Urban Extremism

by

Jan K. Brueckner and Amihai Glazer
Department of Economics
University of California, Irvine
Irvine, CA 92697

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Abstract

Consider two types of residents, who prefer two different values of a policy. A current majority in some city, seeking to increase the probability that it will set policy in the following period, may adopt current policies that are particularly unattractive to the minority, leading some members of the minority to emigrate. Such behavior can lead to extremist policies, to wasteful taxes, and to similar inefficiencies.

1 Introduction

Jurisdictions sometimes adopt policies that a majority of their citizens oppose. This paper considers one reason voters may favor policies that hurt them in the short run: such policies may induce emigration of residents with different preferences, thereby tilting expected policy in the future toward policies the current majority favors. For example, suppose a city consists of a majority of parents with young school-age children and a minority without children. Parents want high spending on schools both now and in the future. Not guaranteed that their majority status will persist, parents may vote for excessive school spending now to make the city less attractive to childless voters, who may emigrate, thus raising the likelihood that parents retain their majority status in the future.

Similar effects can arise with other kinds of policies. Liberal voters in Santa Monica, California may favor generous treatment of the homeless not only out of sympathy for them, but also because the current liberal majority may want to induce migration of conservative residents who find the presence of the homeless especially uncomfortable. Such migration solidifies the political power of the initial majority, ensuring that future homeless policies agree with their preferences. Orthodox voters in Jerusalem may want to close all places of entertainment on the Sabbath, including those they will never frequent, because such closure makes the city less attractive to secular people, ensuring that future policies will also be strict. A Long Island suburb may impose high property taxes and impose large minimum-lot requirements not only because the current residents value schools and low density, but also because the residents want few poor people, who could affect future policy as voters, to live there.

We shall illustrate this idea in a simple two-period model with two types of voters, who differ in their preferences on the level of a governmental policy variable (denoted z). After the vote outcome in period 0, members of a given type may leave the city if the chosen z level is too far from their ideal point. Such emigration is governed by heterogeneous moving costs, which means that the number of migrants rises continuously as the z level becomes more unfavorable. Because random voter turnout makes future vote outcomes uncertain even with fixed population shares, each group has an incentive to generate emigration of the other type through its z proposal in period 0. As a result, each group advocates an extreme policy in that period. High demanders propose a z higher than their short-term preferred level, while low demanders propose a z lower than their short-term preferred level.

2 Literature

Several previous papers are closely related to our work. Using static models, Wilson (1998) and Hoyt and Lee (2003) show that consumers in high-income communities have an incentive to overprovide public goods in order to encourage exit of the poor. However, in contrast to our model, the poor are expelled to eliminate the current burden of subsidizing their public consumption, rather than to shape the composition of the future electorate, ensuring the dominance of high-income preferences. Thus, our paper gives a different perspective on extremism by offering an explicitly dynamic model based on electoral uncertainty, where initial policies affect the future outcomes via emigration.

Like Wilson (1998) and Hoyt and Lee (2003), Epple and Romer (1991) present a static model where voters choose local policies taking account of their impact on the intercommunity migration equilibrium. However, because the model focuses on intercommunity redistribution, not public-good provision, the notion of extremism does not arise.[1]

While the above papers present general equilibrium models, our framework takes a partial equilibrium approach, focusing on incentives within a single community without providing a full treatment of the intercommunity equilibrium. Another paper on extremism that follows such an approach is Glaeser and Shleifer (2005). These authors focus on Mayor Curley of Boston, who used wasteful redistribution to his poor Irish constituents and incendiary rhetoric to encourage richer citizens to emigrate from the city, thereby shaping the electorate in his favor. Curley won elections, but Boston stagnated. Our model resembles Glaeser and Schleifer's in considering how current policy affects migration and thus future policy, but it differs in several ways. Whereas they focus on the incentives of incumbent officials, we consider the preferences of residents. Whereas Glaeser and Shleifer consider redistribution, we allow for a broader range of policies, showing how rational citizens may prefer a policy more extreme than the one which, absent migration, they would most prefer. Lastly, whereas Glaeser and Shleifer consider redistribu-

[1]Since low-income voters prefer full expropriation of the rich while high-income voters prefer zero redistribution, an interior ideal point that can be used as a reference point for extremism does not exist.

tion that necessarily benefits the favored group, we consider a policy that under standard criteria is Pareto inferior: we show that the majority may favor a policy that hurts all citizens in the short run, including members of the majority.[2]

We also build on previous work that shows how a current majority attempts to affect future policy. Incumbents may favor budget deficits [Alesina and Tabellini (1988), Tabellini and Alesina (1990)] or inefficient tax systems [Cukierman, Edwards, and Tabellini (1992)] to limit a future government's ability to adopt policies the current government opposes. Glazer (1989) argues that collective choices will show a bias towards durable projects, partly because durability ensures that the current majority can obtain the services it prefers in future periods when a different policymaker may be in power. A survey of this literature is provided by Alesina and Perotti (1995).

In contrast to the genesis of extremism in our model, this phenomenon can also arise when a party reflects the preferences of its activists, who are more extreme than other voters or party members (see Aldrich (1983)). By contrast, Glazer, Gradstein, and Konrad (1998) argue that a government may adopt extreme policies (policies distant from the ideal points of both the decisive voter and of the ruling party) for electoral purposes. The incumbent creates a cost to voters of changing the party in power by setting a policy so extreme that the challenger would change it despite the heavy cost of making the change. But swing voters may be more concerned than politicians about these costs, and have more moderate policy preferences. Those who expect the challenger to implement the costly policy change and want to avoid it will therefore support the incumbent.

Lastly, our paper relates to the behavior of religious groups, which may require strict observances with the aim of discouraging free riders (people who enjoy the religious fervor of others but show little themselves) from joining the group.[3]

[2] Nastassine (2005) considers a citizen-candidate model, exploring how mobility affects a person's willingness to run for office and showing how increased mobility can shift policy outcome towards the preferred policy of the less mobile citizens.

[3] For a survey of the relevant work, see Iannacone (1997).

3 The Model

3.1 Basic assumptions

The city contains two types of voters, denoted a and b. The types prefer different levels of a government policy variable, denoted z. Preferences for the two types are represented by the strictly concave utility functions $u_a(z)$ and $u_b(z)$. As an example, suppose individuals consume a publicly-provided private good z produced at unit cost c and a conventional private good x bought on the market. Then, $u_a(z) \equiv \widetilde{u}_a(y - cz, z)$, where $\widetilde{u}_a(\cdot)$ gives type-a preferences for x and z consumption, and y is income. Alternatively, z could represent the levels of other kinds of government policies not involving expenditures, such as the strength of affirmative action, the stringency of building codes, etc. We do assume, however, that utility from the government policy is independent of the city's population size.

The model has two time periods, denoted 0 and 1. In each period, two citizen-candidates, one from each voter type, compete in an election.[4] The level of the policy variable in a given period is set according to the preferences of the winning candidate, who attracts voters of his type.

In each election, random voter turnout helps determine the outcome. The identity of the majority group among voters is thus a random variable whose distribution depends the city's population composition. Let θ^0 denote the proportion of a-types in the city's population in period-0, with θ^1 denoting the proportion in period 1. Then, the probability that the a-types are decisive in period i's election is given by $G(\theta^i)$, $i = 0, 1$. Letting π^i, $i = 0, 1$, denote these decisiveness probabilities,

$$\pi^0 = G(\theta^0); \qquad \pi^1 = G(\theta^1). \tag{1}$$

The function G naturally satisfies $G'(\cdot) > 0$. Thus, as the population share of the a-types increases in a given period, their probability of being decisive in that period's election rises. Moreover, as θ^i approaches unity, $G(\theta^i)$ must do so as well. However, G could reach unity while θ^i is still well below 1, indicating that type-a decisiveness is certain once θ^i is sufficiently large.

Although θ^0, the proportion of a-types in period-0, is exogenous, the proportion θ^1 in period 1 can be affected by emigration from the city. Such

[4]Since we have only two types of voters, our model greatly simplifies the citizen-candidate models introduced by Osborne and Slivinski (1996) and Besley and Coate (1997)).

emigration is in turn determined by the government policy chosen in period 0. Thus, each voter type sets its proposed z level in period 0 with an eye toward this emigration, attempting to increase its chances of being decisive in period 1.

3.2 Setting up the choice problem

To analyze the choice problem, it is useful to consider first the objective function of an individual of a particular type (an a-type), with the determinants of emigration considered later. Observe that, since there is no future beyond period 1, each type will propose a z level in that period to maximize its current utility. In other words, the type-a candidate will propose the period-1 policy that maximizes $u_a(z_a)$. The resulting policy is denoted z_a^* and referred to as the type-a voter's ideal point. Since each type proposes its ideal point in period 1, the expected utility of a type-a voter in that period is then

$$\pi^1 u_a(z_a^*) \;+\; (1-\pi^1)u_a(z_b^*), \qquad (2),$$

where $u_a(z_b^*)$ is the utility of a type-a person when the b-types are decisive in period 1.

To write the overall objective function, let the policy proposed by an a-type candidate in period 0 be denoted z_a^0. Then, conditional on being decisive in period 0, an a-type's discounted expected utility in this period is

$$V_a \;\equiv\; u_a(z_a^0) \;+\; \delta[\pi^1 u_a(z_a^*) \;+\; (1-\pi^1)u_a(z_b^*)], \qquad (3),$$

where δ is the intertemporal discount factor, which is common across types.[5]

Through emigration, the proposed z_a^0 level, if adopted by the voters, affects the population proportion θ^1 and thus the probability that the a-types are decisive in period 1. To see how, let $\overline{u}_b$ denote the utility available to b-types outside the city in each period, which can be enjoyed if the individual moves, emigrating from the city. We assume that such emigration occurs at

[5]Eq. (3) gives the relevant portion of a broader type-a objective function, which gives expected utility prior to the period-0 election. That function is

$$\pi^0 \cdot (\text{discounted expected utility} \mid a\text{-types decisive in period 0}) +$$
$$(1-\pi^0) \cdot (\text{discounted expected utility} \mid b\text{-types decisive in period 0})$$

Since the second-half of this expression is independent of z_a^0 and π^0 is a constant, (3) is the relevant objective function.

the beginning of period 0, immediately after the election reveals the chosen government policy. Emigrating, however, entails a moving cost of m_b, whose magnitude is specific to the individual. Thus, after emigrating, discounted utility for a b-type is $(1+\delta)\overline{u}_b - m_b$. An individual b-type will then emigrate if

$$u_b(z_a^0) \ + \ \delta[\pi^0 u_b(z_a^*) \ + \ (1-\pi^0)u_b(z_b^*)] \ < \ (1+\delta)\overline{u}_b \ - \ m_b, \qquad (4)$$

or if

$$m_b \ < \ \tau_b \ - \ u_b(z_a^0), \qquad (5)$$

where τ_b equals $(1+\delta)\overline{u}_b$ minus the second expression on the left-hand side of (4). Thus, the people who emigrate are those with low moving costs. Note in (4) that a b-type computes the expected post-election utility from remaining in the city, given by the left-hand side of the expression, assuming that no one else emigrates. As a result, the probability that the a-types are decisive in period 1 remains at π^0.

Let $f(\cdot)$ denote the density of moving costs, which is common to both types. Then, using (5), the fraction of b-types emigrating is

$$\int_{\underline{m}_b}^{\tau_b - u_b(z_a^0)} f(m_b)dm_b \ = \ F[\tau_b - u_b(z_a^0)], \qquad (6)$$

where $\underline{m}_b$ is the minimal m_b value and $F(\cdot)$ is the c.d.f. corresponding to $f(\cdot)$. We assume that some, but not all, b-types emigrate when z_a^0 is set at z_a^*, the ideal point of a type-a voter. Given (6), this assumption requires satisfaction of the inequalities

$$\underline{m}_b \ < \ \tau_b \ - \ u_b(z_a^*) \ < \ \overline{m}_b, \qquad (7)$$

where $\overline{m}_b$ is the maximal m_b value. Note that (7) implies $f[\tau_b \ - \ u_b(z_a^*)] > 0$.

Taking account of type-b emigration, the proportion θ^1 of the population that is type-a in period 1 can be derived as a function of z_a^0, which in turn yields the relationship between π^1 and z_a^0 via (1). With this information in hand, the optimal value of z_a^0 can be computed by maximizing V_a in (3).

To explore the details of this maximization, let n_a^0 and n_b^0 denote the type-a and type-b populations in period 0. Recognizing that the period-1 type-b population equals $(1-F)n_b^0$, it follows that

$$\theta^1 \ = \ \frac{n_a^0}{n_a^0 + (1-F)n_b^0} \ = \ \frac{n_a^0}{n_a^0 + n_b^0} \, \frac{n_a^0 + n_b^0}{n_a^0 + n_b^0 - Fn_b^0} \ = \ \frac{\theta^0}{1-(1-\theta^0)F}, \qquad (8)$$

where the arguments of F from (6) are suppressed. Next, (8) is substituted into (1), yielding

$$\pi^1 \;=\; G\left[\frac{\theta^0}{1-(1-\theta^0)F}\right]. \tag{9}$$

We assume that, when the F argument of G in (9) is evaluated at $z_a^0 = z_a^*$ using (6), $\pi^1 < 1$ holds. Thus, when z_a^0 is set at the type-a ideal point, type-a decisiveness in period 1 is not assured. Note that this assumption implies that $G' > 0$ holds when $z_a^0 = z_a^*$.

Differentiation of (9) shows how π^1 depends on z_a^0, yielding

$$\begin{aligned}\frac{\partial \pi^1}{\partial z_a^0} \;&=\; -G'f\frac{\theta^0(1-\theta^0)}{[1-(1-\theta^0)F]^2}u_b'(z_a^0)\\ &=\; -\Omega(z_a^0)u_b'(z_a^0),\end{aligned} \tag{10}$$

where $\Omega \geq 0$ refers to the first three terms in (10), which depend on z_a^0 via G', f, and F.

Without loss of generality, suppose the a-types are the high demanders of the government policy, so that $z_a^* > z_b^*$. Then, consider values of z_a^0 greater than z_b^*. At such values, which are natural candidates for the type-a optimum, $u_b'(z_a^0)$ is negative. Provided that $\Omega(z_a^0)$ is positive, $\partial\pi^1/\partial z_a^0$ is then also positive, indicating that the probability that the a-types are decisive rises as z_a^0 increases. The reason, of course, is that an increase in z_a^0 pushes the government policy farther away from the ideal point of the b-types, leading to more emigration and fewer remaining members of this group in the period-1 population.

While the maintained assumptions ensure that $\Omega(z_a^0)$ and hence $\partial\pi^1/\partial z_a^0$ is positive when z_a^0 is near z_a^*, the derivative can be zero otherwise. If z_a^0 assumes a value such that $\tau_b \;-\; u_b(z_a^0) < \underline{m}_b$, then no b-types emigrate and a marginal increase in z_a^0 has no effect on π^1 (the relevant z_a^0 values lie close to z_b^*). Conversely, if $\tau_b \;-\; u_b(z_a^0) > \overline{m}_b$ holds (requiring a z_a^0 value above z_a^*), then all the b-types emigrate, and an increase in z_a^0 again has no effect on π^1. In both cases, f and hence Ω equals zero (see (7)), so that $\partial\pi^1/\partial z_a^0 = 0$.[6]

[6]If complete emigration of the b-types occurs, so that $\theta^1 = 1$, then $\pi^1 = 1$ holds as well, implying $G' = 0$ along with $f = 0$. However, if $\pi^1 = 1$ holds for a range θ^1 values lying below 1, then while $f > 0$, G' in (10) will again equal zero, yielding $\partial\pi^1/\partial z_a^0 = 0$. Thus, substantial but incomplete emigration of the b-types can also yield a zero value for this derivative.

3.3 Solving the choice problem

Using (10), the choice problem for the a-types can now be solved by choosing z_a^0 to maximize (3), taking into account the effect on π^1. The first-order condition is

$$\begin{aligned}\frac{\partial V_a}{\partial z_a^0} &= u_a'(z_a^0) + \delta\Phi_a\frac{\partial\pi^1}{\partial z_a^0} \\ &= u_a'(z_a^0) - \delta\Phi_a\Omega u_b'(z_a^0) = 0,\end{aligned} \quad (11)$$

where

$$\Phi_a = u_a(z_a^*) - u_a(z_b^*) > 0. \quad (12)$$

is the type-a utility gain from being decisive in period 1.

To derive the implications of (12), note first that since $u_a'(z_a^0)$ is positive when $z_b^* < z_a^0 < z_a^*$, while $u_b'(z_a^0)$ is negative, V_a is increasing over this range of z_a^0 values. Observe that this conclusion obtains regardless of whether Ω equals zero, so that it holds even at z_a^0 values near z_b^* where no one emigrates. Next, observe that since $\Omega(z_a^*) > 0$ holds under the maintained assumptions, $\partial V_a/\partial z_a^0$ is positive at $z_a^0 = z_a^*$, where $u_a' = 0$. Since values in the range $(z_b^*, z_a^*]$ therefore cannot be optimal, the preferred z_a^0 level must lie above z_a^*, at some point where both $u_a'(z_a^0) < 0$ and $\Omega > 0$ hold and (12) equals zero.

Note that since complete b-type emigration yields an Ω value of zero while requiring $z_a^0 > z_a^*$ and hence $u_a'(z_a^0) < 0$, the optimality condition (12) cannot be satisfied under these circumstances. Thus, the optimal z_a^0 yields incomplete emigration of the b-types. Intuitively, at the optimum, there must be some marginal gain from increasing z_a^0 to balance the loss from distorting period-0 consumption. Once all the b-types have emigrated, such gains have been exhausted, indicating that z_a^0 has been increased too far.

Thus, in the period-0 election, the type-a candidate proposes an *extreme* government policy, higher than his already-high ideal point. By repeating this argument for the b-types, an analogous conclusion emerges. In particular, the policy level proposed by the type-b candidate is also extreme, lying below z_b^*, his already-low ideal point. It is important to note that, because the type-a optimality condition (11) does not involve z_b^0, the type-a choice is independent of the proposed policy of the b-types. Since an analogous conclusion holds for the type-b choice, interaction between the types plays no role in their extreme choices. Summarizing yields

Proposition 1. *Urban extremism characterizes policy proposals in the model. The z proposed by the high-demand candidate lies above his type's ideal point,* *and the z proposed by the low-demand candidate lies below his type's ideal point.*

4 Intercommunity Analysis

Although emigration is the crucial element in our model, the preceding analysis has said little about the destinations of the emigrants or about the functioning of the entire system of cities. It is not our goal to provide a complete equilibrium model, but some discussion of these issues can be provided.

A particularly simple picture emerges if we imagine that the economy contains many homogeneous type-a and type-b cities, along with a set of heterogeneous cities like those considered in the analysis. Since the residents of the homogeneous cities would have no incentive to induce emigration of any of their residents, each would set policy at the ideal point for its type (z_a^* or z_b^*) in both periods. In such a setting, emigrants from a heterogeneous city would relocate to a homogeneous city inhabited by individuals of their type. In this case, the outside type-b utility level appearing in (4) would satisfy $\overline{u}_b = u_b(z_b^*)$, the utility achieved at the ideal point.

Random voter turnout in each heterogeneous city would determine which type is decisive in the period-0 election and thus the identities of the emigrants subsequently leaving the city. Depending on the vote outcome, some cities would generate type-a emigrants and some would generate type-b emigrants, with both groups relocating to homogeneous cities for their type. Because inducement of complete emigration is not optimal, each heterogeneous city would remain so in period 1, although its population would show an increase in the share of the decisive group from period 0.

This scenario is, of course, incomplete because it does not explain why some cities are initially homogeneous and some initially heterogeneous. But it does suggest that emigration induced by extremist policies may push the economy toward a more-homogeneous collection of cities.

In a more satisfactory analysis, the initial collection of cities would exhibit arbitrary population compositions, with all cities possibly heterogeneous. In this case, migration from one heterogeneous city to another may occur, so that a representative city might both generate emigrants and receive incoming migrants following the period-0 election. However, since our model is not set up to handle this possibility, major changes would be required to provide the requisite analysis. Such a task is left for future work.

5 Further applications

Our essential idea is that a voter may favor a policy that hurts him in the current period if (a) it hurts others more, (b) thereby inducing emigration of these individuals, and (c) thus making it more likely that the policy in the future is close to the voter's preferences. The general principle is a powerful one, predicting that, when current policy can affect future policy, the majority in the current period will never favor a policy at its ideal point. Starting at the type-a ideal point, consider a small increase in the policy variable. Because z_a^* is the type-a optimum, this change has only a second-order effect on the utility of the a-types. But the move away from z_a^* has a first-order effect on the utility of the b-types (whose ideal point differs), inducing some of them to emigrate from the city. Thus, the type-a ideal point cannot be optimal.

Moreover, our analysis can be extended to consider policy in multiple dimensions rather than along only one dimension. In the spatial model, a voter has an ideal point, with utility decreasing for any movement away from that point. Then, in the initial period, a voter would favor a policy that lies away from his ideal point and induces emigration of people with ideal points different from his. The direction of movement away from the ideal point would be chosen to maximize emigration for a given reduction in the voter's own utility.

While our model focuses on the choice of a government policy, the general idea can apply much more broadly. For example, union members may favor labor contracts that appeal to certain types of people but not others. Thus, if the current members have large families, the union membership may favor fringe benefits given to children over a cash payment that could be even larger than the cost of the benefits. Such a compensation package will induce workers who also have large families to join the union while causing unmarried workers to find its jobs unattractive. Such a change of composition in the union membership could lead the union to favor family-oriented benefits in the future.

Our approach can apply not only to policies that cause emigration of residents, but also to policies that expel particular industries from a city. For example, residents may fear that polluting firms exert excessive political influence in the choice of environmental standards. By adopting stringent environmental policies in the current period, policies more stringent than those that would maximize current utility, voters may encourage some of the polluting firms to exit the city. This change will reduce the industry's political influence in the future, benefitting the residents. Thus, while a stringent policy may appear to result from strongly pro-environmental groups or voters, the policy may actually indicate a desire to reduce anti-environmental pressures in the future.

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