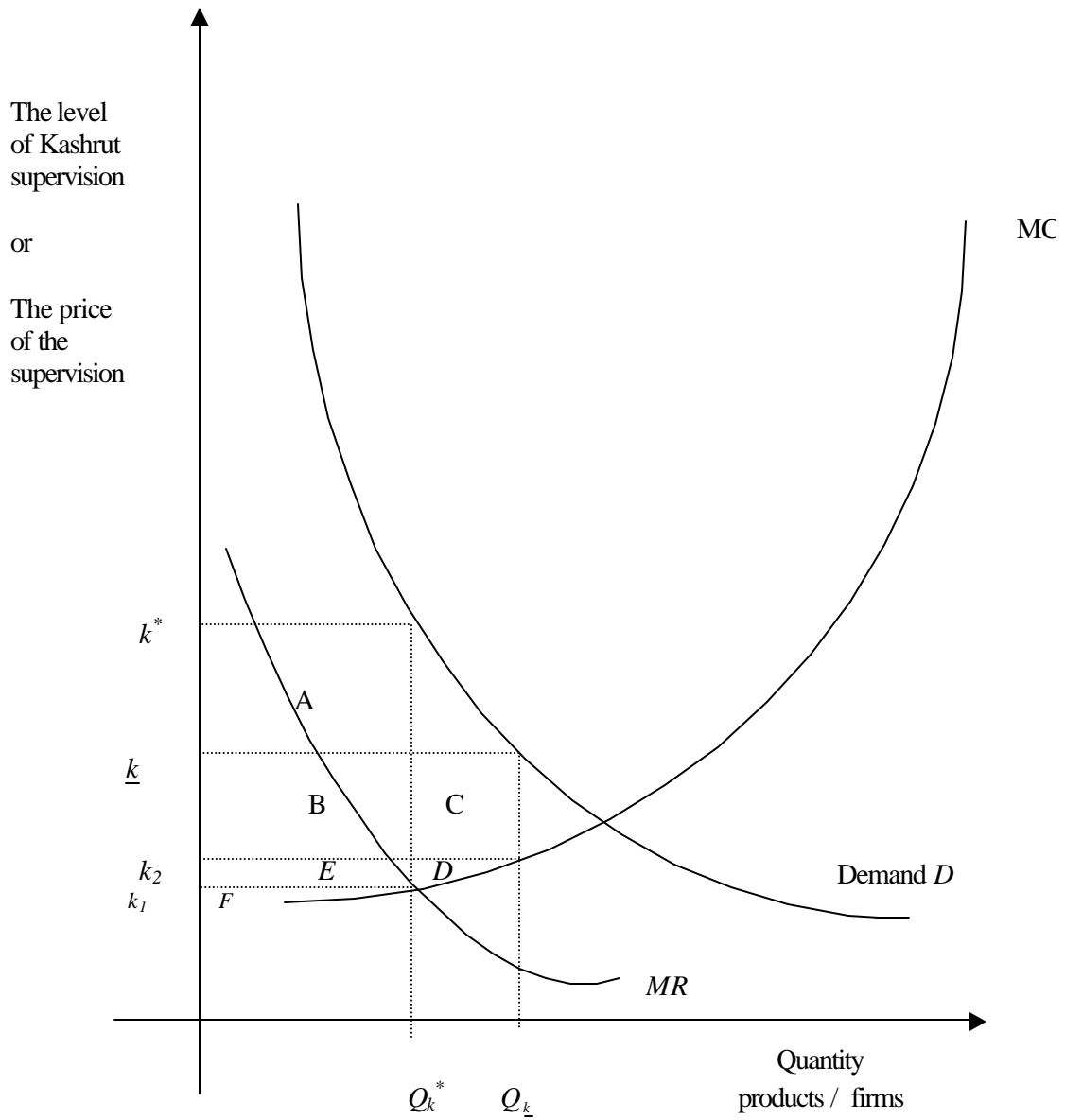
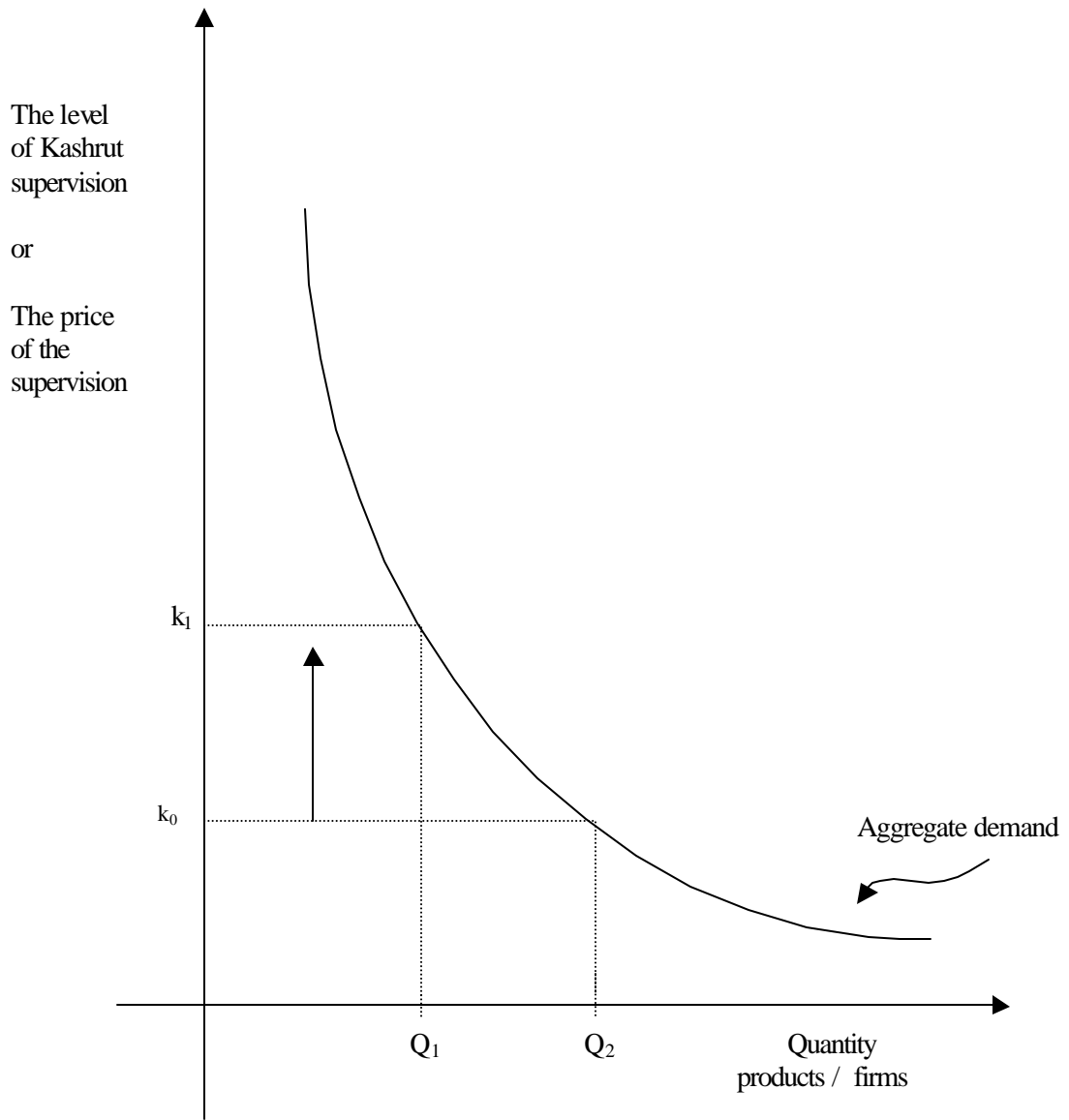


Figure 3
Competition between Rabbis



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