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COLLECTIVE POLITICAL PRESSURE AND THE
DISTRIBUTION OF POLITICAL INCOME.

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"Besides number and intensity, there is a technique of group activities which must be taken into account. Blows, bribes, allurements of one kind and another, and arguments also, are characteristic, and to these must be added organization. A group will differentiate under fitting circumstances a special set of activities for carrying on its work. We must learn how these specialized activities vary under different forms of group opposition, how the technique changes and evolve. We shall find that the change in methods is produced by the appearance of new group interests, directed against the use of the method that is suppressed. If violence gives way to bribery, or bribery to some form of demagoguery, or that perhaps to a method called reasoning, it will be possible, if we pursue the study carefully enough, to find the group interest that has worked the change. That group will have its own technique, no more scrupulous probably than the technique it suppresses, but vigorously exerted through the governing institutions of the society, or possibly outside those institutions. Technique will of course vary with the intensity of interest, as for instance when assassination is adopted by revolutionists who can find no other method to make themselves felt against their opponents. Number also has intimate relations with both technique and intensity." **(Arthur Bentley, 1908, pp. 216-217)**

COLLECTIVE POLITICAL PRESSURE AND THE REDISTRIBUTION OF POLITICAL INCOME

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I. INTRODUCTION

This paper is concerned with the role played by the size of an interest group in the production of collective political pressure, and with its success in the redistribution of political income.

Most of the regulation literature sustains the hypothesis that the optimal size of an interest group is somewhat small. This support can be traced back as early as 1908 when *The Process of Government*, seminal book written by Arthur Bentley, was first published.

Arthur Bentley characterizes the government as a process, in which interest groups are the protagonists. This process is the activity of the groups in their relation with one another. Groups are in constant activity, pressing one another, cooperating, competing, forming offensive and defensive alliances, splitting apart, and disappearing, while new groups are being formed. Strong groups dominate, and delineate the existing state of society; state that under this framework has to be appraised as an equilibrium, given that it is the end result of the pressure exerted by a multiplicity of interest groups. Bentley argues that usually, in the political game, the successful groups are not majorities but minorities,

"First of all, the number of men who belong to the group attracts attention. Number alone may secure dominance. Such is the case in the ordinary American election, assuming corruption and intimidation to be present in such small proportions that they do not affect the result. But numbers notoriously do not decide elections in the former slaves states of the South. **There is a concentration of interest on political lines which often, and indeed one may say usually, enables a minority to rule a majority.**" (Arthur Bentley, 1908, p. 215)

Since the early seventies some economists (i.e., George Stigler, 1971; Sam Peltzman, 1976; Gary Becker, 1983) have followed Bentley's insights, beginning the challenging work of building a general theory able to provide conditions that favor the existence of successful interest groups. All of them agree with Bentley on the advantages of a small group in the political competition. This advantage is founded, for example, on the free rider problem faced by large groups (Mancur Olson, 1965).

The following quotation illustrates Olson's argument:

"It has often been taken for granted that if everyone in a group of individuals or firms had some interest in common, then there would be a tendency for the group to seek to further this interest... If we ponder the logic of the familiar assumption described in the preceding paragraph, we can see that it is fundamentally and indisputably faulty... If the consumer or worker contributes a few days and a few dollars to organize a boycott or a union, he or she will have sacrificed time and money. What will the sacrifice obtain? The individual will at best succeed in advancing the cause to a small (often imperceptible) degree. In any case he will get only a minute share of the gain from his action. The very fact that the objective or interest is common to or shared by the group entails that the gain from any sacrifice an individual makes to serve this common purpose is shared with everyone in the group... Since any gain goes to everyone in the group, those who contribute nothing to the effort will get just as much as those who made a contribution. It pays to - let George do it -, but George has little or no incentive to do anything in the group interest either, so... there will be little, if any, group action. **The paradox, then, is that... large groups, at least if they are composed of rational individuals, will not act in their group interest.**" (Mancur Olson, 1982, pp. 17-18)

While most of the authors acknowledge that small groups have advantages in the political game, not all the scholars agree. For example, Kaveh Mirani (1984), argues that the optimal size of a group may be somewhat large if the type of political pressure exerted by that group is violent. Mirani claims that violent political pressure has a distinctive characteristic: the fact that there exists a nonzero probability of being apprehended and punished. Since this probability decreases with an increase in the size of the group, he argues that for violent political pressure the optimal size of a group will be larger than for nonviolent political pressure. The following quotation summarizes Mirani's hypothesis:

"The theoretical model suggests that the existence of substantial economies in size which arise out of the reduced risk of apprehension and punishment when the size of the group increases implies that the optimum size of a revolutionary group is relatively large. This is in contrast with the conclusion reached by the existing theories of collective action and interest group competition which associates political activity with small group size." (Kaveh Mirani, 1984, p. 95)

This paper will postulate the hypothesis that even when it is considered the possibility to exert violent political pressure the conclusion reached by the existing theories of collective action that associates political activity with small group size may still remain valid.

The organization of the paper is the following: section 2 describes the small group argument and introduces Mirani's hypothesis; section 3 proposes a simple model from where the usual small group argument may be derived even when it is considered the possibility to exert violent political pressure, and provides some empirical evidence in order to illustrate its plausibility; section 4 concludes.

II. MIRANI'S HYPOTHESIS

I will devote the first part of this section to describe the small group argument with the help of Becker's (1983) model; the rest of the section will be devoted to introduce Mirani's hypothesis.

Gary Becker (1983) assumes that individuals belong to particular groups, according to their common interests. These groups expend time and/or money on political advertising, campaign contributions, taking part in strikes, riots, terrorist acts, political assassinations, etc., in order to exert political pressure to gain, or resist, income transfers from other groups; improving in this way the well-being of their identical members. The competition among the interest groups determines the equilibrium structure of taxes and subsidies of the society. This political-economic equilibrium has the property that all groups maximize the well-being of their members by exerting its optimal level of political pressure, given the behavior of any other group. Becker shows that the political-economic equilibrium depends on variables such as the efficiency of each interest group in producing political pressure, the dead weight costs and benefits of taxes and subsidies, and the size of the groups; this paper centers its interest in the role played by the last of these variables.

Quite frequently we listen that the size of a group is an important factor to figure out its political success, since small groups are at disadvantage because they do not have enough votes. There is lot of evidence against this statement; it can be traced back to Bentley's work. The agricultural sector provides a representative piece of that evidence. Agriculture is often heavily subsidized in industrial countries (i.e.,

the United States, European Communities, Japan) where it is, in relative terms, a small sector; by contrast, it is frequently heavily taxed in underdeveloped and developing countries, where it is a large one. Becker's findings are consistent with this type of evidence, since under his framework politically successful groups tend to be smaller than the groups taxed to pay their subsidies. Under his framework an increase in the size of an interest group would produce two effects: i) It would affect its efficiency in producing political pressure; ii) It would reduce the dead weight costs of its taxes or subsidies.

An increase in the size of a group would affect its efficiency in producing political pressure because, on one hand, it would increase the cost of controlling free riding, and on the other, it would allow the group to take full advantage of scale economies. As Becker argues, when the group is very small the second effect would usually prevail since economies of scale are important and free riding easily manageable. When the size of the group increases the relevance of the effects would reverse because free riding would become a trouble and the advantages provided by scale economies would have been fully taken. Finally, after some point, both effects would become unimportant since further increases in size would induce little additional scale effects or free riding.

Regardless of the effect of the size of a group on its efficiency, a subsidized group would prefer to be financed by a large number of taxpayers because an increase in the size of the taxed group reduces the tax required on each member to obtain a given revenue. This fact would cut down the dead weight costs of taxation, reducing

the political pressure exerted by the taxpayers.¹

In synthesis, the association of efficiency with relatively small groups size that is present in almost all economic studies of the political process is the result of two general assumptions: (a) that despite of some economies in group size, higher costs of organization and the ensuing free-rider problem associated with larger groups would outweigh the initial economies of group size; and (b) that in general deadweight costs per member decline with the size of the taxed group so that a small group can be more efficient in obtaining favorable transfers if the size of the group to pay the subsidy is large.

Kaveh Mirani (1984) argues that the economic approach to political behavior either has emphasized the special case of voting or has dealt with pressure groups without specifying the type of activities these groups may choose in order to further their interests. He claims that since the nature of costs and incomes to be transferred in various activities will in general differ from one another, certain conclusions arrived at by the economic approach, especially that about the relationship between efficiency and group size, cannot be readily generalized to all political activities. In order to illustrate this hypothesis I will make use of a model that presents many of the characteristics highlighted by Mirani.

¹Public policies would produce dead weight costs that have no corresponding benefits to any party directly involved. These costs are originated on the distortions induced by the transfers embodied in these policies on the economic decisions of the agents. Dead weight costs would reduce the political pressure exerted by subsidized groups because a given revenue from taxes would yield a smaller increase in their incomes. By contrast, dead weight costs would increase the pressure exerted by taxpayers because they would induce a reduction on their incomes larger than the tax revenue.

Each pressure group faces the following maximization problem in order to choose the optimal level of participation of each of its identical members in the production of violent political pressure,

$$\begin{aligned} \text{Max } E(U) = & q (1 - p) \int_{r,T} u(w_{ts}) e^{-\delta t} dt + q p \int_{r,r'} u(w_{ts}[1 - \lambda]) e^{-\delta t} dt + \\ \{x \geq 0\} & + q p \int_{r',T} u(w_{ts}) e^{-\delta t} dt + (1 - q) (1 - p) \int_{r,T} u(w_t) e^{-\delta t} dt + \\ & + (1 - q) p \int_{r,r'} u(w_t[1 - \lambda]) e^{-\delta t} dt + (1 - q) p \int_{r',T} u(w_t) e^{-\delta t} dt + \\ & + \int_{0,r} u(w_t - x) e^{-\delta t} dt \end{aligned}$$

where,

x = Level of participation of the agent in the production of violent political pressure. It may be interpreted as the monetary equivalent of his labor contribution (i.e., participation in strikes, riots, etc.).

q = Probability of political success of the group,

$$q = q(N, n), \quad N = n x,$$

N = Level of participation of the group in the production of violent political pressure.

n = Number of members of the group.

$$q_1 \geq 0, \quad q_{11} \leq 0,$$

Free riding increase the cost of producing pressure. If the incentive to free ride increases with the number of members, the total and marginal political pressure produced by a given level of participation would decline as the number of members increases because the cost of collecting N would rise (Gary Becker, 1985),

$$q_2 \leq 0, \quad q_{12} \leq 0,$$

p = Probability of apprehension and punishment,

$$p = p(x, n), \quad p_1 > 0, \quad p_2 < 0, \quad p_{12} < 0,$$

An increase in the participation of an agent in the production of violent political pressure will increase the probability of being apprehended and punished; by the contrary, an increase in the size of the group will reduce the probability for any specific agent of being detected and apprehended.

w_{ts} = Income of each of the agents, in period t , if the group succeeds,

$$w_{ts} = w_{ts}(x), \quad w_{ts1} > 0,$$

An increase in the participation of the agent in the production of violent political pressure will increase his private interest payoff if the group obtains redistributive success.

w_t = Income of each of the agents, in period t , if the group does not succeed. This is the status quo income and it is independent of the level of participation of the agent

in the activities of the group.

λ = Punishment, if the agent is apprehended, as a fraction of his income; it is assumed to be equal for every agent.

$0, \tau$ = Period over which the event has taken place.

τ, T = Life expectation of the agent after the event has taken place.

τ, τ' = Period over which the punishment is effective.

τ', T = Life expectation remaining after the expiration of the punishment.

In order to maintain the framework as simple as possible I will assume:

$$w_{ts} = w_s \quad \text{and} \quad w_t = w,$$

this assumption is also employed by Mirani (1984), and Usher and Engineer (1987), in similar frameworks. While this assumption implicitly precludes the possibility that the group takes into consideration the likelihood that its success will create an unstable political situation and that other events may occur as a result,² it is

²As Ireland (1967), p. 51, states, "Something should be said about the nature of an individual's expected utility from a revolutionary outcome. His expected utility must be seen as discounted utility for an indefinite period of time into the future following the success of the revolution. It involves the individual's expectations about what laws will be put into effect and how the balance of political power in the society will shift as a result of the introduction of the revolutionary institutions. The individual will also take into consideration the possibility that the revolution's success will create an unstable political situation and that other revolutions may occur as a result. If

completely innocuous to the goal of this paper: to propose the hypothesis that even when it is considered the possibility to exert violent political pressure the association between redistributive success and small group size may still remain valid.

Under this assumption, and making use of a log utility function, the maximization problem faced by the group is simplified to the following:

$$\text{Max } E(U) = \pi_1 q \ln (w_s/w) + \pi_1 \ln w + (\pi_1 - \pi_2) p \ln (1 - \lambda) + \pi_3 \ln (w - x)$$

$$\{x \geq 0\}$$

where,

$$\pi_1 = \int_{r,T} e^{-\delta t} dt$$

$$\pi_2 = \int_{r',T} e^{-\delta t} dt$$

$$\pi_3 = \int_{0,r} e^{-\delta t} dt$$

then, the first order condition will be:

$$\partial E(U)/\partial x = \pi_1 q_1 n \ln(w_s/w) + \pi_1 q (w_{s1}/w_s) + p_1 (\pi_1 - \pi_2) \ln(1 - \lambda) - \pi_3/(w - x) = 0$$

the first two terms represent the expected marginal income of participation (because of the induced changes in the probability of success, and in the payoff if the group succeeds); by the same token, the last two terms represent the expected marginal

this is so, the individual will make guesses about the changes these potential revolutions might bring. All of these factors and others will be weighed and balanced into the individual's expected utility."

cost (because of the induced changes in the probability of being apprehended and punished, and in the direct cost of participation).

To illustrate Mirani's hypothesis I will analyze the effect induced by an increase in the size of the group on the optimal level of participation of each of its identical members:

$$\text{Sign } \partial x / \partial n = \text{Sign} \left\{ \pi_1 q_1 \ln (w_s / w) + \pi_1 n (q_{11} x + q_{12}) \ln (w_s / w) + \right. \\ \left. + \pi_1 (q_1 x + q_2) (w_{s1} / w_s) + (\pi_1 - \pi_2) p_{12} \ln (1 - \lambda) \right\}$$

Examining this expression we clearly perceive Mirani's point: given the existence of nonzero marginal probability of apprehension and punishment that decreases with an increase in the size of the group the last term of the equation is positive; this implies an optimal size of the group larger in the case of violent political pressure than in the case of nonviolent political pressure.

In order to evaluate the plausibility of Mirani's hypothesis it is useful to center our attention in the race riots that occurred in the second half of the 1960s in the United States. The following is a summary of the available evidence related to that issue reported by Mirani:

- The National Advisory Commission on Civil Disorder studied the riots of 1967 and concluded that pervasive discrimination in employment, education and housing together with frustrated hopes and unfulfilled expectations left riots as the only perceived viable means of expressing the demands of the Negro community to the rest of the nation. The commission further concluded that the riots were in general

not causes or consequences of any organized plan and that they were either attended or supported by a sizable portion of the black population.

- In a Supplementary Study for the Kerner Commission, Fogelson and Hill studied the riots of 1967 based on the profiles of over 10,000 arrestees from 19 cities. Their basic conclusions were generally in line with those reached by the Kerner Commission: the rioters and their supporters formed a considerable portion of the black community in cities and that rioters were fairly representative of the young male black population of those cities.

- A third body of empirical studies of black riots pertains to the works of Spilerman (1970, 1971), and Morgan and Clark (1973). Spilerman utilized the data on riots from 1961-68 and initially found no relationship between a set of selected social and economic characteristics of cities and the probability of riots in these cities. In subsequent studies, however, he found that the number of disorders per city increased with the size of its black population at a decreasing rate.

- Morgan and Clark (1973), using the NORC Permanent Community Sample of 51 cities, found a positive relationship between nonwhite population size and the frequency of disorders, and a negative correlation between the size of police force size and the frequency of riots.

- The Lemberg Center for the Study of Violence (1971) based on an independent compilation of riot data for 1967-69 highlighted the following stylized facts: (a) riots

tended to occur in large cities with a relative black population above the national average; (b) while more than half of the black population resided in the Southern states, only a third of the disorders occurred in the South; (c) riots tended to occur in somewhat poorer and slightly less educated cities; and (d) many patterns of riots and the characteristics of cities where they occurred, including their regional distribution, remained stable over time.

- Finally, Mirani highlighted the following stylized facts: the notable differences between riot and nonriot cities are those related to the total and black population in the two groups. The mean total population of riot cities was five times larger than that of nonriot cities in the sample. Black population of the former cities was on average nine times greater than the latter. Therefore, the average black population of the riot cities was about twice that of cities without riots.

- Mirani uses discrete regression models to relate the probability of riot in a city to some explanatory variables that are shown by his underlying theoretical model to determine participation in riot activities. The following conclusions summarize his main results: (a) the variables associated with the probabilities of apprehension and punishment are generally significant and, as implied by the theory, appear as deterrents to riots; (b) the scale variables (black population and its square) which proxy the potential size of the revolutionary coalition indicate that the odds in favor of riots increase with the size of the black population at a decreasing rate.

The reported evidence seems to support Mirani's hypothesis instead of alternative hypothesis derived from riff-raff theories, which suggest that: (a) the rioters were only a small (1-2 percent) fraction of the black population, highly concentrated on criminals and outside agitators; and (b) the majority of the black population disapproved the riots.

In synthesis, Mirani's hypothesis is derived from the fact that he explicitly assumes that the group exerts violent political pressure instead of nonviolent pressure, as it is usually implicitly conjectured by most of the literature. Given the existence of a nonzero probability of being apprehended and punished that decreases with an increase in the size of the group, he concludes that for violent political pressure the optimal size of a group is larger than for nonviolent pressure,

"The maximum of the probability of riot as a function of the black population size is around 905,000 in 1970. This means that the probability of riot is an increasing function of the black population size for all U.S. cities but New York and Chicago. **Hence the optimal size of the revolutionary coalition tends to be large indeed.**" (Mirani, 1984, p. 64)

"Logit regressions verify the theoretical conclusion that **the likelihood of riots, or the efficiency in the generation of political pressure is almost everywhere an increasing function of the size of the potential revolutionary or political violence group.**" (Mirani, 1984, p. 95)

In the following section I will propose a simple model from where the usual small group argument would be derived even when it is considered the possibility to exert violent political pressure, and I will report some empirical evidence in order to illustrate its plausibility.

III. AN ALTERNATIVE HYPOTHESIS

The two quotations that close the previous section relate size of the group, likelihood of riots, and redistributive success. This section will postulate the alternative hypothesis that even when it is considered the possibility to exert violent political pressure the conclusion reached by the existing theories of collective action that associates political success with small group size still would remain valid.

This hypothesis is based on the fact that there is no reason to assume that a group can only exert one type of political pressure; an interest group can choose not only its optimal level of political pressure but also its optimal mix of violent and nonviolent pressure; then, it is possible to dissociate the level of production of violent political pressure (i.e., the intensity of riots) from the redistributive success of the group.

The appropriateness of jointly taking into account violent and nonviolent political pressure can be traced back to Arthur Bentley (1908),

"Besides number and intensity, there is a technique of group activities which must be taken into account. Blows, bribes, allurements of one kind and another, and arguments also, are characteristic, and to these must be added organization. A group will differentiate under fitting circumstances a special set of activities for carrying on its work. We must learn how these specialized activities vary under different forms of group opposition, how the technique changes and evolve. We shall find that the change in methods is produced by the appearance of new group interests, directed against the use of the method that is suppressed. If violence gives way to bribery, or bribery to some form of demagoguery, or that perhaps to a method called reasoning, it will be possible, if we pursue the study carefully enough, to find the group interest that has worked the change. That group will have its own technique, no more scrupulous probably than the technique it suppresses, but vigorously exerted through the governing institutions of the society, or possibly outside those institutions. Technique will of course vary with the intensity of interest, as for instance when

assassination is adopted by revolutionists who can find no other method to make themselves felt against their opponents. **Number also has intimate relations with both technique and intensity.**" (Arthur Bentley, 1908, pp. 216-217)

The feasibility to exert violent and nonviolent political pressure makes it possible to identify two relations: a first one between the size of a group and its total level of political pressure, and a second one between the size of a group and the class of political pressure exerted.

This feature is based on the fact that economies in group size in violent activities arise not only because the odds of winning increase with the size of the coalition, as it is with voting or some other activities of a collective nature, but also because the cost to the individual decreases thorough the decline in the probability of apprehension and punishment when the size of the coalition increases, which generates a substitution effect. To illustrate this effect I will make use of a simple extension of the model described in the previous section.

Each group faces the following maximization problem in order to choose the optimal level of participation of each of its identical members in the production of violent and nonviolent political pressure,

$$\begin{aligned}
 \text{Max } E(U) = & q (1 - p) \int_{r,T} u(w_{ts}) e^{-\delta t} dt + q p \int_{r,r'} u(w_{ts}[1 - \lambda]) e^{-\delta t} dt + \\
 \{x \geq 0, a \geq 0\} & + q p \int_{r',T} u(w_{ts}) e^{-\delta t} dt + (1 - q) (1 - p) \int_{r,T} u(w_t) e^{-\delta t} dt + \\
 & + (1 - q) p \int_{r,r'} u(w_t[1 - \lambda]) e^{-\delta t} dt + (1 - q) p \int_{r',T} u(w_t) e^{-\delta t} dt + \\
 & + \int_{0,r} u(w_t - x - a) e^{-\delta t} dt
 \end{aligned}$$

where:

x = Level of participation of the agent in the production of violent political pressure.

a = Level of participation of the agent in the production of nonviolent political pressure. It may be interpreted as the monetary equivalent of his total contribution: labor contribution (i.e., participation in lobbies), plus his monetary contribution.

q = Probability of redistributive success of the group.

$$q = q(Z, n),^3 \quad Z = N + M, \quad N = n x, \quad \text{and} \quad M = n a,$$

n = Number of members of the group.

N = Level of participation of the group in the production of violent political pressure.

M = Level of participation of the group in the production of nonviolent political pressure.

$$q_1 \geq 0, \quad q_{11} \leq 0, \quad q_2 \leq 0, \quad q_{12} \leq 0,$$

w_{ts} = Income of each of the agents, in period t , if the group succeeds,

$$w_{ts} = w_{ts}(x, a), \quad w_{ts1} > 0, \quad w_{ts2} > 0,$$

³I am implicitly assuming $q_N = q_M$; under this assumption, to generate my alternative hypothesis, it is enough to show that an increase in the production of violent political pressure may be verified together with a stronger reduction in the production of nonviolent pressure, such that the total production of political pressure decreases.

An increase in the participation of the agent in the production of violent or nonviolent political pressure will increase his private interest payoff if the group obtains redistributive success.

w_t = Income of each of the agents, in period t , if the group does not succeed. This is the status quo income and it is independent of the level of participation of the agent in the activities of the group.

p = Probability of apprehension and punishment,

$$p = p(x, n), \quad p_1 > 0, \quad p_2 < 0, \quad p_{12} < 0,$$

λ = Punishment, if the agent is apprehended, as a fraction of his income; it is assumed to be equal for every agent.

Under similar assumptions to the ones adopted in the previous section, and centering our interest in the substitution effect, the problem faced by the group is reduced to the following:

$$\text{Max } E(U) = \pi_1 q \ln (w_s/w) + \pi_1 \ln w + (\pi_1 - \pi_2) p \ln (1 - \lambda) + \pi_3 \ln [w - x - a]$$

$$\{x \geq 0, a \geq 0\}$$

s.t.,

$$x + a = \phi$$

where,

$$\pi_1 = \int_{r,T} e^{-\delta t} dt$$

$$\pi_2 = \int_{r',T} e^{-\delta t} dt$$

$$\pi_3 = \int_{0,r} e^{-\delta t} dt$$

Therefore, the sign of the substitution effect induced by an increase in the size of the group is determined by the following expression:

$$\text{Sign } \partial x / \partial n = \text{Sign} \{ \pi_1 (q_1 [x + a] + q_2) (w_{s1} - w_{s2}) / w_s + (\pi_1 - \pi_2) p_{12} \ln (1 - \lambda) \}$$

The second term is positive because of the reduction in the expected marginal cost of participation in the production of violent political pressure given the reduction in the marginal probability of being apprehended and punished resulting of the increase in the size of the group.

The first term would only play a role if q_1 or q_2 is significantly different from zero. Given that, $q_1 \approx 0$ and $q_2 \approx 0$ are adequate assumptions for large groups,⁴ which are the type of groups that I am concerned with (i.e., mass revolutions, riots, popular uprisings), it is possible to conclude that the substitution effect would induce an increase in the production of violent political pressure that is not associated with an improvement in the redistributive success of the group; since, under the assumptions of this example, the redistributive attainment of the group remains

⁴See Gordon Tullock (1971) and Gary Becker (1983), respectively.

unaltered.

It is possible to provide examples where an increase in the size of a group generates a raise in the production of violent political pressure but a stronger reduction in the production of nonviolent pressure. In order to illustrate this possibility consider the general problem:

$$\text{Max } E(U) = \pi_1 q \ln (w_s/w) + \pi_1 \ln w + (\pi_1 - \pi_2) p \ln (1 - \lambda) + \pi_3 \ln (w - x - a)$$

$$\{x \geq 0, a \geq 0\}$$

specialized for the following payoff function:

$$w_s = w + x + a/2,$$

in this case, for a large group such that $q_1 \approx 0$ and $q_2 \approx 0$, an increase in the number of its members will raise their participation in the production of violent political pressure, while reducing their participation in the production of nonviolent pressure, such that their total participation will decrease,

$$\partial x / \partial n = (1/\Delta) ([\pi_1 q/4 w_s^2] + [\pi_3/(w - x - a)^2]) ([\pi_1 - \pi_2] p_{12} \ln [1 - \lambda]) > 0$$

$$\partial a / \partial n = (1/\Delta) (-[\pi_1 q/2 w_s^2] - [\pi_3/(w - x - a)^2]) ([\pi_1 - \pi_2] p_{12} \ln [1 - \lambda]) < 0$$

$$\partial (x + a) / \partial n = (1/\Delta) (-\pi_1 q/2 w_s^2) ([\pi_1 - \pi_2] p_{12} \ln [1 - \lambda]) < 0$$

The rest of the section will be devoted to compare the empirical plausibility of Mirani's model, where only violent political pressure is allowed, with the testable

implications of this model, where both violent and nonviolent political pressure is allowed.

Testable implication when only violent political pressure is allowed:

There exists a positive relation between the level of production of violent political pressure (i.e., the likelihood of riots) and the redistributive success of the group.

Testable implications when both, violent and nonviolent political pressure, are allowed:

There would exist a positive relation between the size of a group and its participation in the production of violent political pressure, but a negative relation respect to its redistributive success.

Since the riots of the second half of the sixties in the United States were preceded by nonviolent demonstrations in the South that culminated in the legislation of the Civil Rights Act in 1964 and of the Voting Rights Act in 1965 it is possible to provide some illustrative evidence of these testable implications by comparing the redistributive success of the riots and the nonviolent demonstrations of late fifties and the first half of the sixties. In these terms my alternative hypothesis postulates that the redistributive success of the nonviolent demonstrations would have overcome the success of the riots because if the group has chosen to exert primarily violent political pressure it means that its size would be too large. The empirical evidence seems to support this hypothesis:

The redistributive success of the nonviolent demonstrations of the early sixties:

- Freeman (1973), Vroman (1974), and Masters (1985) have reported sizeable improvements in occupational attainments and earnings of blacks after the legislation of the Civil Rights Act in 1964.
- Welch and Smith (1975) found a sharp drop in the effect of race on earnings from 1960 to 1970, related to the legislation of the Civil Rights Act.
- Freeman (1981) found a positive correlation between blacks' earnings and several measures of the Equal Employment Opportunity Commission, which was set up by the Civil Rights Act. He concluded that the improvements in blacks' earnings were largely related to the intense antibias activity which followed the Civil Rights Act and resulted in significant changes in corporate recruitment and personnel policies vis-a-vis blacks.

The redistributive success of the riots:

- The Great Society Program, the War Against Poverty, and the Model Cities Program were among the more immediate and accommodating reactions to the riots. (They were soon confronted with budget shortages and other administrative difficulties. The impact on the welfare of blacks has been frequently questioned and therefore remains inconclusive.
- Welch (1975) found that there are no significant differences between riot and nonriot cities in various areas of local government expenditure (public welfare,

education, and health).

- Isaac and Kelly (1981) found no correlation between expenditures on public welfare by local governments and the frequency and severity of the riots.
- Kelly and Snyder (1980), also found no correlation between local black socioeconomic gains and the measures of political violence.
- Finally, Mirani reports that the regression results of the impact of riots on black family income does not show any statistical significance.

In synthesis, the reported evidence shows that the redistributive success of the nonviolent political pressure of late fifties and early sixties seems to overcome the redistributive attainments of the riots; which conforms with my alternative hypothesis. The following section will be devoted to summarize the main conclusions of the paper.

IV. SUMMARY AND CONCLUSIONS

Most of the regulation literature sustains the hypothesis that the optimal size of an interest group is somewhat small. The association of efficiency with relatively small groups size is the result of two general assumptions: (a) that despite of some economies in group size, higher costs of organization and the ensuing free-rider problem associated with larger groups would outweigh the initial economies of group size; and (b) that in general deadweight costs per member decline with the size of the

taxed group so that a small group can be more efficient in obtaining favorable transfers if the size of the group to pay the subsidy is large.

Kaveh Mirani (1984), argues that the optimal size of a group may be relatively large if the type of political pressure exerted by that group is violent. Mirani claims that given the existence of a nonzero probability of being apprehended and punished that decreases with an increase in the size of the group, the optimal size of a group that exerts violent political pressure is quite large.

This paper has postulated the hypothesis that even when it is considered the possibility to exert violent political pressure the conclusion reached by the existing theories of collective action that associates political activity with small group size may still remain valid.

This hypothesis is based on the fact that an interest group can choose not only its optimal level of political pressure but also its optimal mix of violent and nonviolent pressure; then, it is possible to dissociate the level of production of violent political pressure from the redistributive success of the group.

Under this framework interest groups that center their activity in the production of violent political pressure would be less successful in the political game than groups that predominantly choose to exert nonviolent pressure, because the former may be too large. The empirical evidence reported conforms with this hypothesis; while the likelihood of riots appears to have increased with the size of the black population, its redistributive success seems to have been overcome by the attainments of the nonviolent political pressure of the late fifties and early sixties.

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