

Public Goods and Private Associations

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Abstract

This paper investigates the relationship between a democratic public sector and exclusive associations like gated communities. My model departs from earlier studies of this relationship in that I depict the public sector government as an aggregator of individual preferences rather than as a social welfare maximizer. I demonstrate two ways in which an association can affect its members' demand for public goods. In certain circumstances, these changes in individual demand can affect the collectively determined level of public goods, which in turn induces individual positions for and against the association. The ultimate goal of the paper is to describe how an idealized democratic society would choose what types of associations to allow. In my model, there are both winners and losers when the level of public good provision changes as the result of an association. My analysis illustrates that in most cases an alliance of winners outside the association with a subset of association members is sufficient to overcome any democratic opposition to the association.

1 Introduction

Democracies determine policies based on the preferences of voters. In the realm of public goods, then, citizens care greatly about what their fellow citizens want. It may make little difference to one citizen what furniture his neighbors purchase, but it can make a big difference to him what candidate they vote for: the cleanliness of the parks he strolls in, the safety of the street he lives on, and the health of the labor market he works in may depend in part on political decisions made by others.

Although the public goods we enjoy are heavily dependent on what our fellow citizens want, there is only so much that one can do to change others' minds. The desire to do so is evident during elections, when believers, many of them with no personal connection to a candidate or his or her organization, wear buttons, plant signs, and go door-to-door to convince others of their views. My focus in this paper is on another way in which citizens have a say in what policies their fellow citizens want: by allowing or discouraging particular forms of association.

Associations can influence their members demand for public goods in a number of ways, including by instilling a political ideology. Here, I direct my attention to associations like gated communities (McKenzie, 1994; Blakely and Snyder, 1997; Manzi and Smith-Bowers, 2005; Glasze, 2005) and business improvement districts (Briffault, 1999; Mitchell, 2001; Houstoun, 2003) that provide collective goods that compete with what the public sector provides. For example, residents of a gated community may demand less municipal policing from behind the safety of their residential fortress than they would if they lived outside of its gates. Citizens who want more policing therefore may push for policies to prevent more gates from going up. In cases where an association can influence public good provision, then, the policies that regulate that association become the subject of political conflict. This paper is an attempt to analyze the way that conflict is borne out in a democratic

society.

I carry out my analysis in two parts. First, I outline two distinct ways in which the provision of collective goods within exclusive associations can affect their members' preferences over public goods – by effectively moving their ideal points and by inducing strategic voting behavior. In many cases these effects will influence a society's equilibrium level of public goods provision. Second, given the effect of associations on public goods provision, I ask in what cases a democratic society would choose to allow a particular form of association. In most cases, an association that affects the level of public good provision will receive support from a decisive coalition of members and non-members.

Helsley and Strange (1998) present a somewhat different model exploring the effect of an exclusive association (which they refer to as a private government) on public good provision. In their model, welfare-maximizing governments rule both the public sector and private association. The private association provides its members with a good that perfectly substitutes for the public good. The two governments choose their level of provision strategically; the public sector knows that if it decreases public good provision, the private association will largely make up the shortfall for its members. In equilibrium, then, the public social planner effectively delegates responsibility for association members to its government; since the association is assumed to serve high-demand citizens, the result is a lower level of provision by the public sector. In a model like mine, in which governments aggregate individual preferences rather than maximize social welfare, Helsley and Strange (1998)'s prediction does not necessarily follow. In my model, if association members do not change their demand for goods from the public sector, the government will not change its supply. In realistic situations (such as where the association provides a perfect substitute to the public good but at greater cost), public good production will not change; in some cases, I demonstrate, the existence of an association might actually *increase* the level of

public good provision.

Throughout the paper I refer most commonly to the example of gated communities, a form of exclusive association that provides substitute collective goods and is regulated to some extent by public policy. It should be clear, though, that the logic of the model extends to a range of other situations in which society can determine what type of exclusive associations to allow. Business Improvement Districts (which I discuss somewhat below) and other forms of special purpose government (Foster, 1997; Bollens, 1957), villages, towns, and cities (Burns, 1994; Martin and Wagner, 1978), and federal systems of government (Riker, 1964) are all cases in which, to some extent, exclusive collective goods are provided in a way that affects public good provision in a broader society. While my exposition keeps to examples from American local governance, then, it is worth bearing in mind links between the logic outlined here and the dynamics at play at these other levels of politics.

In asking how the effect of an association on public goods provision induces social preferences over associations, my analysis is in the spirit of other work in political science and economics that endogenizes institutional features that are usually taken as exogenous (for examples: on political regimes, see Acemoglu and Robinson (2006); on legislatures, see Weingast and Marshall (1988); on national borders, see Alesina and Spolaore (2003)). While I am able to generate a set of sufficient conditions under which a particular association (or a policy change that enables a particular association) will be supported by a democratic majority, my discussion provides few unambiguous empirical implications. The main contribution is to illuminate one view of the interests at stake when private associations provide public goods: the winners, the losers, and how their interests might shape policy decisions about what associations can form.

2 The effect of associations on public goods provision

This paper is ultimately about a society's preferences over exclusive associations formed by a subset of its members. Such associations may affect their members and the rest of society in myriad ways. Before exploring the channel that is the focus of this paper (the association's provision of collective goods that substitute for or complement public good provision) it may be useful to note briefly two important channels I do not consider further.

First, members of an association may engage in collective behavior which inflicts costs or benefits on non-members (known as spillovers or externalities), or they may withdraw from society-wide collective behavior that formerly produced costs or benefits for other members of society. Private education may be a good example of how associations can change the externalities one group of citizens impose on others: since some of the most motivated students may forsake public school for private schools, a community that enables the formation of a private school may deprive its public school students of the positive influence of their private school contemporaries. (The externalities may not be all negative: some students and parents may be glad to see the haughty private school crowd leave.) Robert Reich's well-known indictment of the "secession of the successful" in American society is largely concerned with the reduced spillovers from haves to have-nots (Reich, 1991).

A second important channel through which the ability to associate may affect society is political influence. Groups may be able to pool resources and carry greater weight in political processes than their members could have done independently. Elites have recognized throughout history that allowing the politically disempowered to form associations is a threat to continued political dominance, and have therefore kept a close watch on guilds, unions, philosophical societies, and other groups. In modern democratic politics, unions, religious organizations, and industry lobbying groups (to say nothing of political

parties themselves) exert enormous influence. Even at the level of local governance, the ability of associations to pool resources and influence the political process may be relevant; McKenzie (1994) notes that homeowner associations in gated communities provide a useful organizational structure for lobbying local governments to lower taxes on their members.

In this paper I leave aside both of these important channels through which associations can affect society and focus squarely on the effect that membership in an association has on its members' demand for public goods. In theory, membership could affect demand for a public good in two ways: by changing its members' preferences for that public good (i.e., by imparting ideology that changes members' utility functions), or by changing the relative price between the public good and goods that act as substitutes or complements. I leave aside the former channel and instead focus on a particularly stark version of the latter one: I assume that associations can provide a collective good that is unavailable to non-members. For example, a gated community can provide security or secluded green space exclusively to its members. To the extent that gated community members view these collective goods as substitutes for municipal policing or parks, they may decrease their demand for public goods, which may lead to reduced public funding for those goods. It is this effect of associations, rather than spillovers or political influence, that is the focus of this paper.

2.1 Consumers, society, and association

My model features a society of N agents who differ according to a vector α^i . Each agent receives identical income y and uses it for private consumption c_i and two forms of public consumption, g and γ . The utility of agent i conditional on his type α^i is denoted

$$w^i = u(c_i, g, \gamma | \alpha^i). \tag{1}$$

Public good g is funded by, and provided to, all N members of society, while collective good γ is funded by, and provided to, M members of an exclusive association, where $M \leq N$.¹ (Throughout the paper, I do not consider the case where there is more than one association; doing so complicates the explication without adding insight.) Collective good γ could be called a club good, in that it is excludable but there are advantages from collective provision (Cornes and Sandler, 1996, p. 347). I express the amount of g and γ provided by the society and association, respectively, in terms of per-person expenditure.² I assume that individuals choose an optimal level of consumption c_i given g and γ ; substituting this level of c_i into the utility function provides an indirect utility function defined over policy g for nonmembers $W(g|\alpha^i)$ and both g and γ for members $W(g, \gamma|\alpha^i)$. The corresponding ideal point for non-members is therefore given by

$$(g^*|\alpha^i) = \arg \max_g W(g|\alpha^i, \gamma = 0); \quad (2)$$

the equivalent expression for members is

$$(g^*, \gamma^*|\alpha^i) = \arg \max_{g, \gamma} W(g, \gamma|\alpha^i). \quad (3)$$

For non-members with nonmembers with an internal solution, at ideal point g^*

$$\frac{\partial u(g^*, \gamma = 0|\alpha^i)}{\partial g} = \frac{\partial u(g^*, \gamma = 0|\alpha^i)}{\partial c_i}; \quad (4)$$

¹There is no technical difference between public goods and collective goods, but for clarity I use these labels to refer to g and γ .

²For example, g might be the per-person bill for city policing. Because of the “publicness” (nonrivalry) of g , the amount of this public good that any individual i effectively consumes when expenditures are set at \tilde{g} would be between \tilde{g} (a nearly private good) and $N \times \tilde{g}$ (completely nonrivalrous). To make the presentation simpler, I refer to g and γ as the goods themselves rather than expenditure on the goods; in this view, the degree of publicness of consumption is effectively inserted in the utility function.

for members with interior solutions, likewise, at the ideal point (g^*, γ^*) we have

$$\frac{\partial u(g^*, \gamma^* | \alpha^i)}{\partial g} = \frac{\partial u(g^*, \gamma^* | \alpha^i)}{\partial \gamma} = \frac{\partial u(g^*, \gamma^* | \alpha^i)}{\partial c_i}. \quad (5)$$

It may be useful to put these expressions into words, using the example of security services in gated communities. Equation 5 tells us that, at her ideal point, the member of a gated community gets the same benefit from the last dollar spent on municipal policing (g), private security security services (γ), and private consumption (c_i). Equation 4 tells us that the non-member at his ideal point gets the same benefit from the last dollar spent on municipal policing (g) and private consumption (c_i).

2.2 Membership and demand for the collective good

What effect does association membership have on an individual's demand for g , the socially-provided collective good? Using the notation introduced above, the difference between an agent's ideal level of g with and without an association membership can be expressed

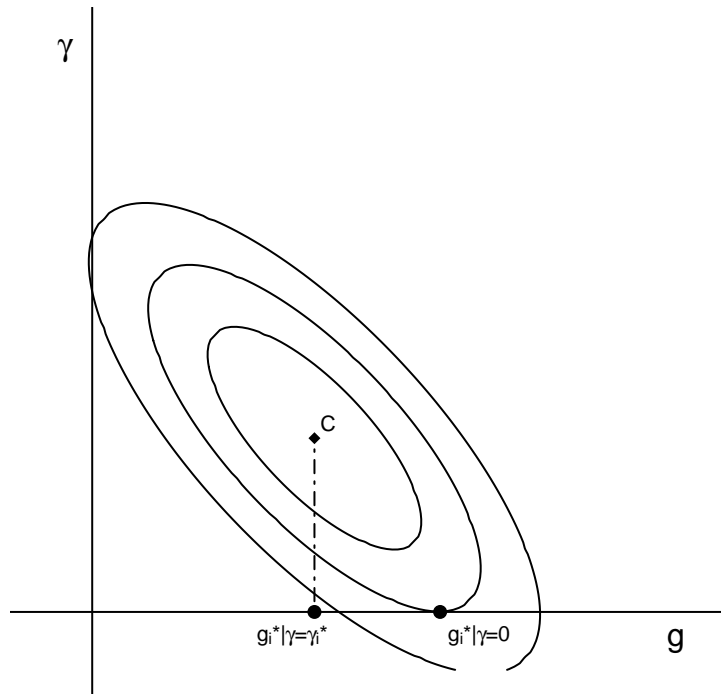
$$\Delta g_i^* = g_i^* |_{\gamma=0, \alpha^i} - g_i^* |_{\gamma=\gamma_i^*, \alpha^i}. \quad (6)$$

Figure 1 illustrates the difference between an agent's ideal level of g (x-axis) as a non-member and member of an association providing γ (y-axis). Because this agent views g and γ as substitutes (indicated by the shape of his indifference curves), his ideal level of g when not a member of an association is higher than the ideal level when he is.

What can we say in general about Δg_i^* ? In two cases it will be zero, indicating that membership has no effect on demand for the public good:

1. When preferences are separable, meaning that the agent's demand for g is independent of the provision of γ , and vice versa. These preferences correspond to circular

Figure 1: The effect of association membership on an agent's ideal level of public good provision



The curves depict indifference curves for an agent with bliss point C . The ideal level of g for this agent assuming he is not a member of an association (and therefore cannot acquire γ) is labeled $g_i^ | \gamma = 0$. As a member of the association, his ideal level of g is labeled $g_i^* | \gamma = \gamma_i^*$. Membership in the association decreases his ideal level of g because he views the goods as substitutes (indicated by the shape of his indifference curves).*

indifference curves in (g, γ) space. Since g , γ , and c_i all enter into the utility function, this requires that not only do g and γ enter the utility function separately (i.e., they are neither substitutes nor complements), but the marginal utility of consumption (c_i) is nondecreasing in c_i (because otherwise additional γ would decrease c_i and induce substitution away from g). This would be the case, for example, with a quasilinear utility function like the following:

$$w_i = c_i + G(g) + H(\gamma). \quad (7)$$

2. When (g^*, γ^*) is the same point as $(g^*, 0)$, i.e. when the optimal level of γ^* is zero. This will be true when there is no interior solution to the member's optimization problem, i.e. when

$$\frac{\partial u(g^*, \gamma = 0 | \alpha^i)}{\partial \gamma} < \frac{\partial u(g^*, \gamma = 0 | \alpha^i)}{\partial g} = 0 \quad (8)$$

Returning to my previous example, this will be the case when the gated community resident gets more benefit from even the last dollar of expenditure on municipal policing than she would on the first dollar of private security forces provided by the homeowners association.

The first case requires a fairly uninteresting choice of public goods (in that demand for g and γ is separable) so I will not be returning to it. I will return to the second case later, when I argue that strategic concerns might lead even an agent of this kind to change his vote on g .

2.3 Social choice under sincere representation of preferences

Now consider the social choice of g , which is carried out by social choice aggregator F . The arguments of F are the “representations” of the N members of society – expressions of their demand for g . It may be useful to think of agent i ’s representation as an amount, \hat{g}_i , written on a piece of paper and submitted to city hall. F converts these representations into a social choice, i.e.

$$F(\hat{g}_1, \hat{g}_2, \dots, \hat{g}_N) \rightarrow \bar{g}. \quad (9)$$

If we assume that agents make sincere representations (i.e. $\hat{g}_i = g_i^*$), it should be clear that in many situations the formation of an association would change \bar{g} . For this to be true, the formation of an association would have to change the ideal point (g^*, γ^*) of one or more agents, and that change would have to somehow influence the social choice.

Assume F is an open-agenda majority-rule vote, and preferences on g are single-peaked (such that the Median Voter Theorem obtains). Denote the ideal point of median voter m before the introduction of an association as g_m^{o*} . For the creation of an association to produce a social choice $\bar{g} \neq \bar{g}^o = g_m^{o*}$, it is sufficient that there be only one agent i for whom, without loss of generality, $g_i^*|(\gamma = 0) < g_m^{o*}$ but $g_i^*|(\gamma = \gamma^*) > g_m^{o*}$. In words, it is sufficient that one agent whose ideal level of public provision was below the median before the association has a new ideal point (after joining) that is above the median, if all other agents’ ideal level of public provision either does not change or stays on the same side of the median. This is not of course a necessary condition; the social choice \bar{g} can change when more than one agent’s ideal point cross the median, and when some who were above go below and vice versa. The simple (indeed, almost tautological) point I want to make here is that, if creation of an association moves ideal points and agents sincerely represent their ideal points, there are many circumstances in which the creation of an association

will change the social choice of the public good.

2.4 Strategic representation of preferences

In the previous sections, I attempted to formalize the sense in which an association can change its members' preferences over a public good g , and I noted that when agents sincerely represent their preferences the social choice of that public good can change. Here I argue that association members face incentives to strategically misrepresent their ideal points in voting over g . The group of potential strategic voters includes both members whose ideal points were moved as a result of the association and those whose ideal points were not moved. Strategic voting thus weakly increases the number of agents whose representation \hat{g}_i is affected by the formation of an association.

The root cause of strategic voting in this scenario is the nonseparability of preferences over g and γ . An agent's preferences over g and γ are nonseparable when his ideal level of g depends on the actual level of γ , and vice versa, i.e. $g_i^*|\gamma \neq g_i^*|\gamma'$ for some $\gamma \neq \gamma'$. (For an introductory discussion of non-separability, see Hinich and Munger (1997, pp. 50–67).) As I argued above, for many choices of g and γ , at least some agents will have nonseparable preferences. For example, a gated community resident may prefer more private security services when municipal policing is low than when it is high. I argue here that the existence of nonseparable preferences among some subset of association members can induce strategic voting among another, perhaps distinct, subset of members.

Assume that g and γ are determined according to the following extensive form game. The set J (the members of the association) is, for now, fixed at the beginning of the game.

1. Each agent i submits her \hat{g}_i , a representation of her demand for g .
2. Society determines \bar{g} , the socially provided level of the public good, according to aggregator F .

3. Each agent j in J submits $\hat{\gamma}_j$, a representation of her demand for γ .
4. The association determines $\bar{\gamma}$, the privately provided level of a related public good, according to aggregator \mathfrak{S} .

Note first that, for \mathfrak{S} satisfying minimal properties (positive responsiveness), sincere representation is weakly dominant in submitting $\hat{\gamma}_j$, since this is the end of the game. Given \bar{g} , then, the representations $\hat{\gamma}_j$ for all members j are known, as is the association's choice of γ , i.e. $\bar{\gamma}|\bar{g} = \mathfrak{S}(\bar{g})$. Nonseparability of preferences over g and γ among some agents will likely make the social choice of γ dependent on \bar{g} , i.e. $\mathfrak{S}(\bar{g}) \neq \mathfrak{S}(\bar{g}')$ for some $\bar{g} \neq \bar{g}'$. In other words, the association's collective preference over γ and g is likely to nonseparable.

Assuming that this is the case, association members have an incentive to submit representations \hat{g}_j that differ from their ideal points g_j^* . Formally, agent j has an incentive to submit $\hat{g}_j' \neq g_j^*$ (i.e., “misrepresent” his preferences over the public good) when

$$u_j \left(F(\hat{g}_1, \hat{g}_2, \dots, \hat{g}_j', \dots, \hat{g}_N), \mathfrak{S}(F(\hat{g}_1, \hat{g}_2, \dots, \hat{g}_j', \dots, \hat{g}_N)) | \alpha_j \right) > u_j \left(F(\hat{g}_1, \hat{g}_2, \dots, g_j^*, \dots, \hat{g}_N), \mathfrak{S}(F(\hat{g}_1, \hat{g}_2, \dots, g_j^*, \dots, \hat{g}_N)) | \alpha_j \right). \quad (10)$$

In words, agent j will misrepresent his preferences over g when the bundle of public and private collective goods that results is better than what would have occurred by voting sincerely, holding fixed other voters' representations. To put the point slightly differently, agents will strategically move society's choice of g away from their own ideal point to induce the association to choose a level of γ that provides them with higher utility. The sacrifice made on g is compensated on γ .

Interestingly, even agents with separable preferences over g and γ may be induced to make strategic misrepresentations in this way. What matters is the nonseparability of association preferences, i.e. the dependence of \mathfrak{S} on \bar{g} . This point can be illustrated with

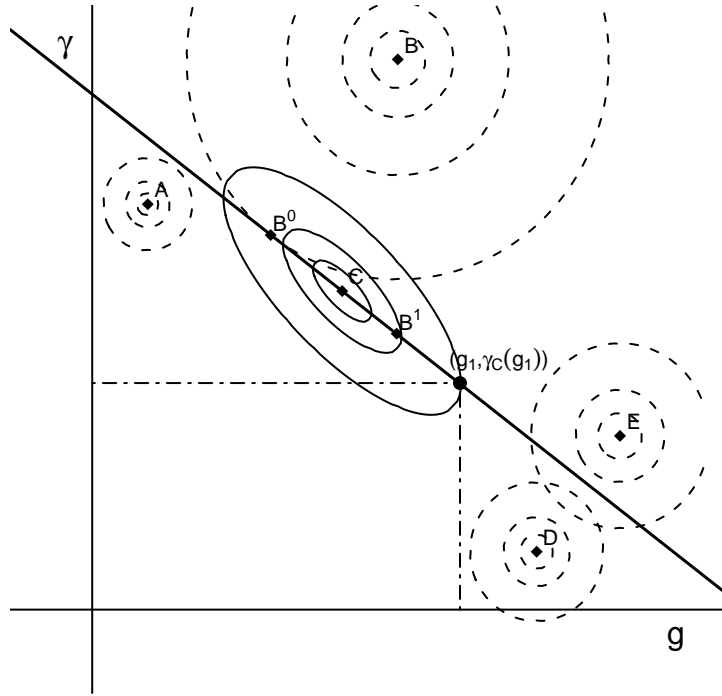
reference to Figure 2, which depicts the ideal points and indifference curves of five agents A to E over g and γ . I assume that both g and γ are determined by the median voter, and that all agents participate in both processes (i.e., every agent in society is a member of the association determining γ). Note that agents A, B, D, and E have separable preferences. Agent C, though, has nonseparable preferences: he views g and γ as substitutes.

The solid line in Figure 2 depicts the “reaction function” of C: his ideal amount of γ , for every value of \bar{g} . The reaction function is identified graphically by connecting points where indifference curves are vertical, meaning that γ has been chosen to put the consumer on the highest indifference curve given g . Because their ideal consumption of γ depends on g , consumers with nonseparable preferences have reaction function with non-zero slope. For consumers A, B, D, and E, the equivalent reaction functions (not drawn) would be horizontal, indicating that the ideal γ is independent of the actual g . Given \bar{g} such that C is the median voter on γ , C’s reaction function tells us $\mathfrak{S}(\bar{g})$, the association’s choice of γ given \bar{g} .

To see the incentive for strategic misrepresentation of ideal points in this case, consider first the outcome under sincere voting. If A-E voted their ideal points for g , B’s ideal level of g would be implemented, since he is the median voter in the g dimension. Then, in voting on γ , C would vote not his ideal point but the point B^1 , which is the intersection of his reaction function and B’s ideal value of g . The bundle B^1 would therefore be implemented.

But note that B^1 is worse for B (further from his ideal point) than point C. B would therefore be strictly better off if he changed his vote on g such that C was the median voter, which would result in the implementation of bundle C. Consumer B knows that C will be the median voter on γ (assuming \bar{g} is in a certain middling range), and he knows C’s reaction function. Backward induction thus leads him to strategically vote away from his ideal point on g .

Figure 2: Separable and nonseparable preferences over g and γ , where g is chosen first



The diagonal line depicts agent C 's conditional demand for γ given \bar{g} . Given \bar{g} in roughly the middle (COULD MAKE THIS MORE PRECISE IN AN EDIT), C will be the median voter on γ , and this reaction function thus indicates the association's choice of γ as a function of \bar{g} . Agent B has an incentive to vote for B_0 in first round, since he prefers bundle C to bundle B^1 , which is what would result from sincere voting by all agents. If agents pursue weakly dominant voting strategies, Point C is the only equilibrium outcome.

What then would be B's optimal vote on g ? If he is sure that C will vote his ideal point on g , and sure that A will vote below C, and that D and E will vote above C, then any vote at or below C's vote is equivalent. As is usually the case with voting models, many voting strategies can be sustained in equilibrium. But if we introduce some uncertainty about other consumers' votes, we can conclude that voting the point B^0 strictly dominates all other votes. To be more specific, if B puts any positive probability on the possibility that he will be the median voter on g , then B^0 strictly dominates all other voting strategies for B, given that C will be the median voter on γ .³ Agent B therefore engages in strategic voting despite having separable preferences over g and γ . If all voters pursue weakly dominant voting strategies, then bundle C (agent C's ideal point) is the sole equilibrium outcome.

It should be clear from this example that, given dependence of \mathfrak{S} on \bar{g} and sequential social choice over g and γ , association members may have an incentive to strategically misrepresent their ideal points on g . The example shows that this can be true even for association members with separable preferences; it will be true in many cases for members with separable preferences, including those whose ideal level of public good provision is not affected by membership because their ideal bundle is a corner solution. This is the point I alluded to in the introduction: although Helsley and Strange (1998)'s model predicts that private associations would always decrease the level of public good provision, here an association could result in an increase in public good provision even if the association provides a perfect substitute at strictly higher cost. In this case, all association members

³Observe that B^0 is the best bundle on C's response function for B (closest to his ideal point). If it is known that C's reaction function will determine γ given g , B^0 represents B's ideal value of g . Now, note that (again assuming that C's reaction function will determine γ given g), voting B^0 weakly dominates any other voting strategy for consumer B: if B ends up the median voter on g , B^0 is strictly better than any other vote; if B is not the median voter on g , B^0 is equivalent to other votes on the same side of the median and strictly better than other votes at the other side of the median. If B puts any positive probability on the possibility that he will be the median voter on g , B^0 strictly dominates all other voting strategies for B. My argument closely mirrors the concept of trembling-hand perfect Nash Equilibrium, as introduced in Selten (1975). The underlying intuition is that, when there is uncertainty about other players' moves, caution dictates eliminating weakly dominated strategies.

would have ideal points that are corner solutions (i.e., they would ideally consume $\gamma_i^* = 0$). Members would demand a level of γ that would make up for whatever shortfall in g from public provision. But members who have a relatively low demand for this collective good would have an incentive to misrepresent their demand for g *upwards*, inducing the association to produce less of the more-costly γ . Such strategic voters would be like gated community residents who are relatively unconcerned about policing, but who would like to see more municipal police expenditures so that their homeowners association would spend less money on private security. While this channel is plausible, it may be of more theoretical than practical importance. For the purpose of assessing the effect of private associations on public good provision, though, it is worth noting that considering strategic misrepresentation weakly increases the number of agents whose demand for public good provision is affected by membership in an association.

3 Social preferences over associations

In the previous section, I outlined conditions in which an association providing an exclusive collective good can affect individual demand for a public good provided by society, and therefore affect aggregate provision. By providing a good that acts as a substitute (or complement) for a publicly provided good, an association can change agents' ideal level of the publicly provided good; it can also induce association members to vote strategically on the public good, given that the association's collective good provision depends on society's provision of the public good. It is possible to imagine numerous other ways in which associations might change demand for public goods (such as through spreading ideology that alters agents' perceived affinity for public goods), but the story I outline provides one plausible channel that involves stable and general preferences. In this section I explore society's preferences over associations, given the effects of those associations on public good

provision.

3.1 The cost of association

As we have seen, associations can influence public good provision when they provide a good that substitutes or complements the public good. Since this affects the utility of anyone who receives the public good, members of society will have preferences between the outcome with the association and the outcome without it. These preferences are of little practical interest unless there is some way in which society can influence the ability of its citizens to form associations. The associations I am most interested in, such as the gated communities example I have been employing, are cases in which society does have some ability to encourage or discourage their formation.

Take the example of gated communities. Development review boards in most cities and towns in the United States review new developments and set zoning rules that developers must follow. Review boards and planners therefore have some leeway in making the environment either more or less hospitable to new exclusive communities. They can make approval contingent on satisfying a set of “suggestions,” such as allowing greater public access to the neighborhood or requiring that developers contribute to public improvements outside of the new development, or by strengthening the formal legal requirements developers must meet.⁴ Local and state authorities can further make the environment more or less hospitable to gated communities by altering the tax treatment of homeowner association fees. In some cases, authorities have deducted fees paid to homeowners’ associations from property tax assessments, which makes an exclusive form of development somewhat more attractive. It is further possible to impose relatively permissive or restrictive boundaries on the types of restrictive covenants that homeowners’ associations can enforce (McKenzie,

⁴Based on personal communications with Massachusetts town and city planners on the [MASSPLANNERS] listserve, March 2006.

1994).

I lump together the various ways in which the public sector can affect the ability of its citizens to form associations into the “costs of association,” which I denote C . My interest in this section is in how a society would decide the cost of association, given the effect that associations can have on public good provision. I denote the social choice rule for determining C as Ω .

Consider a given cost of association, C . A partial equilibrium⁵ is reached when, given C , no member wants to leave the association, no non-member wants to join it, and the provided amounts of γ and g are determined according to the social choice functionals F and \mathfrak{S} . Assume that preferences and social choice functionals are such that for each C there is a unique equilibrium pair of public and private provision of collective goods, i.e. $\{g^o(C), \gamma^o(C)\}$.⁶

Now consider a society maintaining cost of association C and considering an alternate cost C' . As before, I assume that there are no associations under C but that one would form under C' ; we can therefore think of the policy change as one that reduces the cost of association. For simplicity, I further assume that both the pairwise choice between C (the status quo) and C' and the social choice of g are conducted by simple majority rule, although I believe the intuition works for a somewhat broader class of social choice functionals. Compare the equilibrium levels of public good provision under C and C' , $g^o(C)$ and $g^o(C')$. Given stable preferences and no independent effect of the association on non-members, any difference between $g^o(C)$ and $g^o(C')$ can only be due to changes in the demand for g from agents who would join the association under C' , a group I refer to as “members.”

⁵Since I consider C to be endogenous, a general equilibrium would entail an equilibrium choice of C as well. As I discuss below, there is no guarantee that such an equilibrium exists without stringent restrictions.

⁶It may be that I need to place severe restrictions on the preferences and social choice functionals to ensure that an equilibrium exists; I have not yet seriously examined this issue.

Proposition 1 articulates a strong set of sufficient conditions under which a society would weakly prefer C' over C :

Proposition 1. *For a society to weakly prefer cost of association C' to C , it is sufficient that*

- *preferences over g are single-peaked,*
- *F , the social choice functional for g , and Ω , the social choice functional for C , are both majority rule, and*
- *all members weakly prefer $\{g^o(C'), \gamma^0(C')\}$ to $\{g^o(C), \gamma^0(C)\}$.*

Proof. Assume without loss of generality that $g^o(C') < g^o(C)$. Define D as the coalition for whom $\hat{g}_i(C') \leq g^o(C')$ (i.e., those at or below the median under C'). Note that by the median voter theorem D is decisive. Agents in D are either non-members, in which case we know that $\hat{g}_i(C') = \hat{g}_i(C) = g_i * |\alpha^i \leq g^o(C')$ (i.e. they vote sincerely regardless of C), and that (by single-peakedness) $g^o(C') \succ_i g^o(C)$ and therefore $T' \succ_i T$, or members, as defined above. Since all members prefer C' to C , all agents in D therefore prefer C' to C and would be decisive in majority voting on C . \square

It should be clear that these sufficient conditions are stronger than necessary. I define as DECISIVE MEMBERS the subset of members for whom $\hat{g}_i(C') \leq g^o(C')$, given that (without loss of generality) $g^o(C') < g^o(C)$. In words, decisive members are those members whose vote on g is at or below (above) the median under C' , given that C' lowers (raises) the equilibrium provision of g . Proposition 2 uses this concept to articulate a slightly weaker set of sufficient conditions for society to prefer C' to C :

Proposition 2. *For a society to weakly prefer cost of association C' to C , it is sufficient that*

- preferences over g are single-peaked, and
- F , the social choice functional for g , Ω , the social choice functional for C , are both majority rule, and
- all decisive members weakly prefer $\{g^o(C'), \gamma^0(C')\}$ to $\{g^o(C), \gamma^0(C)\}$.

Proof. Assume again without loss of generality that $g^o(C') < g^o(C)$ and again define D as the coalition for whom $\hat{g}_i(C') \leq g^o(C')$ (i.e., those at or below the median under C'). Note that by the median voter theorem D is decisive. As above, non-members in D prefer C' to C . Since all members in D are decisive members and prefer C' to C , all agents in D prefer C' to C and would be decisive in majority voting on C . \square

Still another weakening of the sufficient conditions is possible. Proposition 3 requires that the number of decisive agents opposed to C' be no larger than the number of non-decisive agents in favor of it:

Proposition 3. *Assume again without loss of generality that $g^o(C') < g^o(C)$. For a society to weakly prefer cost of association C' to C , it is sufficient that*

- F , the social choice functional for g , and Ω , the social choice functional for C , are both majority rule,
- preferences over g are single-peaked,
- the number of decisive members who prefer $\{g^o(C), \gamma^0(C)\}$ to $\{g^o(C'), \gamma^0(C')\}$ is no larger than the number of non-decisive members (members for whom $\hat{g}_i(C') > g^o(C')$) who prefer $\{g^o(C'), \gamma^0(C')\}$ to $\{g^o(C), \gamma^0(C)\}$.

Proof. Note again by the median voter theorem that the coalition (which I will call D) favoring $g^o(C')$ to any $g' > g^o(C')$ (conditional on C') is decisive. As above, nonmembers in D

prefer C' to C . For every decisive member for whom $u_i(\{g^o(C), \gamma^0(C)\}) > \{g^o(C'), \gamma^0(C')\}$, substitute a non-decisive member for whom $u_i(\{g^o(C'), \gamma^0(C')\}) \geq \{g^o(C), \gamma^0(C)\}$. The resulting coalition is decisive. \square

3.2 Discussion of propositions

These propositions state that, given the assumptions of the model (i.e. median voter theorem applies to the choice of g , associations have no spillover effects, majority rule on costs of association), society will favor a policy change producing a new association (despite its affects on public good provision) if there is a sufficient level of support among the association's members. The intuition is simply that the non-members who are benefited by the change in the level of public goods that result, along with some subset of the members, form a decisive coalition in favor of the change. The propositions I outlined above require progressively smaller portions of the members to support the change from one cost of association to the other.

To use an example, suppose that a municipality with no associations is considering a policy change that would result in some of its citizens creating a gated community. Suppose that as a result of the creation of this gated community, some members of the gated community would demand less trash pickup from the municipality, and suppose further that as a result the median demand for trash pickup would decrease. Proposition 1 says that as long as everyone joining the gated community is made better off, a democratic society would approve of allowing the association to form. Proposition 2 says that as long as everyone in the association who votes for a below-median level of trash pickup is made better off, the society would approve of the change. Proposition 3 says that as long as the below-median members who oppose the change are outnumbered by the above-median members who support it, the gated community would be allowed to form.

At this point, the reader may be asking, “Why this emphasis on whether association members prefer the equilibrium with the association to that without it? If association members join voluntarily, wouldn’t this always be the case?” I offer two responses to this point. First, there are important private associations that can coerce members into joining. This is the case in Business Improvement Districts (BIDs) and other kinds of special purpose governments: according to state law, the approval of a certain percentage of the occupants of a proposed district is sufficient to create an association empowered to raise taxes and provide private services. (The same is true of municipal governments in the US, which were generally formed by a petition process requiring the signatures of a certain percentage of residents in the proposed municipality (Martin and Wagner, 1978).) In these cases, an association member whose vote is decisive on g may not participate in the coalition supporting the establishment of the association.

For example, consider the situation of a businessman located in a BID but completely uninterested in the expensive supplementary sidewalk cleaning services it proposes to provide. Once he is a member of the association, he may strategically increase his demand for municipal sidewalk cleaning services to discourage the BID from doing its own. If his vote was originally below the municipal median, his strategic move might be pivotal in increasing municipal provision of sidewalk cleaning. But the decisive coalition that made this change (and includes him) may not be able to pass legislation permitting the formation of Business Improvement Districts in the first place. Depending on the distribution and shape of preferences, the group of voters who are made worse off by the increase in municipal sidewalk cleaning (along with our disgruntled BID member) may be large enough to defeat legislation enabling BIDs.

The second situation in which association members may oppose association formation is when there is a “bandwagon effect”: when the creation of an association induces changes

in the public sector that drive more agents into the association. For example, consider a municipality that allows a gated community to be established. Presumably all members of that gated community prefer to be in the gated community than to not be in it; in other words, no member would prefer to be a non-member, given that it exists. But it may be the case that some members preferred the situation before the gated community was formed to the situation in which they are members, perhaps because the formation of the gated community reduced public good provision so much that they were no longer happy with life as a non-member. This is what I refer to as the bandwagon effect. Formally, using the notation developed above, the bandwagon effect occurs an agent when, for some agent i ,

$$u_i(g^o(C)|\alpha_i, i \notin M) > u_i(g^o(C'), \gamma^o(C')|\alpha_i, i \in M) > u_i(g^o(C')|\alpha_i, i \notin M). \quad (11)$$

In words, agent i is happiest under C , when he is not a member of an association; next in order of utility is the situation under C' when he is a member of the gated community; and last is the situation under C' when he is not a member of the gated community. This agent would be a member under C' but would prefer the equilibrium under C to that under C' . Again, using the gated community example, this is a citizen who lives in a gated community but would prefer to live in a municipality without it.

4 Implications of the model

The paper to this point has attempted to outline a logic by which a society would choose between two costs of association, C' and C , when C' would result in the formation of an association that would affect public goods provision. In order to look for empirical implications of this logic, we would ideally move beyond this pairwise choice over C and make statements about the equilibrium level of C upon which a given society would settle. I

have assumed preferences over the public good are single-peaked in order to assure the ordinary median-voter result for g . Since preferences over C in my model are induced by the relationship between C and g , which depends on who joins associations and the complementarity of g and γ for association members, I cannot simply assume single-peakedness in preferences over C . Even if we assume that C is unidimensional, an agent's preferences over the domain of C may be quite complex, depending on the joint distribution of preferences for g and γ and the way in which associations are formed and governed. Without restricting the model such that individual preferences over C are single-peaked, we cannot be sure that there is an equilibrium value of C , and cycling in majority voting could result: it may be the case that no arrangement of associations (with resulting levels of public and private public good provision) is immune to the democratic passage of a new set of rules that breaks up or forms new associations.

Instead of making highly restrictive assumptions about these features in order to ensure a hard-to-interpret equilibrium in C , I have restricted myself to pairwise comparisons (admittedly also somewhat hard to interpret) of the kind considered above. The model therefore is unable to describe empirical regularities across costs of association presumed to be in equilibrium. But it illuminates the individual interests at stake when exclusive associations affect public good provision and illustrates the logic underlying particular out-of-equilibrium policy changes.

In general, the model suggests that very few associations should be vetoed by society on the basis of their effects on public good provision. In order for a democratic society to vote against a policy change that would produce an association in my model, it would have to be the case that a subset of the members of the association oppose its formation. I argued above that this might be true when policy allows compulsory membership (as in the case of BIDs) or when bandwagon effects are prominent, but otherwise decisive opposition

to a form of association would have to come from sources not included in my model.

Although the democratic rejection of a new form of association based on its effect on public goods provision appears unlikely based on my model, the analysis helps to highlight in what situations there might be noticeable opposition. According to the median voter theorem perspective, an association could have a distinct effect on public goods provision when it brings together citizens with a high demand for a public good and provides a substitute (or citizens with a low demand and provides a complement). It is thus not surprising that gated communities, which tend to attract people with high demand for security and green space, may inspire opposition among those outside the community's walls who want a higher level of public provision of those goods. In this sense, the model helps us to identify those citizens whose opposition to an exclusive association may be due to its effect on public goods.

Further, this view of the source of opposition to private government may help us to understand the way policymakers shape some associations. The Business Improvement District (BID) is a form of association whose functions and boundaries are specified by enabling legislation passed by states and carefully regulated by municipal authorities. These functions and boundaries are determined such that BID members are the ones who most want the services it provides. This makes sense from the perspective of designing an institution whose members mostly want to be included (recall that BIDs can force holdouts to join), but arranging the BID in this way also serves to minimize opposition resulting from the BID's effect on the public sector, as featured in my model. The formation of a BID may result in reduced public provision of goods for which the BID provides substitutes to its members; this will produce less opposition if the BID's boundaries are drawn such that very few businesses outside of the BID care about the goods it produces.⁷For example,

⁷BID regulations typically state that the city cannot reduce its provision of public goods in response to BID services, *unless the level of public goods provision is reduced throughout the city*. In my model, a

BIDs typically finance marketing campaigns for their businesses, which likely diminishes BID members' need for the business promotion activities in which the city had previously engaged. In order to minimize damage from the reduction in public marketing efforts, then, it makes sense to draw BID boundaries to include as many as possible of the businesses that most benefit from marketing.

Alternatively, consider the impact of including businesses with a low demand for the goods the BID provides. As mentioned above, these low-demand members may have an incentive to strategically increase their demand for some public goods, particularly if the BID produces those goods less efficiently than does the public sector. It's clear that a few stray businesses strategically misrepresenting their demand for public goods can have only limited electoral impact in a realistic political system, but this channel provides a modest additional reason to ensure that the BID does not include businesses with a low demand for the goods the BID provides.

5 Conclusion

I have argued that associations can affect public goods provision; that this effect produces winners and losers; and that, in most cases, an alliance of a subset of association members and winners outside of the association is sufficient to overcome opposition from losers. The analysis produces few testable empirical predictions, but helps to illuminate who might oppose an association, why they would do so, and why their efforts to restrict association are likely to be unsuccessful.

The model is of course an unrealistic approximation of the politics of associations in many respects: it considers only the effect of these associations on public goods, it ignores

city-wide decrease in public goods provision would be precisely the effect of BID provision, given that the goods are substitutes.

the possibility that the members of the association may come from outside of the society, and (most restrictively) it portrays democratic politics as perfectly responsive to the median voter on a single issue. The goal in doing so, of course, is to highlight the features that remain: to make clear how associations can affect public good provision and how this induces social preferences over associations.

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