The Phantom Profits of the Opera: Nonprofit Ownership in the Arts as a Make-Buy Decision

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This article applies contract-theory to explain why nonprofits exist and how they compete for profits. Existing theories about nonprofits either assume that nonprofit organizations engage in "unprofitable" businesses and therefore rely on philanthropy and altruism, or that nonprofits can overcome severe informational asymmetries that for-profits cannot. Instead, I argue that nonprofits arise when consumers integrate into production; consumers, supported by institutions, organize to produce a nonrival good for their own consumption, and in so doing are able to achieve first-best. This modeling approach, developed in the context of classical performing arts, may have application in other industries in which nonprofits compete, such as health care, research and development (R&D), and education.

1. Introduction

As an organizational form, the nonprofit has been much maligned and misunderstood. On the one hand, nonprofits are often accused of being for-profits in disguise, using tax-exempt status to compete unfairly. On the other hand, most researchers assume that nonprofits are driven by some purpose other than profit maximization and that many are hopelessly inefficient managerially. Reflecting this popular confusion, economists have struggled unsuccessfully to understand why nonprofits exist and how nonprofits interact in for-profit industries. To start with, it has been difficult to identify a workable objective function for firms that are assumed to be ideologically motivated or to be maximizing something other than profit.

While most for-profit firms never have to worry about nonprofit competition, there are many large industries in which for-profits interact with nonprofits in significant ways. Health care is the most obvious example of for-profits competing with nonprofits, but research and development (R&D) is also produced by both for-profits and nonprofits, for instance. How nonprofit, usually university-based R&D differs from for-profit, industrial R&D is important to both university technology licensing offices as well as to for-profit R&D managers making investment decisions.

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In this article I present a novel way of understanding nonprofit organizations, using a contract-theory approach. I develop a simple model for an extreme case of nonprofit industry, the classical performing arts (in the United States), to show that nonprofits have a well-behaved objective function based on first principles, that nonprofits are economically efficient even under fairly minimal assumptions about goods and information, but that institutions are needed to enable the formation of nonprofits.

It is, admittedly, impossible to generalize about an entire class of industries based on the analysis of a single industry, especially when nonprofits operate in such diverse industries as education, religion, social services, and historic preservation. Nevertheless, there are important advantages to studying the classical performing arts. First, because the classical performing arts are organized exclusively as nonprofits, the industry is an extreme case of a nonprofit industry. Studying such an industry helps to isolate key features of the analysis which can be applied to other, more complex industries later. Second, the performing arts industry embodies (in spades!) the assumptions that most casual and scholarly observers have about nonprofits in general: that the business is so "unprofitable" that firms would not be able to survive without subsidies, that the firms are extremely poorly managed (otherwise why would they always be on the brink of disaster), that the people supporting the firm are interested in charity or something other than profit maximization. Third, there are several interesting and confusing phenomena associated with the industry, such as voluntary price discrimination, subsidy, donations from ticket buyers, high fixed costs, and unregulated monopoly. Finally, another reason for analyzing the performing arts is that quite a lot has been written about the industry. Over the years economists have devoted a lot of effort into understanding this business, and this literature provides a good place to start.

After a brief review of the literature on the performing arts industry and nonprofits in general, I will present some stylized facts about the performing arts industry which will then be modeled. A discussion of the model and conclusion follow.

2. Literature Review

Explanations for why nonprofits exist fall into two broad categories, "ideological" and economic. In the first category, the existence of nonprofit firms is attributed to individual preferences that result in deviation from profit maximization. These arguments have great intuitive appeal, since most people consider charity and philanthropy to be important parts of an individual's makeup. Therefore the idea that there is a whole class of firms that serve as outlets for charity seems uncontroversial. A few examples of where ideological motivations figure into analysis or modeling include Weisbrod (1988), who claims that nonprofits are managerially less efficient than for-profits because the managers in nonprofits pursue social goals rather than profit maximization. Also, Lakdawalla and Philipson (1998) compare nonprofit and

for-profit hospitals, modeling their assumption that nonprofits have "profit-deviating" preferences. A study by James (1987) argues that ideology (religion) motivates nonprofit providers of services (education).

The second group of theories for why nonprofits exist are institutional or economic in nature. Hansmann (1980) argues that firms adopt the "nondistribution of profit constraint," part of the legal definition of a nonprofit organization, in order to signal high quality to customers. Similarly, Weisbrod (1988) argues that "informational inequalities" between producers and consumers drives producers to organize as nonprofits. By foregoing the possibility of "personal gain," sellers signal to buyers that they will not shirk. The delivery of health care is an obvious application of this strategy, but there are other cases. Ben-Ner and Van Hoomissen (1991) discuss the signaling value of stakeholder control in the case of child day care; parents who operate a day care also have children attending the day care. Mixed industries, in which nonprofits compete with for-profits, result when some firms choose the nonprofit form strategically to meet some unsatisfied demand segment (Weisbrod, 1988; Ben Ner and Van Hoomissen, 1993).

Explaining why the performing arts are organized as nonprofits has relied on ideological-type arguments. These arguments are motivated by a few key observations about the industry. First, performing arts firms always seem to be in dire financial straits. Baumol and Bowen (1966) conducted the first large empirical study of the industry and noted that a nonprofit is "designed to keep it constantly on the brink of financial catastrophe." Another stylized fact is that the market for the classical performing arts is lamentably small and difficult to grow (Scitovsky, 1972; Netzer, 1978). Because consuming the good requires a certain erudition, marketing is a costly proposition for performing arts firms. The disastrous finances, small market, meritorious nature of the good, and the fact that performing arts firms are typically monopolies, all combine to suggest that there is some social goal, rather than profit maximization, that drives the industry. Hansmann (1981) formalizes this idea by analyzing three nonprofit-maximizing objective functions for performing arts firms: quality maximization, audience maximization, and budget maximization.

A couple of shortcomings of these theories are worth mentioning because they can, I think, be overcome by the approach I propose in this article. First, the strategic use of governance structure as a signaling device strikes me as a fairly drastic measure for an otherwise for-profit firm to take, given the wealth of signaling devices available to for-profits. Therefore it is hard to imagine that the owners of a firm would convert from for-profit to nonprofit for this reason. Second, nonprofit-maximizing objective functions are difficult to predict and can therefore only be modeled ex post. There is no question that individuals have charitable intentions; it is just not clear when these play out at the level of governance structure.

3. The Business of Classical Performing Arts

As mentioned above, the performing arts industry can be broadly characterized as monopolies teetering on the edge of bankruptcy. There are a couple other key features of the business which should be mentioned briefly. First, revenues for performing arts firms come from two sources: ticket sales and donations. Baumol and Bowen's (1966) study shows that most donations come from individuals (rather than corporations or government agencies), and indeed, individuals who also buy tickets. A recent San Francisco Opera program suggests that what was true in 1966 still holds today.

Second, the relative size of the donation and ticket price is significant. Most concert-goers notice that ticket prices cover an enormous range, for example, from $50 to $150 at the San Francisco Opera. Better seats are more expensive, and more expensive seats probably confer some amount of status worth paying for as well. This level of price discrimination would be the envy of every profit-maximizing cinema owner, and yet it is peanuts compared to the amount of money these same $150 ticket holders give in donations. For instance, the "Medici Circle" of opera donors in San Francisco each gave $50,000 to support a single season of performances. Many of these people give regularly, as recognized by "Triple Gold Circle" status, designating those who give $100,000 or more over a three-year period. Donors can end up paying more than two orders of magnitude more for the same performance than nondonors, whereas good seats cost less than an order of magnitude more than bad seats.

Because of this stark division of revenue sources and its impact on the bottom line, any model of performing arts firms would have to consider two types of consumer: donors and nondonors. I now turn to the model and its players.

4. Model

Based on the description of the typical performing arts firm above, I look at two consumers, a high-type consumer and a low-type consumer. These two consumers comprise the market for an indivisible good, and each would like to consume exactly one unit of the good. In the classical performing arts industry, we know that both types of consumers want to consume, tickets are indivisible, and consumers are unlikely to consume the same concert more than once.

Next, I introduce a profit-maximizing entrepreneur. I assume that the entrepreneur can produce good profitably, so that a good can be produced at a cost that is lower than a consumer's willingness to pay for that good. This assumption contradicts assumptions about the profitability of nonprofit goods that other models have made. For instance, Hansmann (1981) argues that performing arts firms could not survive without voluntary price discrimination. Here I try to place the least possible restriction on the nature of the good, its production function, and demand. I will show that nonprofits can arise even when a good can be marketed profitably.

I do, however, assume that the good is nonrival, since we know that, in the performing arts, two people can consume the same good simultaneously without changing the cost to produce the good or the utility to each consumer. Also, I assume that the cost to produce a unit of the good increases in quality, so higher quality is more costly to produce. As uncontroversial as this assumption would seem, Baumol and Bowen (1965) assume that cost is exogenous and thus spirals out of control as productivity in other sectors grow (i.e., Baumol's cost disease).

Finally, I allow the high-type consumer a make-or-buy decision. That is, the consumer can choose to buy the good from the entrepreneur or make the good himself.[1] I assume that the production technology is available to consumers and producers so both face the same cost function.

4.1 Consumers

There are two consumers, one of each type, $\theta = \{\theta_L\ ,\ \theta_H\}$. The high type, θ_H, has a high willingness to pay, and the low type, $\theta_L < \theta_H$, has a low willingness to pay. A consumer's utility is given by

$$u(t, x) = \theta x - t,$$

where x is the quality of the performance and t is the transfer made by the consumer to the seller. Each consumer knows his own type and the distribution of demand.

4.2 Seller

The seller makes a take-it-or-leave-it offer to consumers and makes a profit given by

$$\Pi = t_H + t_L - c(x),$$

where t_H and t_L are the transfers he gets for the performance from the high- and low-type consumer, respectively, and $c(x)$ is the cost of producing the good(s). The seller knows the distribution of demand but does not know which consumer is the high type and which is the low type.

4.3 Cost

Assume that higher quality costs more, so $c'(x) > 0$, but that cost increases at a decreasing rate, so $c''(x) < 0$.

1. As far-fetched as it might seem for an individual consumer to "make" a performing arts company himself, there is historical evidence to show that this was once the predominant mode of production. For example, Haydn and Mozart both worked under the Kapelle system in 18th- and early 19th-century Europe, in which wealthy families employed household servants to provide musical entertainment (Baumol and Baumol, 1994; Raynor, 1978).

4.4 Make-or-Buy Analysis

We now look at the high-type consumer's make-or-buy decision. The high type will compare the surplus he enjoys if he buys from the entrepreneur with the surplus if he produces the good himself. If he buys from the entrepreneur, the entrepreneur will make him a take-it-or-leave-it offer. So we need to know what that offer is likely to be. Because the seller does not know which consumer is the high type and which is the low, the seller will either separate or pool consumers. I will first consider the pooling outcome, and then the separating outcome.

4.4.1 Pooling Equilibrium.

If the seller does not separate the two consumers, the seller's problem is

$$\max \Pi(t, x) = 2t - c(x) \text{ subject to}$$

$$u_H(t, x) \geq 0$$

$$u_L(t, x) \geq 0.$$

Since only the second constraint is binding, the seller's problem becomes

$$\Pi(x) = 2\theta_L x - c(x).$$

So x^*_{pool} solves the first-order condition

$$2\theta_L = c'(x^*_{\text{pool}}).$$

The seller's profit is

$$\Pi(x^*_{\text{pool}}) = 2\theta_L x^*_{\text{pool}} - c(x^*_{\text{pool}})$$

and the total surplus is

$$TS(x^*_{\text{pool}}) = \theta_L x^*_{\text{pool}} - c(x^*_{\text{pool}}) + \theta_H x^*_{\text{pool}}.$$

The high-type consumer's surplus would be

$$CS_{\text{pool}} = (\theta_H - \theta_L) x^*_{\text{pool}}.$$

4.4.2 Separating Equilibrium.

If the seller were to separate the two consumers,[2] his problem would be

$$\max \Pi(x_L, x_H, t_L, t_H) = t_L - c(x_L) + t_H - c(x_H)$$

2. In modern times, it is hard to imagine that a performing arts firm would produce two different levels of quality and offer them at different prices. However, historically, different levels of quality served different clientele, for example, in 19th century England (Raynor, 1978), although these clientele were served by different firms rather than a single firm producing two quality levels.

subject to

$$u_L(t_L, x_L) \geq 0$$
$$u_H(t_H, x_H) \geq 0$$
$$u_H(t_H, x_H) \geq u_H(t_L, x_L)$$
$$u_L(t_L, x_L) \geq u_L(t_H, x_H),$$

of which only the first and third constraints bind, as is standard in such models:

$$u_L(t_L, x_L) = 0$$
$$u_H(t_H, x_H) = u_H(t_L, x_L).$$

Substituting back into the firm's maximization problem produces

$$\Pi(x_L, x_H) = 2\theta_L x_L - c(x_L) + \theta_H x_H - \theta_H x_L - c(x_H).$$

Maximizing Π gets the first-order conditions

$$c'(x_H^*) = \theta_H$$
$$c'(x_L^*) = 2\theta_L - \theta_H.$$

So the seller's profit is

$$\Pi(x_L^*, x_H^*) = 2\theta_L x_L^* - c(x_L^*) + \theta_H x_H^* - \theta_H x_L^* - c(x_H^*)$$

and total surplus is $\Pi(x_L^*, x_H^*) + u_H(t_H, x_H^*)$ or

$$TS(x_L^*, x_H^*) = \theta_L x_L^* - c(x_L^*) + \theta_H x_H^* - c(x_H^*).$$

The high-type consumer's surplus (information rent) would be

$$CS_H = (\theta_H - \theta_L) x_L^*.$$

If the high type decides to buy, and the entrepreneur decides to separate consumers, the high type's surplus will be CS_H. Observe $CS_H < CS_{\text{pool}}$; by price discriminating, the entrepreneur captures some of the high type's surplus.

4.4.3 "Make." We now know what the high-type consumer would get if he were to buy the good from the entrepreneur: CS_{pool} if the entrepreneur pools and CS_H if the entrepreneur separates. The question for the high type is, what if he were to produce the good himself? Because the high type knows his own type, and the distribution of demand, he also knows the other consumer's type; the high type knows what the other consumer is willing to pay for any given level of quality (this seemingly unrealistic assumption is

discussed in Section 5). Since the good is nonrival, the high type can produce the good, consume it himself, and at the same time allow the low type to consume the good and charge the low type his willingness to pay. The high type thus completely internalizes the low type's utility function:

$$u_H = \theta_H x_{\text{make}} + \theta_L x_{\text{make}} - c(x_{\text{make}}) = TS(x_{\text{make}}).$$

The optimal level of quality, x^*_{make}, satisfies the first-order condition

$$c'(x^*_{\text{make}}) = \theta_H + \theta_L.$$

Observe $x^*_{\text{make}} > x^*_H$.

4.4.4 The Consumer's Decision. It is obvious that the high-type consumer would choose to make the good himself, rather than buy it from an entrepreneur, because the consumer surplus is highest in the make case. Notice that when the consumer chooses to make, he achieves first best and the quality level and total surplus are higher than in either the pooling or separating case.

The question is, why is this a nonprofit organization? To see that the "make" choice is isomorphic to a nonprofit, it is helpful to see how various parts of the model correspond to actual performing arts organizations. For example, we know that the high type can charge the low type an amount $\theta_L x$ to consume the good. Suppose this amount corresponds to the ticket price. Then we might imagine that the high type would also pay a ticket price of $\theta_L x$. Revenues for the firm are now $2\theta_L x$, but costs are $c(x)$. If $c(x) > 2\theta_L x$, then the high type faces a budget deficit and has to make a "donation" of the amount

$$c(x) - 2\theta_L x.$$

Of course, the high type is happy to pay this, because he has consumed a good worth $\theta_H x$ and paid only $c(x) - \theta_L x$, and more importantly, is getting a bigger surplus than he would have gotten by buying from the entrepreneur. So even though the firm generates a surplus, that surplus is consumed and unobservable. Meanwhile, the firm itself appears to be always just "breaking even" or on the brink of disaster, and why these firms seem to be dependent on charity.

4.5 Taxes

Just a brief side note on taxes is made here because it is a matter of enormous concern to nonprofit practitioners. People in the business of performing arts are often concerned about the effect of tax shelters and subsidies on the provision of nonprofit services. For example, DiMaggio's (1986) study of the cultural institutions was motivated by the Reagan administration's proposal to eliminate the National Endowments for the Arts and the Humanities.

Using the model above, I look briefly at how the tax deductibility of charitable donations affects performing arts firms.

If donors can make tax deductions at a rate, r, the optimization problem is

$$TS(x) = \theta_H x + \theta_L x - c(x) + r(c(x) - 2\theta_L x).$$

The optimal level of quality, x^*, solves the first-order condition for this problem:

$$c'(x^*) = \frac{\theta_H + \theta_L + 2\theta_L r}{1 - r}.$$

The marginal cost of quality is increasing in r. So reducing the tax shelter can be expected to result in a reduction in quality and donations, but not in the demise of the firm. So according to this model, this tax break for the rich results in an overproduction of quality.

But even without this analysis, it seems highly unlikely that nonprofits in the performing arts would fold as a result of changes in tax policy, despite predictions by nonprofit practitioners to the contrary. The historical evidence suggests that these firms did not form as a result of favorable tax treatment. Many of these firms formed before the personal income tax (instituted in 1913), and long before subsidies for nonprofits (the National Foundation on the Arts and Humanities was started in 1966). In fact, government support was opposed by trustees of performing arts firms at first, probably because the trustees feared government intervention and censorship (Netzer, 1978).

5. Discussion

5.1 Assumptions

Before discussing the results of the model and their interpretation and application, it is worthwhile to consider whether some of the explicit and implicit assumptions of the model are valid. After all, it is questionable how realistic a two-consumer model is, especially when the results rely on the fact that there are only two consumers. That is, it is reasonable that consumers know their own type, and it may even be reasonable that they know the distribution of demand, but in a two-consumer model, knowing these things means that consumers have perfect information: each also knows the other's type. Certainly this is very unrealistic in most cases. The question is, are there cases in which this is a good approximation? If we can identify such cases, then we can identify candidates for nonprofit organization. If either all high types or all low types could be considered together as a single consumer, then the results of the model would hold.

In the case of performing arts firms, I would argue that "society" allows for the aggregation of all high types into a single actor. To illustrate how this might work, consider the case of New York City at the turn of the century. In a small, close-knit society of wealthy families (and documented by the social registry), members of society had an incentive to maintain good relations with other members. The rules of social interaction would have

been well understood by members, and would certainly have included paying one's fair share for the evening's entertainment. In such a tight society, members would also have known approximately how wealthy other members were, and how much each should be counted on for the collective production of a good. As a result, after a period of organizational experimentation for producing performing arts, the organizational form now known as the nonprofit came to dominate (Raynor, 1978). Similarly, in contemporary society, Ostrower (1998) documents the social cohesiveness and motivations of today's arts patrons and trustees. Ostrower's study, a set of 175 interviews, shows that modern social institutions not only provide information about who high types are, but also entice high types to contribute their willingness to pay (overcome free riding).[3]

An explicit assumption that the model makes is that the good could be provided profitably by a profit-maximizing entrepreneur. This assumption challenges the received wisdom about nonprofits in general, but especially about the performing arts. Several reasons are usually cited for charitable support of the arts, including social goals like preserving the arts for posterity or increasing access for poor people (Netzer, 1978), and social status associated with charity. Almost never is pure consumption given as an explanation. However, the historical evidence for a pure consumption story, within the appropriate social context, lends support for the private consumption motive. For example, under the *Kapellesystem* in Europe, households undertook the production of musical entertainment. Even after music left the domain of household production, musical entertainment was provided by profit-maximizing firms, often with different firms targeting different quality niches. So, for example, in 19th-century London, there was an expensive, high-quality orchestra attended by the aristocracy and a separate orchestra of lower quality attended by the bourgeoisie. Not only were higher types uninterested in providing low-cost access to high-quality goods to the less wealthy, in fact they were quite interested in not doing so. This is not to argue that social status did not play a role. On the contrary, status plays an important role, but it does so through private consumption.

3. It has been observed that some of the people who donate money to performing arts firms are not also consumers. These people are ostensibly interested in promoting culture among young people and so support educational and outreach activities. There are two points to make regarding this. First, there are certainly other motives besides consumption. Indeed, it is these other motives, especially the pressure to spend money according to one's peer group, that make nonprofit organizations possible. That nonconsumers can be induced to donate enormous sums is a testament to the power of the social institutions that make nonprofit performing arts firms feasible.

Second, education and outreach, as well as the many commercial activities (e.g., gift shops, etc.) in which nonprofits engage, are part of the rent extraction from low types which utility-maximizing high types should be expected to do. Building a large future consumer base is something that profit-maximizing entrepreneurs often do. The difference is that when the product is cigarettes, these marketing efforts are much more sinister than when the product is classical music.

Finally, the model assumes that the good is nonrival. While this assumption is reasonable in the context of performing arts, requiring that a good be nonrival immediately narrows the field of candidates for nonprofit organization. For example, a car company would never organize as a nonprofit because the cost of producing a car would be modeled very differently; with fixed costs of production, such as a factory, and variable costs of production, such as labor and materials. Even if low types were to pay the variable costs of production, just as they do in the performing arts case, high types would be left to pay the fixed costs of production. Unlike in the performing arts case, greater investments in the fixed costs of car production, such as a larger or faster factory, would not always increase the high type's own consumption. Thus nonrivalry is an important condition for nonprofit formation, which may help to explain why nonprofits are thought to operate only in service industries, never in goods industries.

5.2 Results

The model generates several counterintuitive results. First, nonprofits, as modeled here, are economically efficient. Second, nonprofits have owners, and these owners run the firm. For example, boards of trustees of performing arts firms are typically packed with high types, which makes sense if we understand that the high type has chosen to produce a good himself and is therefore the owner of the firm. However, this is a surprisingly controversial result, because in general, the issue of who owns a nonprofit is very poorly understood. Most researchers simply assume that nonprofits operate in the public interest. So, for example, when a nonprofit hospital is sold to a for-profit firm, proceeds from the sale go into a public trust. In fact, Hansmann (1996) goes so far as to state that nonprofits do not have owners. But understanding that nonprofits have owners, who actively govern them, also suggests that nonprofits may not be as managerially inefficient as Weisbrod, for example, assumes.

Third, just as nonprofits have owners, they also have well-defined utility-maximizing objectives rather than some exotic, unpredictable optimization. Identifying a well-behaved objective function for nonprofits enables economists to make predictions about the behavior of nonprofits relative to for-profits, and to understand why nonprofits pursue profit-motivated activities [a question that Weisbrod (1998), for example, ponders]. Also, in the context of the performing arts, understanding the firm's objective function helps to resolve the question of why ostensibly elitist organizations engage in "outreach" activities to broaden their audiences. Performing arts firms organize fundraisers that serve as social functions for society, while at the same time reaching out to prospective customers with "opera in the park," for example, or children's concerts. In the context of the model, it becomes clear that the high-type owner is interested in extracting the total consumer surplus of the low type, that is, filling empty seats with the highest-paying customers, which would indeed require outreach.

Next, nonprofits can arise even without information asymmetry about the quality of the good. I implicitly assume that consumers can observe quality and can choose not to go back to the symphony if concerts are consistently bad. I mention this result here because information asymmetry about the good (rather than about demand) drives many economic theories about the formation of nonprofits. In this model, there is no peculiarity about the good itself driving the choice of organizational form.

Also, notice that the total surplus is consumed. One of the problems confounding the understanding of nonprofit organizations is that the gain in consumers' utility is unobservable. Because the consumer surplus is unobservable, this surplus is thought not to exist. As a result, apparently philanthropic donations get attributed to all variety of other motivations.

Finally, performing arts firms are not monopolies because the market is so pathetically small, but rather because the high type is better off producing a single, high level of quality rather than buy from an entrepreneur, who would have produced two levels of quality or one middling level of quality. Moreover, it is possible to see why classical performing arts firms are always nonprofits.[4] If we consider that the high type produces the good for his own consumption, then x^*_{make} solves $c'(x^*_{\text{make}}) = \theta_H$. Then the only way to get a mixed industry in this model would be if the low type were to buy from the entrepreneur. We know that the entrepreneur could profitably provide the low type with a low level of quality, that is, x^*_L would solve $c'(x^*_L) = 2\theta_L - u'_H(x^*_L)$. But the high type could sell a high quality level, x^*_{make}, to the low type for ϵ and still be better off than not selling to the low type at all.

6. Conclusion

In this article, I present a new approach to understanding nonprofit organizations. I allow consumers to make or buy, taking a time-honored technique from vertical integration analyses. The result of the consumer decision to make a good for his own consumption is a nonprofit organization. This approach brings nonprofits in from the cold and into mainstream industrial analysis by identifying firm owners and objective functions. Moreover, the model requires fewer market imperfections and informational asymmetries than previous explanations for the existence of nonprofits.

However, the model also suggests that while nonprofits are economically efficient, they are not always possible: institutions are needed to provide high-type consumers with a means of aggregating their utility functions, overcoming free riding, and extracting low-type consumer surplus. In the case of performing arts, high society and its rules and incentives provided

4. It has been observed that theater companies are not all nonprofits. The reason for this relates to the preferences of high types. The nonprofit firms discussed in this article arise when high demanders of a particular good are able to identify and organize themselves to produce the good. If that good is operas but not musicals, then operas will be organized as nonprofit, but musicals not.

the necessary organization. Another necessary condition for nonprofit organization is nonrivalry. While earlier observers noted that nonprofits only ever provide services, never goods, in fact, if nonrival goods can be identified (e.g., software) we might actually get the nonprofit provision of a good.[5]

Finally, the model suggests a general approach to understanding nonprofits. To identify a firm's objective function, its owners (high types) must first be identified. This is readily done, in the performing arts, by looking to the board of trustees. Other industries may be similar in their organizational structure. Where this can be done, nonprofits and for-profits can be studied comparatively. This has enormous implications for for-profits in mixed industries, such as hospitals, which have hitherto been unsuccessful in analyzing the effects of nonprofit competitors. But also, in an environment of institutional upheaval brought on by the Internet, previously for-profit-only industries face competition from nonprofits, while previously nonprofit-only businesses face competition from for-profits. Software firms now confront nonprofit competition from open source software programs, and stock exchanges, which are nonprofit member organizations, have new competition from Internet-based order-matching firms. Understanding nonprofits in a general way will mean the ability to analyze and predict these new sources of competition.

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5. Still, many nonrival goods and services are provided by for-profits rather than nonprofits. It has been suggested that airlines, for example, exhibit the same production characterstics as opera. Why one industry is nonprofit but another is not is largely preference driven, as mentioned in the note above. But nonprofits are also institutionally driven. If high demanders for a good or service can identify each other, organize, and agree on at least some aspect of their preferences, then nonprofits should form. But the existence or formation of such an institution is no small hurdle, and it is easy to see how high demanding consumers of air travel might differ in their preferences (because of location, for example) or be difficult to organize or identify.

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