

in fact, different. In the first situation, the individual is uncertain as to his location along the decision-making spectrum in the chain of separate collective acts anticipated; in the second, he is located, identified, and his interests vis-à-vis those of his fellows are strictly confined. This distinction allows us to reconcile, to some considerable extent, our purely individualistic approach with the more traditional methodology of political science and philosophy. At the constitutional level, *identifiable* self-interest is not present in terms of external characteristics. The self-interest of the individual participant at this level leads him to take a position as a "representative" or "randomly distributed" participant in the succession of collective choices anticipated. Therefore, he may tend to act, from self-interest, *as if* he were choosing the best set of rules for the social group. Here the purely selfish individual and the purely altruistic individual may be indistinguishable in their behavior.

### Consensus as a Norm

The individualistic theory of the constitution that we have been able to develop assigns a central role to a single decision-making rule—that of general consensus or unanimity. The other possible rules for choice-making are introduced as variants from the unanimity rule. These variants will be rationally chosen, not because they will produce "better" collective decisions (they will not), but rather because, on balance, the sheer weight of the costs involved in reaching decisions unanimously dictates some departure from the "ideal" rule. The relationship between the fundamental norm here and the practical expedients deemed necessary in the operation of the State is analogous to many that are to be found in personal, social, and business life. Nevertheless, the resort to practical expedients in the latter cases does not cause the individual to lose sight of the basic rule of action appropriate to the "ideal" order of things. In political discussion, on the other hand, many scholars seem to have overlooked the central place that the unanimity rule must occupy in any normative theory of democratic government. We have witnessed an inversion whereby, for reasons to be examined later, majority rule has been elevated to the status which the unanimity rule should occupy. At best, majority rule should be viewed as one among many practical expedients made necessary by the costs of securing widespread agreement on political issues when individual and group interests diverge.

## 8. The Costs of Decision-Making

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In this chapter we shall examine more carefully the second cost relationship which was introduced in discussing individual constitutional choice. This relationship connects the expected costs of organizing decision-making itself with the proportion of the total group required for decision. This aspect of the constitutional-choice problem has perhaps been neglected to an even greater extent than that discussed in Chapter 7. Few scholars, to our knowledge, have explicitly analyzed decision-making costs. As a result, the only rational economic justification for constitutional selection of less-than-unanimity rules for collective action has tended to be overlooked, although, of course, the fundamental ideas have been implicitly recognized.

### Individual and Collective Decisions

Professor Frank H. Knight has often posed the question: When should an individual rationally stop considering the pros and cons of an issue and reach a decision? This question itself suggests that purely individual decisions involve costs. For this reason the individual typically "routinizes" many day-to-day choices that he makes: that is to say, he adopts or chooses a "rule" which dictates his behavior for many single choices. This method reduces the costs of individual decision-making since it requires conscious effort, investment, only when an existing behavior rule is to be broken or modified in some way. Presumably the rational individual himself goes through a "constitutional" choice process when he chooses this basic behavior pattern, and this process can in one sense be regarded as analogous to the more complex one examined in this book. The individual may be assumed to try to extend investment in decision-making to the point where the marginal benefits no longer exceed the marginal costs.

There is no reason to expect that the individual's behavior in confronting political choices is fundamentally different from that which describes his purely private choices. In either case, he must reach a decision. The essential difference between individual choice and collective choice is that the latter requires more than one decision-maker. This means that two or more separate decision-making units must *agree* on a single alternative; and it is in the *reaching of agreement* among two or more individuals that the costs of collective decision-making are reflected, which is the reason why these costs will tend to be more than the mere sum of individual decision-making costs taken separately. On a purely individual basis each party must decide on the alternative that is more "desirable"—most likely to further his own individual goals, whatever these may be. Only after these private decisions are made does the process of reconciling divergent individual choices, of reaching agreement, begin.

As we have suggested earlier, this aspect of the political process has perhaps been neglected because of the implicit assumption that separate individuals, motivated by a desire to promote the "common good," will more or less naturally be led to agree quite quickly. However, if individuals should have different ideas about the "common good," or if, in accordance with the assumptions of our model, they seek to maximize their own utility, the costs of reaching agreement cannot be left out of account.

### The Bargaining Range

If two or more individuals agree on a single decision, each of them must expect to be "better off" or at least "no worse off" as a result of the decision being carried out, with "better off" and "worse off" being defined in terms of revealed preferences in the political process. However, if all parties to an agreement expect to improve their individual positions, why is decision-making costly? Decision-making costs arise here because normally a bargaining range will exist, and, recognizing this, each individual will seek to secure the maximum gains possible for himself while keeping the net gains to his partners in the agreement to the minimum. Each individual will be led to try to conceal his own true preferences from the others in order to secure a greater share of the "surplus" expected to be created from the choice being carried out. The whole gamut of strategic behavior is introduced, with the resulting

costs of bargaining. From the point of view of the individual participant, some considerable investment in "bargaining" may be quite rational. This investment of time and resources in bargaining is not productive from a "social" point of view, because the added benefits that one individual may secure represent a reduction in the potential benefits of other parties to the agreement. Given a defined bargaining range, the decision-making problem is wholly that of dividing up the fixed-sized "pie"; the game is constant-sum. Moreover, looking backward from a decision once made, everyone in the group will be able to see that he would have been better off had the investment in "bargaining" not taken place at all provided an agreement could have been reached in some manner without bargaining. This suggests that the individual may seek to devise means of eliminating needless and resource-wasting haggling, if possible. One method of eliminating bargaining costs is to delegate decision-making authority to a single individual and agree to abide by the choices that he makes for the whole group. If we look only at the costs of decision-making (our second function), the most efficient rule for collective decision-making is that of dictatorship. This provides the element of truth in the idea that dictatorial governments are more "efficient" than democratically organized governments. However, just as the rule of unanimity must normally be tempered by a recognition of decision-making costs, so must the dictatorship rule be tempered by the recognition that external costs may be imposed on the individual by collective decisions. If the individual feels that he might possibly disagree with the decisions of the dictator, that such decisions might cause him harm, he will never rationally support the delegation of important decision-making authority to a single unit.

This point presents an interesting paradox which seems worthy of mention even though it represents a brief digression from our main argument. If the "public interest" or the "common good" is something that can be determined with relative ease, and if individual participants in collective choice act so as to promote this "common good" rather than their own interests, there seems to be little rational support for the many cumbersome and costly institutions that characterize the modern democratic process. Under such conditions the delegation of all effective decision-making power to a single decision-maker, and an accompanying hierarchy, may appear perfectly rational. If some means can be taken to insure that the dictator will, in fact, remain "benevolent," the argument becomes even stronger. Moreover, this

may seem to be insured by constitutional requirements for periodic elections of rulers or ruling groups. Much of the support for the growth of modern administrative government may be based on such reasoning as this, which seems to be a rather direct implication of the orthodox assumptions in much of the literature of political science.

A positive argument for democratic decision-making institutions, beyond the election of rulers periodically, must rest on the assumptions of individualist rather than idealist democracy. Individual interests must be assumed to differ, and individuals must be assumed to try to further these by means of political as well as private activity. Only on these assumptions can the costs of decision-making be accepted as an inherent part of the process that will provide protection against the external costs that may be imposed by collective action.

### A Simple Two-Person Bargaining Model

The actual bargaining process can best be described in terms of a model. For our purposes we may use the most simple of the many bargaining models. We assume two persons and two commodities (two "goods"). There is a given initial distribution of the two commodities between the two parties. This is illustrated in the Edgeworth box diagram of Figure 8, a diagram familiar to all economists. The initial position, before trade or "agreement" is reached, is shown at  $\alpha$ . Individual A, viewed from the southwest corner of the box, has in his possession  $AX_a$  of coconuts and  $AY_a$  of apples, coconuts and apples being used as labels for our hypothetical "goods." Individual B has in his possession the remaining amounts of the goods,  $DX_a$  of coconuts and  $CY_a$  of apples. The total amount of coconuts is shown by  $AD(CB)$  and the total amount of apples by  $AC(DB)$ .

The initial combination of commodities will offer to each individual a certain amount, or level, of utility or satisfaction. Through point  $\alpha$  we may draw indifference curves for A and B. Each point on the curve labeled  $a$  indicates the various combinations of commodities that provide A with the same level of satisfaction as that provided by the combination shown at  $\alpha$ . Similarly, each point on  $b$  indicates combinations equally satisfactory to B. A whole family of such curves may be derived for each individual, and this family will fully describe the individual's tastes for the two goods. Moving in

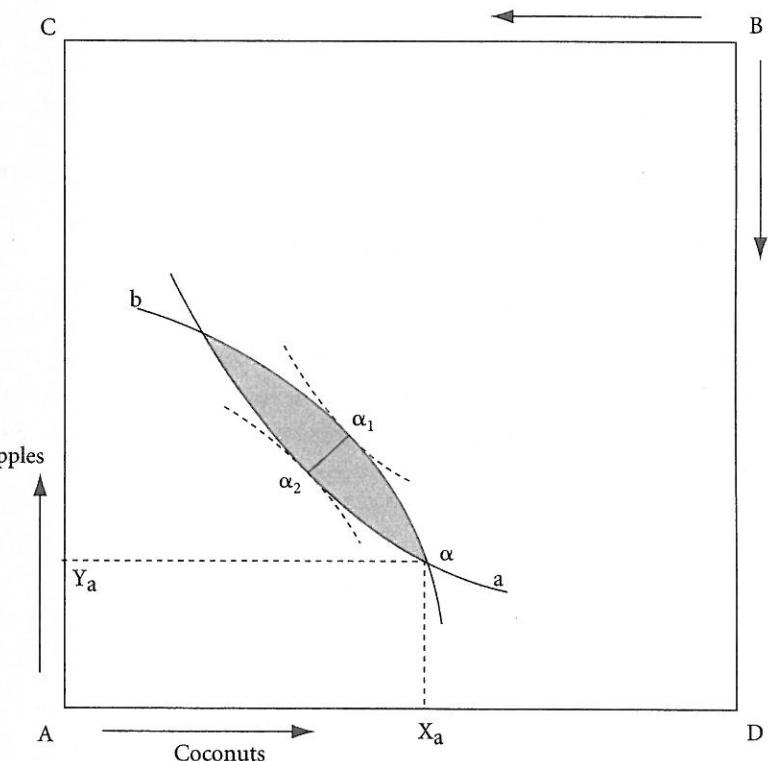


Figure 8

a northeasterly direction on the diagram, A's level of satisfaction increases; conversely, B's satisfaction increases as his position shifts in a southwesterly direction. The shaded area includes all of those combinations of the two commodities that will provide more utility or satisfaction to *both* parties (to both A and B) than is provided by the distribution shown at  $\alpha$ . Gains from trade are possible.

The problem is that of reaching agreement on the terms of trade. Recognizing that a bargaining range exists, each individual will try to conceal his own "preference"; he will "bargain." If A can be wholly successful, he may be able to secure for himself the full amount of the "gain from trade": he may shift the distribution from  $\alpha$  to  $\alpha_1$ , keeping B no better off than he is without trade. Similarly, if B exploits his position fully,  $\alpha_2$  becomes a possible "solution." It can be anticipated that bargaining will continue until a final distri-

bution somewhere along the line  $\alpha_1\alpha_2$  is reached. This line is called the contract locus.

The shift from an initial position off the contract locus to a final position on this locus may be made in a single step or in a series of steps. Normally the second method would be followed because of the ignorance of each party concerning his adversary's preferences. The process of trading may be illustrated in Figure 9, which is an enlarged section of the earlier diagram. An initial exchange may be arranged which shifts the distribution of goods to that shown at  $\alpha'$ . Both parties are better off than at  $\alpha$ , A having moved to indifference curve  $a'$ , and B to  $b'$ . Note that, at  $\alpha'$ , further mutually advantageous trades are possible, as is shown by the lightly shaded area. Note also, however, that the bargaining range has been substantially reduced by the initial exchange. The length of the possible contract locus has been reduced. Given this reduction in the potential gains from trade, the individual will

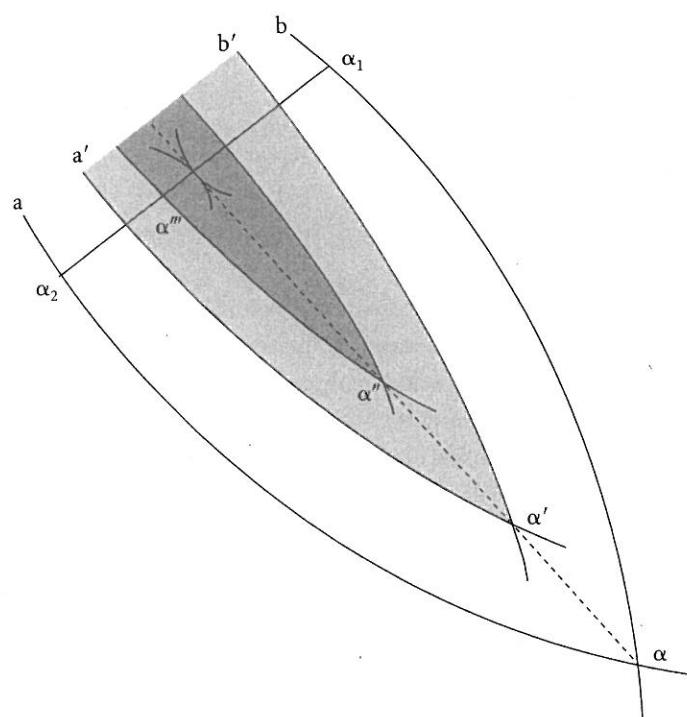


Figure 9

have less incentive to invest resources in strategic moves designed to exploit his bargaining position.

Suppose now that a second exchange takes place, shifting the commodity distribution to  $\alpha''$ . The bargaining range is again drastically reduced in size, and the distribution more closely approaches the contract locus. The chances of making gains from bargaining have almost disappeared. A final exchange may be considered to place the "solution" on the contract locus at  $\alpha'''$ . In this last step there is little or no bargaining in the usual sense since the net gains are small. Both parties are forced into a relatively complete revelation of their true preferences. At the final or "equilibrium" position, the marginal rates of substitution between the two goods must be the same for both parties.

This extremely simple bargaining model can be of some help in the analysis of constitutional choice, since it suggests that the only means of reducing the profitability of individual investment in strategic bargaining is to reduce the size of the bargaining range—to reduce the gains to be expected from such investment. In a situation where substantial gains from mutual co-operation exist, this can only be accomplished by converting *total* decisions into *marginal* ones. This can best be illustrated by reference to the organization of decisions in the market economy.

### Bargaining and Competitive Markets

The *raison d'être* of market exchange is the expectation of mutual gains. Yet, insofar as markets are competitive, little scope for bargaining exists. Individuals have little incentive to invest scarce resources in strategic endeavor. As Frank Knight emphasizes, competition among individuals does not characterize truly competitive markets, which are almost wholly impersonal in operation. The market mechanism converts all decisions into marginal ones by making all units marginal units. This conversion is effected by the divisibility of goods exchanged, which is, in turn, made possible by the availability of alternatives. The individual buyer or seller secures a "net benefit" or "surplus" from exchange, but the conditions of exchange, the terms of trade, cannot be influenced substantially by his own behavior. He can obtain no incremental personal gains by modifying his behavior because his partner in contract has available multiple alternatives. Thus, the buyer who refuses to pay the competitively established price for a good can expect no concessions

to his "bargaining" efforts from the seller because the latter can sell at this price to other buyers. Similarly, the seller can anticipate no bargaining advantage from the buyer because the latter can turn to alternative sellers without undue costs.

An essential difference between market and political "exchange" is the absence of alternatives in the latter case. If we disregard the marketlike elements that may be introduced by a decentralized organization of political choice, which will be discussed later in this chapter, and concentrate on the collective action of a single governmental entity, the individual participants must, by definition, reach agreement with each other. It is not easy to withdraw from the ultimate "social contract," to turn to alternative "sellers of public goods," although the possibility of "out-migration" should never be completely left out of account. For our discussion it seems best to assume that the individual must remain in the social group. This almost guarantees that there will exist some incentive for the individual to invest resources in strategic behavior, in bargaining.

The simplest market analogy to the political process is that of trade between two isolated individuals, each of whom knows that no alternative buyers and sellers exist. This is the model already discussed in some detail.

### Bargaining and "Efficient" Solutions

In a situation containing scope for bargaining, is there any assurance that an "efficient" solution will be reached at all? Will the contract locus be attained? All positions on the contract locus are defined to be "efficient" in the limited Pareto sense. Given a position on the locus, there is no other position to which a shift could be made without reducing the utility of at least one of the parties to the bargain. Thus, an "efficient" position in this sense is also an "equilibrium" position, since neither party to the bargain will have an incentive to propose further exchange. All gains from trade are secured once the contract locus is attained. The fact that mutual gains from trade will continue to exist until a solution on the locus is achieved would seem to insure that all parties will find it advantageous to continue to invest in bargaining effort until an "efficient" solution is attained. Initial investments may, of course, yield zero returns for both parties if both are stubborn and make errors in interpreting the true preferences of the other. Nevertheless, note that

the failure of initial investment does not directly reduce the incentive for further investment. The possibility of mutual gains continues to exist. Moreover, failure to reach agreement may itself provide certain information to both parties which will tend to make further investments in bargaining more likely to yield returns. It seems reasonably certain, therefore, that the contract locus will be reached ultimately if the parties are rational.<sup>1</sup>

This is not to suggest that there may not be an overinvestment in bargaining, in decision-making, which may more than offset the total gains from trade. In a larger sense, bargaining activity may involve "inefficient" resource usage, even though the contract locus is achieved as a result of each single bargaining process.

### The Multiple-Party Bargain

In the simple two-party model, each individual has some incentive to invest in strategic maneuvering. Each party can, by refusing to agree and by remaining stubborn, prevent exchange (agreement) from being made. The "marginal value" of each individual's consent is the whole of the "gains from trade," but this consent is also required if the individual himself is to be able to participate in the division of the spoils. He can forestall all benefits to others by remaining recalcitrant, but the cost of so doing is the sacrifice of all private gain. Failure to reach agreement is his responsibility as well as that of his partner.

If the size of the group is expanded, this aspect of the bargaining process is modified. Consider now a three-man, rather than a two-man, bargaining group. Here each party will realize that his own consent has a "marginal value," to the total group, equal to the full value of the total gains expected as a result of agreement or group action. Each of the three will also realize that his own consent is required for his own participation in any gain, but his private responsibility for attaining group agreement is less than in the two-man case. The single person will realize that, in addition to his own, the

1. The results of recent laboratory experiments strongly support the hypothesis that the outcome of two-person bargains will fall on the contract locus. See Sidney Siegel and Lawrence E. Fouraker, *Bargaining and Group Decision-Making* (New York: McGraw-Hill, 1960).

consent of *two others* is required. Greater uncertainty will be present in the bargaining process, and the single participant will be more reluctant to grant concessions. As in the two-party model, it seems clear that the contract plane will ultimately be reached; but it seems equally clear that the investment of each individual in decision-making will be larger than in the two-party model.

As the size of the bargaining group increases beyond three, the costs of decision-making for the individual participant will continue to increase, probably at an increasing rate. Everyday experience in the work of committees of varying size confirms this direct functional relationship between the individual costs of collective decision-making and the size of the group required to reach agreement.

### Multiple-Party Bargains within a Total Group of Fixed Size

We have just discussed the expected costs of decision-making when all parties to the group are required to agree before group action is taken. The dependence of the expected costs on the size of the total group is closely related to, but also quite distinct from, that which relates expected costs to the change in the number of persons required to agree *within a total group of defined size*. It is the second relationship that is important for the constitutional choice of rules, and it is in the difference between these two relationships that the explanation for much collective activity is to be found.

The distinction may be illustrated in Figure 10. The V curve represents the expected costs, to the individual participant, as the size of the group is expanded, always under the requirement that *all* members of the group must give consent to group action taken: in other words, under the rule of unanimity. Thus at  $QQ'$  it represents the expected costs of obtaining unanimous agreement among a specific group of  $Q$  persons, and at  $NN'$  the costs of obtaining unanimous agreement among  $N$  persons. By contrast, the D curve (which was employed in Chapter 6 without a full explanation) relates the expected costs of decision-making (to the individual) to the number of persons, *out of a group of  $N$  persons*, who are required by various decision-making rules to agree or consent before choices *for the whole group* are finally made. Thus  $QQ''$  represents the expected costs of obtaining the consent of a

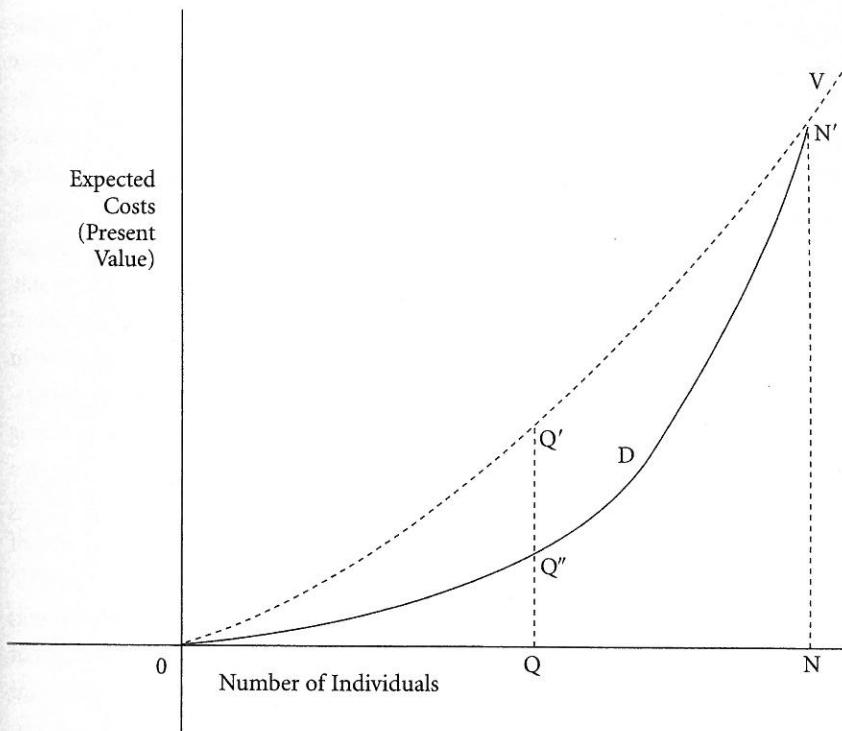


Figure 10

given percentage ( $Q/N$ ) of the specified group  $N$ . At point  $N$ , of course, the two curves take on identical values. For any size group there may be derived a decision-rule curve similar to the unique curve  $D$  drawn with respect to a group of size  $N$ . Note that, for any group, the  $D$  curve rises as the proportion of the group required for decision increases, but this curve does not rise so rapidly as the unanimity curve  $V$  until  $N$  is approached, and the  $D$  curve remains below the  $V$  curve throughout its range.

The two curves increase for the same reason: the costs of securing agreement, *within the decision-making group*, increase as the size of the group increases. The  $D$  curve increases less rapidly than the  $V$  curve because the adoption of less-than-unanimity rules sharply restricts the profitability of individual investment in strategic bargaining. In a real sense, the introduction of less-than-unanimity rules creates or produces effective *alternatives* for the collective-choice process, alternatives which prevent decision-making costs

from reaching prohibitive heights. Let us take an example in which all members of a total group of the size  $(N/2 + 1)$ , defined as equal to  $Q$  in Figure 10, are required to agree unanimously. The costs of decision-making expected by the individual participant may be quite significant ( $Q'$  in Figure 10). Suppose we now consider the costs of decision-making expected by the individual member of a group of size  $N$  when the rule of simple majority prevails ( $Q''$  in Figure 10). Note that this rule does not specify *which* individuals of the total population will make up the majority. The rule states only that a group of size  $(N/2 + 1)$  must agree on decision. Here the individual in the majority will have relatively little incentive to be overly stubborn in exploiting his bargaining position since he will realize that *alternative* members of the decisive coalition can be drawn from the minority. Bargaining within the majority group will, of course, take place. Such bargaining is a necessary preliminary to coalition formation. However, the bargaining range, and hence the opportunities for productive individual investment of resources in strategy, is substantially reduced.

Note that what is important here is the presence of alternative individuals outside the decision-making group who can potentially become members of the group. The  $D$  curve in Figure 10 falls quite sharply as it moves to the left of  $N$ : that is, as the decision-making rule departs from absolute unanimity. A good practical illustration of this point is provided in the requirements for approval of zoning variances in some municipalities. In some places the "20 per cent protest rule" prevails. Any 20 per cent of property owners in the relevant area can raise objection to proposed departures from the zoning ordinance. Therefore, at least four-fifths of the property owners in areas adjacent to the property, the usage of which is to be modified, must consent implicitly or explicitly before a zoning variance can be granted. It is evident that this consent of 80 per cent will be much easier to secure than the consent of 100 per cent. In the latter case, the most stubborn of the group may hold out and try to secure the whole value of the "surplus" expected. However, under the 20 per cent protest rule, even the stubborn property owner, if offered some compensation, will be reluctant to refuse consent when he fears that he will be unable to secure co-operation in making an effective protest.

This distinction between the two separate decision-making-costs functions provides an important link in our explanation for the collectivization of cer-

tain activities. If activities are left in the private sector, the securing of wholly voluntary agreements to remove existing externalities requires, in effect, that all, or nearly all, parties be compensated sufficiently to insure their consent. Such voluntary action is practically equivalent to a decision-making rule requiring unanimity for collective choice (note the coincidence of the curves  $V$  and  $D$  at  $N'$ ). The bargaining costs that are involved in organizing such arrangements may be prohibitively high in many cases, with the result that, if left in the private sector, the externalities will be allowed to continue. On the other hand, the costs of organizing collective decisions under less-than-unanimity rules may be less than those expected from the continuation of the externalities. Such activities fall in the fifth ordering discussed in Chapter 6.

### Bargaining Costs, Decision-Making Rules, and the Revelation of Preferences

The recognition, at the time of constitutional choice, of the costs that will be involved in securing the consent of the whole membership of the group on any single issue or set of issues is the only reason why the utility-maximizing individual will agree to place any activity in the collective sector, and, for activities placed there, will agree that operational decisions shall be made on anything less than consensus. Constitutional choices as to what activities to collectivize and what decision-making rules to adopt for these activities must depend on an assessment of the expected relative costs of decision-making on the one hand and of the operation of the activity on the other. To be able to make this assessment accurately, the individual needs to have an idea concerning the actual working of the various decision-making rules. We shall discuss some of these in detail in Part III. It is important to note here, however, that our theory of individual constitutional choice helps to explain many real-world institutions. The existence of externalities has long been used by scholars in welfare economics to justify collective action, but no one, to our knowledge, has satisfactorily provided any *economic* explanation for the general acceptance of less-than-unanimity rules for collective choice-making.<sup>2</sup>

2. For one of the few discussions relating to this issue, see Richard A. Musgrave, *The Theory of Public Finance* (New York: McGraw-Hill, 1959), chap. 6.

In order to fully understand the theory, several separate issues relating to collective decision-making must be kept quite distinct. We have repeatedly emphasized the necessity of distinguishing between individual choice *at the constitutional level*, where the choice is among rules, and individual choice of concrete and specific action, *within defined rules*. If attention is concentrated on collective decision-making at the second, or action, level, the rule of unanimity is the only decision-making rule that is indicated by widely acceptable welfare criteria. Only under this rule will "solutions" be produced that are Pareto-optimal. The acknowledged fact that the inherent interdependence of individual choices in politics makes strategic behavior inevitable does not, in any way, invalidate this conclusion. Regardless of the number of persons in the choosing group, the contract surface will be achieved, if we assume rationality on the part of all members.

Modern welfare economics has been concerned primarily with collective action at the concrete level. Attempts have been made to devise criteria for judging specific policy measures. The reaching of unanimous agreement is the only possible test for improvement in the restricted Pareto sense, although this point has not been developed sufficiently. The recent theory of public expenditure, developed by Paul A. Samuelson and Richard A. Musgrave,<sup>3</sup> represents an extension of welfare-economics models to the collective-goods sector. In this discussion the distinction between the failure to attain an "optimal" solution and the failure of individuals to reveal their "true" preferences does not seem to have been made clear. As we have emphasized, whenever a bargaining opportunity presents itself, the individual will find it profitable to invest resources in decision-making, in bargaining. The two-person model above demonstrated, however, that the individual investment in strategy, which uses up resources, does not necessarily serve to reduce the attractiveness of further investment unless shifts toward the contract locus are achieved. Bargaining ceases only during "equilibrium," that is, when the locus is attained.

In what sense does the presence of a bargaining opportunity cause indi-

3. Paul A. Samuelson, "The Pure Theory of Public Expenditure," *Review of Economics and Statistics*, XXXVI (1954), 387-89; "Diagrammatic Exposition of a Theory of Public Expenditure," *Review of Economics and Statistics*, XXXVII (1955), 350-56. Richard A. Musgrave, *The Theory of Public Finance*.

viduals to conceal their "true" preferences? Each participant will try to make his "adversaries" think that he is less interested in "exchange" than is actually the case. However, in the only meaningful "equilibrium," the *marginal* evaluation of each individual must be fully revealed. On the contract surface the marginal rates of substitution among alternatives are equal for all individuals in the agreement. Note that this is the same revelation of preferences or tastes that market institutions force on the individual. There is nothing in the market process which requires the participating individual to reveal the extent of his "consumer's or seller's surplus." The market behavior of the individual reveals little information about his total demand schedule for a good; it does reveal his preferences at the appropriate *margins of decision* which he determines by his ability to vary the quantity of units that he keeps or sells. There exists, therefore, no fundamental difference between the market process, where bargaining opportunities are absent in the ideal case, and the political process, where bargaining opportunities are almost necessarily present, so far as the *revelation of individual preferences at the point of solution* is concerned. The difference in the two processes lies in the fact that bargaining opportunities afforded in the political process *cause the individual to invest more resources in decision-making*, and, in this way, cause the attainment of "solution" to be much more costly.

The adoption of specific decision-making rules is required, therefore, not because bargaining opportunities force individuals to conceal their preferences or because bargaining can be expected to yield "imperfect" solutions in particular cases, but because of the relative "inefficiency" of the process. It is easy to see that, with a generally applicable rule of unanimity, there would be relative overinvestment in decision-making. In this case the group would be devoting too much time and effort to the reaching of agreement relative to other pursuits.<sup>4</sup> The possible overinvestment in collective decision-

4. The approach taken here assumes that the reduction of decision-making costs, taken independently, is desirable. Of course, if individuals secure positive utility in participating in political discussion and bargaining, the importance of decision-making costs is reduced. The analogy with ordinary games comes to mind here. If the purpose of a game is "efficiency," this could best be secured by allowing all players to get on the same "side," as Frank Knight has suggested. Specific rules are adopted which will make for an "interesting" but not an "efficient" game.

It must be acknowledged that this concept is not wholly foreign to the political pro-

making can be prevented only at the constitutional level. Once we are at the operational or action level, the decision-making costs will be related directly to the *rules* governing the choices. The “optimal” investment in decision-making will, of course, vary from activity to activity since, as we have shown, these costs must be combined with expected external costs before an “optimal” rule can be chosen.

### Group Size and Decision-Making Costs

The discussion of earlier chapters has shown that the theory of individual constitutional choice, although developed in purely conceptual terms, is not wholly empty. Important implications of the theory have been suggested. Additional ones may be added as a result of the more careful consideration of the second basic functional relationship between costs and the number of individuals required for agreement. The costs that the individual expects to incur as a result of his own participation in collective decision-making vary directly with the size of the deciding group in a given-sized total population. Significantly, these costs also vary directly with the size of the total population. A concrete illustration may be helpful.

Let us suppose there are two collective units, one of which has a total voting population of 100 citizens while the second has a voting population of 1000 citizens. If our hypotheses about the costs of collective decision-making are valid, there may be several activities which the rational individual will choose to collectivize in the first “country” that he will leave under private organization in the second, and larger, political unit. The expected costs of organizing decisions, *under any given rule*, will be less in the smaller unit than in the larger, assuming that the populations of each are roughly comparable. For example, simple majority rule in the first “country” will require the assent of only 51 citizens to a decision. In the second “country” the assent of 501

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cess. The idea that politics is one of the noblest endeavors is central to the Greek conception. Hannah Arendt's *The Human Condition* (Chicago: University of Chicago Press, 1958) is a modern statement of this position. For our purposes it is important to note only that, insofar as engaging in political bargaining is pleasurable in itself, the rational individual will choose to weigh the resources costs of this activity less heavily relative to the external costs of collective action. Other things being equal, he will, therefore, choose a set of more inclusive decision-making rules.

citizens will be needed. The differences in the costs of organizing such majority coalitions may be significant in the two cases. On the other hand, if the two “countries” possess equal ultimate “sovereignty,” the expected external costs of any given collective action may not be substantially different in the two units. From this it follows that, for those activities which are collectivized in both units, the smaller unit will normally have a more inclusive decision-making rule than the larger unit.

This is a very important implication which has normative value. As we have suggested, the costs of reaching agreement, of bargaining, are, from a “social” point of view, wasteful. One means of reducing these costs is to organize collective activity in the smallest units consistent with the extent of the externality that the collectivization is designed to eliminate.

### The Optimum Size of Governments

On the basis of the theory of individual constitutional choice developed in Part II, it is relatively straightforward to construct a theory for the optimum size of the collective unit, where this size is also subject to constitutional determinations. The group should be extended so long as the expected costs of the spillover effects from excluded jurisdictions exceed the expected incremental costs of decision-making resulting from adding the excluded jurisdictions.

Suppose that an activity is performed at A (see Figure 11); let us say that this represents the family unit and that the activity is elementary education. Clearly, the individuals most directly affected belong to the family unit making private decisions. It is acknowledged, however, that these decisions influence the other members of the group. Other members of the local community are most directly affected, as conceptually shown by the crosshatched area enclosed by the circle B. Costs are also imposed on individuals living in the larger community, perhaps the municipal area, shown by C. Even for individuals living in other parts of the state some external costs of educational decisions can be expected, as shown by the area D. Moreover, in a remote way, the family in Portland, Oregon, influences the utility of the family in North Carolina through its educational decisions. The question is: What is the appropriate size of the collective unit for the organization of elementary education, assuming that collectivization at some level is desirable? Concep-

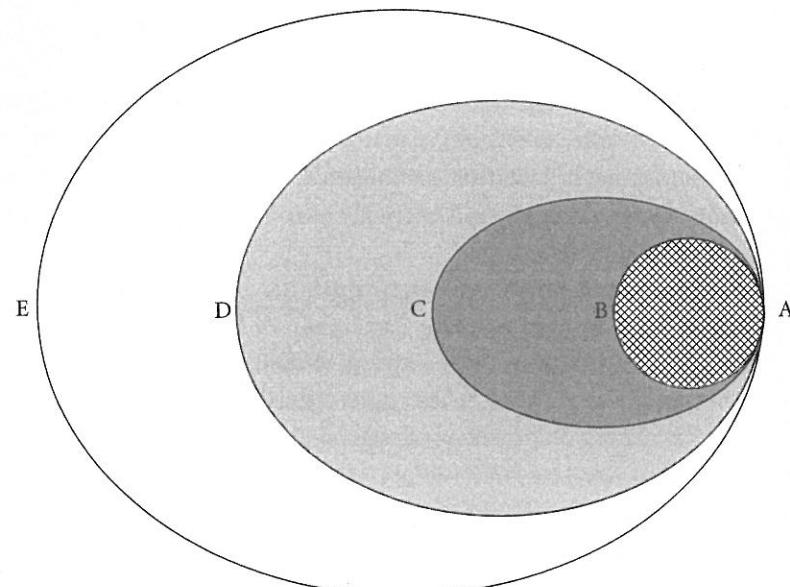


Figure 11

tually, the answer is given by a comparison between the additional decision-making costs involved in moving from a lower to a higher level and the spill-over costs that remain from retaining the activity at the lower level.

### Decentralization and Alternatives for Choice

The preceding analysis follows directly from the theory of constitutional choice previously developed. In order to complete the picture, we must add one other element that is of significant importance. If the organization of collective activity can be effectively decentralized, this decentralization provides one means of introducing marketlike alternatives into the political process. If the individual can have available to him several political units organizing the same collective activity, he can take this into account in his locational decisions. This possibility of individual choice among alternative collective units limits both the external costs imposed by collective action and the expected costs of decision-making. Insofar as the expected external costs of collective action are due to the anticipation of decisions adverse to

the interest of the individual, the limit to damages expected must be the costs of migration to another collective unit. Similarly, the limit of individual investment in bargaining will be imposed by the costs of shifting to a more agreeable collectivity. In concrete terms, this suggests that the individual will not be forced to suffer unduly large and continuing capital losses from adverse collective decisions when he can move freely to other units, nor will he find it advantageous to invest too much time and effort in persuading his stubborn fellow citizens to agree with him.

The decentralization of collective activity allows both of the basic-costs functions to be reduced; in effect, it introduces elements into the political process that are not unlike those found in the operating of competitive markets.<sup>5</sup>

Both the decentralization and size factors suggest that, where possible, collective activity should be organized in small rather than large political units. Organization in large units may be justified only by the overwhelming importance of the externality that remains after localized and decentralized collectivization.

### Decision-Making Costs, External Costs, and Consensus on Values

The difficulties in reaching agreement will vary from group to group, even when all groups are assumed to contain rational individuals and no others. The second basic-costs function will be generally up-sloping for individuals in all groups, but the rate of increase will vary from one collective unit to another. The amount of investment in strategic bargaining that an individual can be expected to make will depend, to some extent, on his assessment of the bargaining skills of his fellow members in the group. It seems reasonable to expect that more will be invested in bargaining in a group composed of members who have distinctly different external characteristics than in a group composed of roughly homogeneous members. Increased uncertainty about

5. The aspects of decentralized collective activity discussed here have been developed by Stigler and Tiebout. See George J. Stigler, "The Tenable Range of Functions of Local Government," *Federal Expenditure Policy for Economic Growth and Stability* (Washington: Joint Economic Committee, 1957), pp. 213-16; and Charles M. Tiebout, "A Pure Theory of Local Expenditures," *Journal of Political Economy*, LXIV (1956), 416-24.

the tastes and the bargaining skills of his fellows will lead the individual to be more stubborn in his own efforts. When he knows his fellows better, the individual will surely be less stubborn in his bargaining, and for perfectly rational reasons. The over-all costs of decision-making will be lower, given any collective-choice rule, in communities characterized by a reasonably homogeneous population than in those characterized by a heterogeneous population.

The implication of this hypothesis suggests that the more homogeneous community should adopt more inclusive rules for the making of collective decisions. However, the homogeneity characteristic affects external costs as well as decision-making costs. Thus, the community of homogeneous persons is more likely to accept less restrictive rules even though it can "afford" more restrictive ones. By contrast, the community that includes sharp differences among individual citizens and groups cannot afford the decision-making costs involved in near-unanimity rules for collective choice, but the very real fears of destruction of life and property from collective action will prompt the individual to refuse anything other than such rules. Both elements of the costs of collective action remain very high in such communities.

The difficulties involved in "exporting" Anglo-American governmental institutions to other areas of the world have been widely recognized. Our model helps to explain this phenomenon. Regardless of the compromises on decision-making rules that may be adopted, the relative costs of collective organization of activity can be expected to be much greater in a community lacking some basic consensus among its members on fundamental values. The implication of this is the obvious conclusion that the range of collective activity should be more sharply curtailed in such communities, assuming, of course, that the individualistic postulates are accepted. Many activities that may be quite rationally collectivized in Sweden, a country with a relatively homogeneous population, should be privately organized in India, Switzerland, or the United States.

## PART THREE

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### *Analyses of Decision-Making Rules*