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The Political Economy of Transition in Eastern Europe: Packaging Enterprises for Privatization

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We propose an abstract model of the transition from a centralized command economy to a market economy. Our objective is to abstract from the details of individual privatization proposals, and to provide a general conceptual perspective that provides an overview of the entire transition, integrates the major issues currently being debated in the literature and can be used to assess the relative strengths and weaknesses of alternative proposals. Compared to the existing literature on this subject, our model focuses on the way in which government policies and enterprise-level decisions are made, and relatively less on the specific content of these policies and decisions.

Our model has been designed with five basic premises in mind. First, the privatization process in Central and Eastern Europe can be conceptualized as a multifaceted conflict between multiple interests, representing workers, management, claimants to property rights based on prior ownership, foreign investors, representatives of different groups in the distribution chain, etc. In our view, the nature of the procedures provided for resolving these bargaining problems will have a profound impact on the ultimate performance of the post-privatization economy. Second, we emphasize the importance of modeling the dynamic interaction between the economic and political facets of massive privatization programs. Third, given the heterogeneous conditions facing state-owned enterprises, we take the view that no one method of privatization will dominate all other methods in all instances. Fourth, if the ultimate goal is to establish a pluralistic, decentralized, market oriented system, then the transition process itself should have similar characteristics. Fifth, we maintain that both political and economic benefits can be gained by expanding the range of players that have the opportunity to participate in the transition process.

SECTION 1. INTRODUCTION.

We propose an abstract model of the transition from a centralized command economy to a market economy, focusing on privatization. Our orientation in this paper is quite novel. In much of the literature on privatization in Central and Eastern Europe (C&EE), either a case is argued for a particular transition proposal or specific aspects of the privatization problem are isolated and considered in detail.[1] By contrast, our objective is to abstract from the details, and to provide a general conceptual perspective that provides an overview of the entire transition. Speaking metaphorically, we view the transition through a wide-angle lens. Moreover, we are particularly concerned with the *process* of transition: compared to the existing literature on this subject, our model focuses on the *way* in which government policies and enterprise-level decisions are made, and relatively less on the specific *content* of these policies and decisions.

Our objective in this paper is not to offer an implementable proposal, comparable, say, to Lipton-Sachs [1990]. Rather, we are attempting to develop an internally consistent, logically complete, skeletal structure. Our contribution is intended to complement rather than substitute for papers in which specific proposals are presented. By customizing our abstract structure in different ways, we can embed different proposals into our model, and then evaluate, compare and contrast their properties and implications. We will illustrate this relationship between our paper and the literature by referring to proposals that are currently being debated in both

[1] For example, see Beksiak et. al. [1990], Blanchard [1990], Blanchard and Layard [1990], Borensztein and Kumar [1990], Dewatripont and Roland [1990], Frydman and Rapaczynski [1990a, 1990b], Kornai [1990], Hinds [1990], Jedrzejczak and Majcherczac [1990], Laffont and Tirole [1990], Lipton and Sachs [1990a, 1990b], Mejstrzik [1990], Roland [1990], Tirole [1990], Varady [1991], von Furstenberg [1990].

Czechoslovakia and Poland.

Our intention is to develop a framework that integrates the major issues currently being debated in the literature and can be used to assess the relative strengths and weaknesses of alternative proposals. In particular, our model should facilitate understanding of the relationship between the political and the economic aspects of the privatization problem; between the short-run and the long-run aspects; between decisions that must be determined at the level of central government and those that are specific to each enterprise; and between the legislation of transition policy and its detailed implementation.

There has been vigorous debate over the "big policy questions" and on the "grand design" of privatization programs. The basic questions include: the speed and sequencing of reform; macroeconomic and stabilization policies; the pros and cons of vouchers and other massive privatization schemes; and the importance of fostering free entry and competition from domestic and foreign sources. By contrast, very little attention has been paid to the process by which the "nitty-gritty" details of privatization will be implemented. For every enterprise that is privatized, a multitude of details must be decided upon: how will the enterprise be structured; who will control it; what sweetening provisions will be included to induce buyers, particularly foreigners, to purchase enterprises with less than stellar prospects. In our view, the aggregate impact of all these details on the chances for a successful transition could be very significant. It would, of course, be manifestly foolish to attempt to prescribe in advance answers to each of these details; on the other hand, we believe that an important research problem is to consider alternative ways of structuring the process by which all these detailed decisions are resolved.

The following example illustrates the above point. Western observers are virtually unanimous in advising that governments institute policies that promote free entry and use foreign competition as a device to discipline the domestic marketplace. Meanwhile, these same advisors pay very little, if any, attention to the process by which anti-competitive provisions may be introduced into the privatization plans that are negotiated for each enterprise. Yet these enterprise-level negotiations, conducted behind closed doors and subjected to very little public scrutiny, may effectively derail the implementation of policies that have been legislated by the central authority. The recent agreement between Volkswagen and the Czechoslovakian automobile company, Skoda, suggests what can happen.[2] It seems self-evident that if agreements like this one proliferate, the prospects for a successful transition toward competitive, efficient, market-oriented economies will be severely compromised.

Our orientation is consistent with some recent remarks made by Vaclav Klaus, the Czechoslovakian Minister for Finance and one of the foremost practitioners of privatization in C&EE. In particular, Klaus observed:

> ". . . when I first became involved in the reform process in Czechoslovakia, I believed that the design and sequencing of reform could be controlled. Having been a part of the process for some time, I am now convinced that I was wrong." (Speech at Charles University, Prague, March 27, 1991.)

Clarifying these remarks in a subsequent private discussion, Klaus explained that the process of negotiating a privatization program involves so many diverse political forces--each pursuing a different private agenda--that even if analysts and the political leadership are in total agreement about the best way to proceed in theory, the ultimate output of the political process will typically bear little resemblance to the leadership's original intentions. The implication of Klaus's remark is quite clear: it is not sufficient for political reformers to perceive correctly what should be done; they must also be able to control--or at the very least understand--the process by which the

[2] The agreement specifies that unless Skoda makes a profit in within a certain time period, restrictive import quotas for automobiles will be imposed. That is, in its enthusiasm for accomplishing the privatization of Skoda, the Czechoslovakian government has been willing effectively to cede its sovereignty over foreign trade policy to a foreign corporation!

reforms they initiate are transmuted as they navigate the turbulent waters of the political process.

The task facing the countries of C&EE is clearly monumental in economic, political and sociological terms, with commensurate risks posed by unforeseen developments. These risks will be exacerbated to the extent that the policies adopted by governments ignore potentially important details relating the transition process. This will be especially true if private individuals can further their personal interests by filling the policy vacuum. Now the advice offered by Western academics to policymakers will inevitably fail to take into account certain important aspects of the process, and these lacunae are likely to be more serious when the advice is formulated in the absence of any vision of the transition process as a whole. On the other hand, an overall conception such as ours of the entire process may serve as a disciplinary check on individual proposals, by drawing attention to gaps in these proposals, and to points at which their designers' intentions may be thwarted by the manipulative behavior of self-interested participants. Ideally, such an overall conception would provide an exhaustive, conceptual classification of the decisions that have to be made, the players that will have to make them, the institutional structures within which policies will be negotiated and implemented, and a set of performance criteria against which the process can be evaluated. The present paper should be viewed as a tentative first step in this direction.

Our conceptual model has been designed with five basic premises in mind.

1. Multilateral Bargaining: In a world in which economic rights are ill-defined, a bargaining problem naturally arises. Throughout C&EE, this problem can be conceptualized as a multifaceted conflict between multiple interests, representing workers, management, claimants to property rights based on prior ownership, foreign investors, representatives of different groups in the distribution chain, etc. The issues in question include not only ownership rights over land and assets, but also issues such as the rights of different interests relative to each other and to the state.

It is useful to to distinguish two different kinds of bargaining problems. There are issues that must be negotiated at the level of central government: for example, what will be the nature of the commercial and legal institutional environment within which these privatized enterprises will operate? Other issues concern the disposition of individual state-owned enterprises and must be negotiated on a case by case basis. In particular, what will be the precise nature of each corporate entity that is being packaged for sale to private buyers: who will control it; how will it be structured; what kind of compensation schemes will be in place for management and workers; what special provisions will be in place that affect the relationship between the privatized entity and other firms, including established and new competitors, firms that are up- and down-stream in the distribution chain, etc? In the discussion that follows, we will focus on bargaining problems of the latter kind. We will presume that because of the complexity and diversity of the issues, the state is not in a position to resolve them by fiat. Rather, the state, or its representative, is presumed to be just one negotiator among many.

Bargaining problems of this kind can be resolved in a variety of ways. At one extreme, an explicit institutional structure may be established by the state to facilitate an orderly negotiation of the issues. This institution would specify: (a) the interests that should be represented in the bargaining process; (b) the space of issues over which these interest can negotiate; (c) what degree of consensus is sufficient to conclude negotiations; (d) who will represent "the state:" the founding ministry or some agency established specifically to deal with privatization; (e) what will happen if negotiations break down? At the other extreme, the state may provide no procedural guidelines whatever as to how the issues should be resolved. In this procedural vacuum, the economic rights in question may simply be expropriated by whichever party--typically the current management--is strategically located to do so.

A fundamental premise of this paper is that the nature of the procedures provided for resolving these bargaining problems will have a profound impact on the ultimate performance of the post-privatization economy. Basically, our position is that relative to the general trend that appears to be emerging in C&EE, there should be more negotiation and less expropriation. Our working hypothesis is that if certain kinds of enterprise-level decisions are negotiated within the context of an appropriately specified institution, the interaction between the various interests represented at the bargaining table--each acting self-interestedly--will provide a self-policing mechanism that will tend to mitigate flagrant transgressions of the public interest. Though individually these transgressions might all be relatively minor, their cumulative effect may seriously degrade the quality of the transition.

While there is considerable potential for corruption and narrowly self-interested behavior at every stage of the transition process, this potential seems particularly acute when the privatization plans for each enterprise are negotiated. We are pessimistic about the prospects for influencing the fine details of this part of the process directly, through legislation and traditional methods of bureaucratic control. Our pessimism is based on several factors: the enterprise-level negotiations are unlikely to command sustained public excitement, and hence will lack political "sex appeal;" the range of issues and circumstances are too heterogeneous and complicated; there are too few precedents; finally, there is far too little time.

Our process-oriented perspective does suggest an indirect, "hands-off" way to exercise some control over this phase of the process: by imposing some explicit structure on the enterprise-level multilateral bargaining process, the government can introduce some checks and balances into the negotiations. For example, of the three "primary" parties at the bargaining table--management and employees of the enterprise, and the state agency responsible for privatization--the first two parties have every incentive to design privatization plans that inhibit competitive pressures, while the third will inevitably be more concerned with effecting a successful sale of the enterprise than with issues such as the competitiveness of the resulting market structure. From the standpoint of the public interest, then, the outcome of multilateral bargaining is bound to be suboptimal, provided that participation in the process is restricted to the three primary parties. Moreover, the directions in which these outcomes will deviate from optimality are more or less predictable. A natural policy response is to include at the bargaining table some additional player or players whose interests can be expected to balance the "collective interest" of the primary players, and hence mitigate the inherent biases in the primary bargaining environment. The Multilateral Bargaining model described in section 2 provides a useful analytical tool for investigating the effectiveness of this approach to policy-making. Using simulation techniques, we can experiment by adding different combinations of players to the primary group and observing how the outcome of the bargaining process is affected.

The theoretical basis for our viewpoint on multilateral negotiations was developed in three recent papers (Rausser-Simon [1991a, 1991b, 1991c]), in which we introduced a formal game-theoretic model of Multilateral Bargaining. This model is briefly reviewed in section 2. In other contexts, we have used our Multilateral Bargaining (MB) model descriptively (Rausser-Simon [1991a, 1991b]), to explain how during the process of multilateral negotiations, coalitions are formed, deals are struck and compromises are evolved. In this paper, the model serves the additional, prescriptive role of guiding us towards recommendations about how to design an actual negotiating framework to solve the kinds of bargaining problems described above.

2. **Political Economy:** Our second basic premise is that any policy recommendations must be both economically and politically robust. This requires a specification of the relationship between short-term economic developments and longer-term political ramifications. Obviously, economic policy objectives cannot be pursued in isolation, since the prevailing political configuration will constrain the set of options available to planners of the transition process. On the other hand, economic developments can shift the balance of political power. As the post-privatization economy develops, new interests will acquire economic power, new institutions will emerge and strengthen the power of groups that wish to defend these institutions. Meanwhile, the public at large will register its approval or disapproval with the progress toward a market economy by increasing or decreasing its support for the government. These changes in the prevailing political configuration will have an impact on the continuing policy debate, determining to some extent the kinds of economic reforms that will be sustainable in the long run. The dynamic interaction between these economic and political facets of massive privatization programs must be taken into account. Indeed, it is our expectation that models which ignore political-economic feedback effects will have a natural tendency to overestimate the prospects for a successful transition.

The following example illustrates the kind of politico-economic interaction that could adversely affect the reform process. Policy makers in C&EE appear to be overly complacent in their reliance on foreign competition as the main disciplinary device that will force monopolists to operate efficiently. Indeed, Polish officials cite their country's liberal tradition in the area of trade policy when questioned about the viability of this approach to anti-monopoly policy. Our dynamic politico-economic perspective leads to skepticism about this heavy dependence on competition from abroad. We predict that if--as seems very likely--the post-privatization industrial structure turns out to be highly over-concentrated and inefficient, then the main effect of threatening foreign competition will be to unleash a powerful confluence of political forces in favor of protectionism. Owners of the domestic enterprises will lobby to defend their rents, managers will lobby to defend their privileges and workers will lobby to defend their jobs. Because the problem of unemployment never really arose under communism, the potent tension between free trade and maintaining employment levels never became apparent.

What can be done to preempt this kind of powerful impetus towards protectionism? Obviously, there is an urgent need for liberal trade legislation, but further steps will have to be taken beyond legislation, in order to ensure that it is sustainable in the long run. Foresight is required to identify those economic interests that stand to benefit from liberal trade policies. Governments may find it worthwhile to attempt to structure the development of political and economic institutions so that the interests that have been identified can function as effective political counterweights to the protectionist interests.

3. Heterogeneity: Given the heterogeneous nature of state-owned enterprises, there is no one method of privatization that will dominate all other methods in every instance. The state-owned enterprises awaiting privatization come in a wide variety of different forms: there are small firms and large firms; firms with dramatically different debt-equity structures; firms that produce tradables and others that produce nontradables; firms that are flourishing and others that are floundering, requiring either liquidation or "workouts"; firms with different degrees of asymmetric information among interested parties; firms with different propensities for corruption, and so on. Given this vast array of different circumstances, we maintain that a range of alternative privatization methods should be available, and that a systematic procedure should be developed for matching each state-owned enterprise with the most appropriate privatization regime.

The spectrum of alternative regimes might range from relatively laissez-faire regimes--allowing enterprise managers considerable flexibility to package their enterprises any way they please--to highly structured regimes, involving audit and oversight requirements. The more structured regimes would be better equipped to prevent corruption and guard against the possibility that provisions antithetical to the public interest would find their way into the privatization plans. Of course, these regimes would also involve a great deal more time and expense than the less structured ones. To exploit the potential efficiency gains from heterogeneity, then, the more resource-intensive regimes should be reserved for cases in which the need for special safeguards is greatest. It follows, then, that some systematic procedure must be developed for classifying enterprises according to their potential for corruption, etc., and for assigning enterprises to regimes in accordance with this ranking. The development of the ranking procedure could be a formidable task.

4. Decentralization: Our fourth premise is that the fine details of the privatization process cannot be resolved *at a distance*. Should we expect any centralized bureaucratic implementation of the fine details of, for example, the Polish privatization program to be any more successful than the central planning techniques whose poor performance fueled the drive toward privatization in the first place? In Williamson's terminology, then, this premise argues for more hands-off governance (Williamson, 1991) of the privatization process. Our position is entirely consistent with the arguments advanced long ago by Hayek [1945], who notes that for economists, the core task

> ". . . is precisely how to extend the span of our utilization of resources beyond the span of control of any one mind; and, therefore, how to dispense with the need of conscious control and how to provide inducements which will make the individuals do the desirable things

without anyone having to tell them what to do."

Concretely, this premise leads to the question: To what degree should the transition process be decentralized? Obviously, the process cannot be decentralized completely, since some aspects of the problem are intrinsically global in nature. Others depend on factors that will differ widely from enterprise to enterprise. We have noted already that a heterogeneous approach to these aspects is essential. However, the central authority will almost certainly be poorly equipped to make the appropriate heterogeneous judgements on a case by case basis. As we see it, then, the only viable alternative is to have certain kinds of decisions be negotiated locally, at the level of each enterprise.

It seems clear that the greater the differences between individual enterprises, the more important it is to expand the role of local decision makers in the transition process. Indeed, there are many issues that *can only* be resolved at the local level. For example: Who should sit on the board of directors of each enterprise? How should the particular responsibilities associated with running each individual enterprise be divided between the board of directors and the management? We maintain that at least in Poland, the current privatization program assigns to the central authority too much responsibility for determining many of the enterprise-specific aspects of the transition process. Given the Polish government's demonstrated bias towards centralization, our expectation is that even for obviously enterprise-specific decisions, unless responsibility for resolving them is explicitly delegated to local decision-makers, there will be a tendency for the central authority to involve itself too heavily in the decision process.

5. **Pluralism:** Our fifth and final premise is that political and economic benefits are to be gained by involving a larger number of interests in the privatization process. The public perception of *fairness* will be enhanced if the the privatization process is

characterized by a greater degree of pluralism. In addition, the more interests are represented in the process, the more difficult it will be for some interests to collude in the pursuit of narrow, self-interested goals that are in conflict with the public interest. We maintain that in academic proposals for privatization in C&EE, as well as in the proposed and current laws (Czech and Slovak, 1990, Czechoslovakia, 1990, Poland 1990a, 1990b), too few interests are represented in the transition process. This is paradoxical given the presumed importance of diffusing the distribution of ownership and of establishing pluralistic democratic institutions. Certainly, if there is an increase in the number of interests that are represented, then transaction costs will also increase. We believe, however, that up to a point, the benefits will outweigh these costs. Moreover, the costs will be short-term, while the benefits will be long-term. For example, one obvious benefit of broader-based participation is that political support for the privatization process is more likely to be robust to the inevitable setbacks that will be experienced, so that the trend toward a market economy is more likely to be sustainable.

Another argument for pluralism is the familiar one that when institutions wield considerable political power, a system of checks and balances should be built into their structure. For example, there is an expectation that in several countries, especially Poland, a relatively small number of holding companies will emerge to provide centralized oversight and control over large numbers of privatized corporations. This group of companies is likely develop into an powerful economic force, and its political influence is bound to be commensurate. We maintain that if control of these holding companies is vested in a small group of individuals with narrow, very homogeneous interests, then this concentration of economic and political power could have detrimental consequences for the country at large. Accordingly, we recommend that before these holding companies become established, attention be directed towards broadening the range of interests that are represented at the higher echelons of their management.

For example, each holding company will build up a pool of "generalist" corporate directors, who will be assigned to the Boards of various enterprises in which the holding company has an interest. As a group, this pool will have tremendous power, so that all interests in society should have the opportunity to participate their selection. By contrast, the Polish government 1990 proposal assigns exclusive responsibility for the selection process to the Ministry of Ownership Transformation. If the Ministry itself is controlled by a nonrepresentative group such as the ex-nomenklatura, then this provision may provide an opportunity for this group to take over the entire holding-company apparatus.

Outline of the Model.

We have designed a framework in which our five premises can be operationalized. We model the transition process as a dynamic negotiation procedure, which is formalized as a four-phase noncooperative game. We summarize our four-phase game below and present the details in section 3. Three of the four phases are formulated as Multilateral Bargaining games, using different specifications of the MB model introduced in Rausser-Simon [1991a] and reviewed in section 2. In phases I and IV, the participants in the bargaining process are members of the central government, as well as various interest groups that have access to these members. In phase III multiple bargaining sessions are conducted in parallel.

Phase I of the game is called *the cabinet-level negotiation phase.* In this phase, members of the central government interact with nationally represented interest groups to determine the general institutional structure, and to select certain "transition regimes" from a given universe of alternative regimes. Each transition regime is a different method for preparing an enterprise for privatization. For example, there might be a distinct transition regime corresponding to each of the "classical" methods of privatization used in Western economies, as well as to each of the radical methods for massive privatization currently under discussion in C&EE (see for example Lewandowski and Szomberg [1989]). The final task in phase I is to specify guidelines for assigning enterprises to regimes.

In phase II, which we call *the assignment phase,* the actual matching of enterprises and transition regimes takes place. The matching process can be modeled in a variety of ways, depending on the nature of the guidelines set in phase I. At one extreme, the guidelines could be exhaustive, so that the matching process is entirely centralized. In this case phase II would be redundant. At the other extreme, the matching process is entirely decentralized: the current management of each individual enterprise could have complete autonomy to choose its own regime. An intermediate case would involve, for each enterprise, a transmission of information between the central authority and local interests. Parties with an interest in an individual enterprise would reveal information to the center. This information, together with the guidelines set out in the previous phase, would be used to assign the enterprise to a regime.

Phase III is the *the enterprise-level negotiation phase*. Negotiations take place at the level of each enterprise, to determine the precise nature of the package that will be presented for sale to the public. The nature of these negotiations--who participates, what issues are addressed, etc.--will vary depending on the transition regime to which the enterprise has been assigned. The negotiations may include issues such as ownership interest, control, high-powered versus low-powered incentives, or, more generally, the governance function for each enterprise. The participants may include representatives of some or all of the interests mentioned above--management, workers, etc.--and others besides.

Once phase III has been completed, the post-privatization economy unfolds for a short period of time, leading to changes in the distribution of political power. In phase IV, called the *renegotiation phase,* policymakers at the central level reconvene to renegotiate some of the issues debated in phase I. At this point, modifications and reversals of earlier policy decisions about institutional structure may result from the changes in the configuration of power. Finally the economy unfolds again, now for a longer period of time, resulting in a random vector of "long term performance measures." The various players in the game derive their ultimate utility from the values of these performance measures.

SECTION 2. THE MULTILATERAL BARGAINING MODEL.

In this section, we review the multilateral bargaining (MB) model that was introduced in Rausser-Simon [1991a]. The model will be applied in section 3 below to represent in a stylized way the process by which decisions relating to the transition are negotiated. The MB framework is extremely general and can be customized to represent a wide range of decision-making institutions, ranging from dictatorship, through bilateral negotiation to highly pluralistic structures. We will briefly suggest an interpretation of the model, describe its structure in a heuristic way and state its main properties. We provide concrete illustrations of the model and of its comparative statics properties in section 3 below.

The MB model is a noncooperative game in extensive form, with a finite number of players and a finite but arbitrarily large number of "rounds." We view it as a generalization of the famous alternating-offer bilateral bargaining game known as the Stahl-Rubinstein model. (See Stahl [1972, 1977] and Rubinstein [1981].) In the Stahl-Rubinstein model, players take turns to propose a division of a "pie." After one player has proposed a division, the other can accept or reject the proposal. If the proposal is accepted, the game ends and the division is adopted. If it is rejected, the second player then makes a proposal, which the first player then accepts or rejects. The game continues for a finite, or possibly infinite, number of rounds. Apart from generalizing this model to incorporate many players and multidimensional pies, our model differs from Stahl-Rubinstein in just one respect. In our game, the proposer is chosen randomly "by nature" in each round of bargaining, according to a prespecified vector of "access probabilities."

The model can be interpreted in a variety of different ways. One possibility is to view it as a stylized representation of the kind of "backroom" negotiations which take place between members of the "inner circle" of a complex organization. In particular, suppose that there is an important meeting scheduled for the plenary body of this organization (e.g., a parliamentary debate on a significant bill, a shareholders' meeting, etc.). Prior to this meeting, intense activity within the inner circle might be expected: coalitions would be formed, deals would be struck and compromises would be negotiated in informal, private, off-the-record meetings between the influential members of the organization.

As an example, imagine the negotiations between senior members of the President's staff over the selection of a particular minister. The following scenario seems like a plausible description of what might happen: a number of different staff members, and possibly, the President as well, are concurrently lobbying their colleagues, each attempting to build support for his or her own preferred candidate; somehow, one of the staffer's candidates is eventually singled out from the others and is formally proposed for the ministerial position. If enough support has been generated for the candidate, then ratification will be pro forma. Otherwise, the lobbying process will begin again, until agreement is finally reached.

Our model conforms rather closely to this informal process. There is, however, one aspect of the process that is difficult to describe analytically: how does one staff member's candidate come to be singled out from the others? In our model, we "black box" this problematic issue and simply assert that nature chooses between proposals in a random way. It seems natural to presume that each staffer's proposal is more likely to be singled out, the greater is that staffer's relative political power within the organization. To formalize this idea, we assume that nature's random choice is governed by a vector of *access probabilities*. The probability weight assigned to each participant is interpreted as a measure of his or her relative political power.

We now summarize our model in a very heuristic way. The reader is referred to Rausser-Simon [1991a] for a formal treatment. A number of players meet together to select a policy from among a given set of alternative policies. The specification of the game includes a list of admissible coalitions. An admissible coalition is interpreted a subset of the group that has the authority to choose a policy on behalf of all the whole group. For example, in a *majority rule bargaining game,* a coalition is admissible if and only if it contains a majority of players. More generally, however, the set of admissible coalitions might have a variety of structures. In fact, for reasons that will become apparent, we will impose the restriction that there is some player who belongs to *every* admissible coalition. This player will be referred to as essential. For example, in the heuristic scenario we presented above, it is natural to assume that no minister can be appointed without the approval of the President. If this scenario were to be represented by the MB model, then, the President would be modeled as an essential player.

In general, the requirement that some player be essential seriously restricts the applicability of our model. We will argue below, however, that in the present context the assumption is satisfied quite naturally. The MB institution enters into our four-phase model in two ways. First, we use it to represent the process of cabinet-level decision-making in phase I. In this context, a coalition of cabinet members will be considered admissible if the support of all its members is sufficient to guarantee that any proposal will be accepted by the cabinet as a whole. Intuitively, it is unlikely that even a majority coalition will be admissible in this sense unless some the government leadership belongs to the coalition. In this case, then, the government leadership is an essential player. Second, the MB model is used to represent the enterprise-level negotiations in phase III between the state and the various groups that have an interest in each enterprise's privatization plan. In these negotiations, the essential player is naturally the state agency whose approval is required before any privatization plan is accepted.

The game consists of a number of negotiating rounds. Each round has three parts. In the first round of the game: (1) Each player chooses a policy and an admissible coalition. (2) Nature chooses one of the proposals at random. The probability that each player is chosen is equal to the player's access probability. The player selected by nature is called the proposer. (3) Each member of the proposer's coalition decides whether to accept or reject the proposer's policy. If all members accept the policy, it is *implemented* and the game ends. If one member rejects it, the players proceed to the second round, and the above procedure is repeated. If the last round of the game is reached and still no agreement can be reached, the game ends and players earn a disagreement payoff.

We now illustrate the model by applying it to an elementary version of the spatial voting problem familiar to political scientists. (See for example Fiorina-Plott [1978].) Suppose that there are five players, labeled 1, 2 , ... 5, and that the set of admissible coalitions consists of any three of these players. They meet together to select a number between 1.0 and 5.0. Once a number has been chosen, each player receives a payoff of five units *minus* the distance between the chosen number and the integer identifying the player. For example, if the number 3.5 is chosen, player #3 earns a payoff of $5 - |3-3.5| = 4.5$.

Each player's objective is to obtain the highest possible *average* payoff. When a player selects a policy, she must balance her own preferences for different policies against the likelihood that she can put together a coalition that will endorse her selection. Clearly, when a player considers who to invite into her coalition, she has a natural incentive to choose players whose preferences are similar to hers. For example, other things being equal, player #1, who is extremely left-wing, is more likely to choose the left-to-centrist coalition consisting of herself together with players #2 and #3 than to ally with the right-wing players #4 and #5.

The policy that is ultimately agreed upon by the group will be called the solution to the MB game. The properties of this solution are quite striking. First, it is generically unique. Second, it is conceptually quite straightforward to compute. (Of course, in problems that are more complicated than our simple example, a substantial amount of computing time may be needed.) Third, if the number of negotiating rounds is sufficiently large, then the solution is almost independent of the identity of the player who proposes it and of the precise number of negotiating rounds. The solution to our particular example is extremely easy to compute and we will illustrate the technique below. The reader who is uninterested in the technicalities should skip to the beginning of section 3.

Assume that each player has an equal "access probability," i.e., each is chosen by nature to be the proposer with probability 0.2. Also assume that if the last negotiating round of the game is reached and players fail to agree, then each player receives a "disagreement payoff" of zero. As usual in problems of this kind, we can solve this problem by starting from the last round and working forwards. First, consider the decision problem facing a player in the last round of the game. Note that if *any* number between one and five is agreed upon, then every player receives a positive payoff, which is preferred to the disagreement payoff. Thus *each* player knows that if nature selects her to be the proposer in the last round, she can propose her favorite policy (i.e., her own number) and *any* coalition will endorse it. Thus in the last negotiating round of the game, player #1 will propose the policy 1.0, etc.

Now consider the situation facing players in the penultimate negotiating round of the game. In the previous paragraph, we calculated what will happen if players fail to agree in this round: they will proceed to the last round and receive a random payoff, depending on the player that is selected by nature: specifically, each integer from 1 to 5 is chosen with probability 0.2. The *average* payoff for each player conditional on disagreement is easy to calculate: for example, player #1 earns the payoffs 5, 4, 3, 2 and 1, with equal probability, yielding an average payoff of 3 units, while player #3 earns the payoffs 3, 4, 5, 4 and 3, with equal probability, yielding an average payoff of 4 units. Player #2's average payoff turns out to be 3.6. In order to compute what she should do in the penultimate round, the only information a player needs are these average payoffs.

For example, consider player #1. If she proposes her favorite alternative (i.e., 1.0) it is bound to be rejected, since player #3 would prefer to take her chances in the last round than accept 1.0 in the penultimate round--preferring payoff of 4 units to a sure payoff of 3 units--while players #4 and #5 would also reject this alternative. Thus in the penultimate round of the game, player #1 is obliged to negotiate a compromise solution. It is easy to verify that the best that she can do is to propose the policy 2.0 and the coalition consisting of herself and players #2 and #3. Player #2 will certainly accept this proposal, and player #3 will be just willing to accept it also. Using with this logic, players #1 through #5 will propose, respectively, the numbers

(2, 2, 3, 4, 4) in the penultimate period. Conditional on reaching the penultimate round, then, the average payoffs that players will receive are, respectively, (3, 4, 4.2, 4, 3). Repeating the computations for the third-to-last period, the players will propose in this period, respectively, (2.2, 2.2, 3, 3.8, 3.8). By now the pattern will be clear. If the total number of negotiating rounds in the game is sufficiently large, then the proposals that each player will submit in the *first* round of negotiations will be very close to 3.0.

SECTION 3. AN ABSTRACT MODEL OF THE TRANSITION

In this section we present our model of the transition process. As we noted earlier, very little structure is imposed on our model a priori: rather, it is intended to be a malleable, skeletal framework that can readily be moulded into many shapes. Apart from introducing the model, we have two objectives in this section. The first is to demonstrate that our overall structure can usefully be customized to address a wide variety of different problems. Accordingly, we will catalog ways in which the basic components of our model can be specified, and explain how the formal concepts should be interpreted: who are the players, what kind of decisions will be negotiated, etc., how should we interpret variables like access probabilities, etc.? Our second objective is to illustrate some of the properties of our multilateral bargaining model.

3.1 Phase I: The Cabinet-level Negotiation Phase.

Recall from section 1 that in this phase, members of the central government interact with nationally represented interest groups. We organize their tasks into two categories: they will determine the general institutional structure of society and in addition, set guidelines that will be used in phase II to assign each enterprise to one of many alternative "transition regimes."

We begin by describing the participants in the cabinet-level MB game. In applications to particular problems this set will be specified as part of the description of the problem. One player represents the leader of the central government. The leader is concerned not only with the public interest, but also with his political support and with "personal gain" (Rausser and Zusman [1990]). Each of the other players will be a representative of some *political interest group*, pursuing their special interests. These groups could be political parties, but we prefer to think of interests being grouped in a more functional sense. For example, the following "functional" groups might be represented: capitalists, workers, foreign investors, foreign expert advisors, prior owners of state-owned enterprises who now assert property rights, etc.

The description of the cabinet-level MB game will include a vector of *access probabilities*. These probabilities are interpreted as a measure of the *distribution of political power* that prevails at the outset of the game. For example, "the workers" as a group would have a significantly lower access probability in Czechoslovakia than in Poland. On the other hand, from the different ways in which these countries have resolved the issue of restitution of prior claimants' property rights, we can infer that the "prior owners" group should have a significantly higher access probability in Czechoslovakia than in Poland. The access probability of the leader of the central government will play a particularly important role in the model. It is interpreted as a measure of the public support that the leadership commands. It will be greater the larger the majority with which the government was elected, and the larger the current popularity of its leaders.

The set of coalitions that are declared to be admissible in a particular MB game is another reflection of the distribution of political power in the society being modeled. Recall that a coalition will be called admissible if its members collectively have sufficient political power to ensure that any proposal that they sponsor will be adopted by the central government. We assume that no coalition of interests in society can implement a policy decision without the approval of the leadership of the government.[4] This assumption is formalized in our model by the restriction that the government leadership is an *essential player,* i.e., a member of every admissible coalition. There may be other restrictions on the set of admissible coalitions, reflecting the prevailing relationship between the various interests in society and the elected representatives of government. For example, suppose that some group in society such as "the workers" is so powerful that a majority of the elected representatives in the government owe their primary allegiance to this group. In this case, it would be natural to assume that the group labeled "the workers" is also an essential player.

Two types of decisions are made in this first phase of our model. First, players must select a vector of *institutional policy variables.* Each institutional policy vector is a complete description of the commercial and legal environment within which individual enterprises will operate. Each vector must encode a vast array of information about items such as: legal institutions such as conflict of interest laws, commercial code, bankruptcy law, the administration of justice, etc; commercial institutions such as capital markets, stock markets, etc; investment in infrastructure industries such as telecommunications, data services, transportation, education, etc; government policies on matters such as anti-trust regulation, foreign trade and capital mobility, etc. In addition, each institutional policy vector must completely describe the *timetable* for developing new institutions and restructuring old ones.

A component of institutional structure that has received considerable attention is the financial/management institution referred to as a *holding company* or *mutual fund.* To completely specify the proposed structure of one of these institutions, a number of

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[4] Obviously, this assumption presumes a degree of stability in government that may not be present in reality.

institutional policy variables will be required: will they function merely as passive investors or will they take an active role in the management of the companies that they invest in; how many will be formed; will they be mandated by the central privatization agency or merely encouraged by tax incentives, etc; how will they be controlled; how will they be staffed?

The second task for the negotiators in this phase is to choose an *assignment rule* that specifies criteria according to which each enterprises will be assigned to some *transition regime,* i.e., some method for accomplishing the privatization of the industry. There is, of course, a vast array of possible transition regimes, ranging from the "classical" methods used by the Thatcher government in Britain to the radical mass distribution methods that are currently being debated in C&EE. We will abstract from the details of these alternatives, in order to represent each of them as a particular specification of a common formal structure. Specifically, we characterize each transition regime by a complete list of structural parameters for an enterprise-level MB game. This approach necessarily involves some sacrifice of realism, but we believe that we can preserve most of the key features of the main alternatives that are currently being debated.

In the discussion that follows, we will frequently use the adjective "local as a shorthand for "specific to a particular enterprise." We first identify a universe of *local decision vectors* and a list of potential *local participants* in the enterprise level MB games. A transition regime is then specified by four elements: (a) a subset of the universe of local decision vectors. (b) a vector of *access probabilities* for the local participants; (c) a collection of *admissible coalitions* for the local MB game; (d) a *disagreement outcome.* Note that we do not need to specify explicitly which groups are included or excluded from the location negotiations. This information is contained in (b) and (c): a group is implicitly excluded if it has an access probability of zero and is not a member of any admissible coalition.

The local decision vectors: Each local decision vector completely describes an enterprise that is packaged for privatization. The set of local decision vectors for a given transition regime delimits the range of possible outcomes that can result, given that transition regime. The purpose of the negotiations in phase III is to select one of these alternatives. For example, for the transition regime corresponding to the classical British-style approach to privatization, each local decision vector would correspond to a different corporate prospectus for the enterprise that is about to be floated. In particular, the local decision variables might specify information about factors such as: the distribution of ownership, including details about admissible foreign involvement; the prices at which different classes of shares will be offered; the structure of corporate control, including details about the composition of the board of directors; the proposed organizational structure or governance function of the firm, including, for example, some specification of the division of responsibilities between management and the board of directors; guidelines about management incentive schemes; guidelines about debt vs equity financing, etc. Of course, the packaging of an enterprise might specify only a few of these details.

For a given transition regime, the "size" and diversity of the set of local decision vectors is a measure of the extent to which decision-making has been delegated to the local level. If the set is very small, and its elements differ in only a few, relatively unimportant dimensions, then the character of the packaged enterprise is already been more or less "built into" the specification of the transition regime itself. By assigning an enterprise to such a regime, the central authorities are effectively centralizing the process of packaging the enterprise, leaving only minor details to the discretion of the local negotiators. Conversely, if they assign an enterprise to a transition regime characterized by a large, diverse set of local decision vectors, they are effectively decentralizing the process.

For example, suppose that the *only* packaging issue that must be settled in prior to actually selling an enterprise is the distribution of ownership shares. In this case, each local decision vector is simply a vector of ownership shares. In a transition regime corresponding to centralized decision-making, only a small range of possible vectors will be open for negotiation. In the Polish Government's December 1990 Privatization Program provides an illustration. The ownership vector is specified explicitly: 20% will be owned by employees, 30% by voucher holders, 20% by the social security fund and 10% by commercial banks. The residual 30% will be held by the Treasury until a "core investor" can be found. In the transition regime that represents this proposal, the set of local decision vectors will consist of exactly one point! The current Czechoslovakian proposal for large-scale privatization is more decentralized: the Czechoslovakian "voucher regime" specifies that voucher holders must own somewhere between 40% and 80% of each enterprise (Czechoslovakian Law Governing Privatization, November 1990, p. 32.) In this case, the subset of local decision vectors includes an interval of possible ownership vectors; authority is delegated to the local negotiators to determine the precise ownership distribution for their particular enterprise.

<u>Local Participants and their Access Probabilities</u>: As in the cabinet-level MB game that was played in phase I, the participants at the local level are functionally defined *groups* of individuals. We can divide these groups into three categories. The first category consists of the representative of the state (e.g., the representative could be an official from the founding ministry or from some specifically created bureaucracy such as a State Privatization Agency.) As in phase I, we assume that the state representative is concerned not only with the public interest, but also with political considerations and with personal gain. In particular, we are interested in the

possibility that either the management or the workers can "capture" the state representative.

The second category consists of groups that in some sense are assumed to be immune from the possibility of capture. While it is somewhat arbitrary to assume that some but not all groups are corruptible, there are at least two grounds for distinguishing certain groups. First, there may be some groups for which the value of maintaining a reputation for impartiality is high relative to the potential benefits from corruption. Second, the potential for corruption may be positively correlated with "familiarity:" parties who have had few prior dealings with each other may be relatively unwilling to enter into a conspiracy, for fear that one party will expose the other. Members of this second category might include for example, international accounting and management firms, or institutions such as the World Bank or European Bank for Reconstruction and Development (Tirole [1990]).

The third and major category consists of the usual kinds of private interest groups. This category might include such groups as: the management of the enterprise, the employees of the enterprise, individuals with prior ownership claims to the enterprise, environmental and consumer advocacy groups, trade organizations, including representatives from industries that will either supply the enterprise or purchase and distribute its products; foreign corporations, and the various investor groups--commercial banks, pension funds, financial intermediaries and holding companies--that are discussed in many of the major proposals. We will also include in our universe of participants an abstract, residual group representing "all other small investors." (The representative of this group might be a member of the local government of the community in which the enterprise is located.)

Each transition regime specifies a vector of access probabilities for the local participants. In many regimes, these probabilities will be zero for all but a few groups. For example, in a "spontaneous privatization" regime, there might be only two or three players with nonzero access probabilities: the founding ministry, the management, and possibly the employees. In general, it is very difficult to specify access probability vectors corresponding to any of the actual detailed proposals that are discussed in the literature, because few of them specify explicitly which groups are expected to participate in the local decision-making process. If the active participants in the local negotiations are even listed, there is little or no discussion about how these groups are to interact with each other. From our perspective, this lack of detail is a shortcoming. We take the view that unless some structure is explicitly imposed on the local negotiations, it is likely that strategically placed groups such as management will exploit the policy vacuum, to the detriment of other groups and the public interest.

The set of admissible coalitions: We will assume that the state representative is an essential player. In many regimes, the management may also be essential, and possibly the workers as well. On the other hand, in classical kinds of regimes, involving a great deal of information disclosure, independent auditing firms will typically be essential.

The disagreement outcome: There are several natural candidates for a disagreement outcome. One is simply the status quo: if the local negotiations end in disagreement, the enterprise will remain in state hands for some period of time. Another is that the state will implement its own "boilerplate" privatization plan for the enterprise. Either of these alternatives will presumably be unsatisfactory for all concerned, and so induce the participants in the local negotiations to make the compromises that will be necessary in order to reach an agreement. More generally, our MB model suggests ways in which the disagreement outcome might be used as a policy instrument to steer negotiations in one direction or another, by changing the relative costs of disagreement for the different participants. Of course, the instrument will be effective only to the extent that enforcement of the disagreement outcome is considered by the participants to be a credible threat.

3.2 Phase II: The Assignment Phase.

In this phase, state-owned enterprises are matched with transition regimes. We assume that each *state-owned enterprise* is completely described by some vector of *attributes*. These attributes specify such diverse aspects of the enterprise as: the nature of the products produced by the enterprise, a description of its plant and equipment, of the technology it utilizes, etc; a description of its financial status; the place of the enterprise within its industry, i.e., its market share, the nature of its competition; some indication of the risk profile of the firm; the distribution of information within the enterprise, i.e., whether critical data is widely available to many different groups, or whether some group such as management has a significant informational advantage; the nature of "measurement errors" in monitoring the performance of the enterprise (Holmstrom and Milgrom [1990]); the relationship between the enterprise and the state bureaucracy, e.g., whether workers and/or management have a cooperative or an adversarial working relationship with the founding ministry; the "distance" between management of the enterprise and the founding ministry; and any potential synergies between the enterprise and some potential foreign investor.

The initial specification of our four-phase model includes a list of state-owned enterprises, together with their identifying attributes. Typically, the central privatization agency will be only partially informed about the attributes of the various enterprises. By specifying an appropriate set of admissible signals that enterprises can transmit, and by designing an assignment function with appropriate incentive properties, the central privatization agency can induce enterprises to reveal information that will facilitate the selection of an suitable transition regime.

The assignment process may take a wide variety of specific forms, ranging from fully centralized to fully decentralized. At the centralized extreme, the signaling aspect will be trivial: enterprises will simply be assigned to regimes without regard to any communication from the enterprise. At the decentralized extreme, the matching aspect will be trivial: enterprises will simply specify the regimes that they prefer, and these choices will prevail. Between these extremes, one can imagine many varieties of "revelation mechanisms" of varying complexity.

In the proposals currently under discussion, there are examples of both of these extremes, but to our knowledge no explicit discussion of any intermediate kind of assignment rule. For example, in both Poland and Czechoslovakia, enterprises are distinguished primarily on the basis of size and secondarily on the basis of whether or not a foreign investor seems to be at hand. Czechoslovakia has a "small" and a "large" privatization plan, while Poland distinguishes between "small", "medium" and "large" enterprises. It appears that in both countries, the classification of enterprises into size categories will be entirely centralized. Both countries allow for exceptional cases in which foreign investors acquire enterprises via one of the classical privatization regimes. It appears that the enterprises themselves will be entirely responsible for declaring whether they are exceptional cases.

The two extreme alternatives are unlikely to be optimal with respect to any reasonable criterion function. On the one hand, the central privatization agency will generally have less access than the enterprises themselves to information that is critical for the purposes of selecting a transition regime. On the other hand, a significant moral hazard arises when the choice of regime is delegated to the enterprise itself. Indeed, the infamous "spontaneous privatizations" that have occurred in recent years in Hungary, Poland and Czechoslovakia can be viewed as resulting from a fully decentralized choice of assignment rule. Since neither full centralization nor full decentralization is an viable alternative, we believe that effort expended towards developing an intermediate kind of assignment rule would indeed by useful. To illustrate the potential in this regard, we propose two highly simplistic vignettes. We emphasize that these are intended only to be suggestive.

Our first vignette addresses the issue of collusive behavior during the transition process. Perhaps the simplest and cheapest possible way to package an enterprise is to allow closed bilateral negotiations between the management of an enterprise and the founding ministry. Indeed, the proposed method for large-scale privatization in Czechoslovakia relies heavily on the preparation by management of a "privatization project:" this method seems to amount to a bilateral negotiation process. There is, clearly, a high potential for collusion here between the two parties. One response to this risk would be to incorporate an objective overseer into the negotiation process.[5] Certainly it would be too costly and too time-consuming to insist on oversight in every instance. A more feasible alternative would be to require oversight only in situations where the risk of collusion is highest. Specifically, when all local participants have positive access probabilities and when information is equally available to all--think of a crowded and well lighted street--then there is no need for external policing. When the street is dark and sparsely populated, then the need for monitoring and policing is greater.

The potential for collusion depends largely on the personal propensities of the parties involved, and this kind of information will certainly be unavailable to the central authorities. There may, however, be objective and potentially verifiable indicators that are positively correlated with the risk of collusion. An obvious hypothesis is that collusion is more likely between two agents, the better they know

[5] In terms of our model, choose a transition regime in which some group with oversight responsibilities is included as an essential player.

each other. If this hypothesis is valid, a comparison of the two agents' group affiliations will provide an informative signal about the risk of collusion. More abstractly, one can imagine constructing some kind of "familiarity index" for pairs of agents, and scoring each pair based on publicly verifiable information.

This familiarity index can form the basis for the design of an assignment mechanism. Assume that the group affiliations of the ministry representatives are public information. The manager of each enterprise would transmit a verifiable signal about his or her past group affiliations. The central privatization agency would compare each manager's affiliations with those of the corresponding government official, score each pair on the familiarity scale, and then assign each enterprise to a regime with or without an independent overseer, depending on whether the pair's familiarity score exceeded or fell short of some threshold level. This level would be determined as part of the negotiations in phase I of our model. Its magnitude should depend on society's collective willingness to pay (in terms of time and money) for a reduction in collusion. A society that collectively views collusion as a minor problem relative to the cost of preventing it would choose a relatively high familiarity threshold. The more seriously society views the problem, the lower the threshold should be.

Our second vignette addresses the problem of asymmetric information among participants in the localized MB game. A widely recognized problem of transition design is that in certain enterprises some participants--either management or the workers, or both--will have access to critical information that is not publicly available. To prevent the informed participants from exploiting their informational advantage, it may be necessary to assign these enterprises to transition regimes in which an auditor is an essential player. Once again, however, the central privatization agency is unlikely to be able to rank enterprises based on the degree of local asymmetric information. If enterprises are to be distinguished on this basis, then, the local participants themselves must be induced to reveal the information about the degree of information asymmetry in their enterprises. Clearly, it will be difficult to induce informationally advantaged groups to reveal their superior knowledge. In principle, however, it should be possible to elicit the truth by soliciting signals from *all* local participants. There will, however, be serious mechanism design problems to be addressed. Since informationally disadvantaged groups will not in general be required to bear the full cost of oversight, it will be difficult to ensure that enterprises are assigned to regimes with oversight only when the social benefits justify the additional social cost.

3.3 Phase III: The Enterprise-level Negotiation Phase.

In this phase, local participants at the level of each enterprise play an MB game. For each enterprise, the structural parameters of the game are included in the characterization of the transition regime to which the enterprise is assigned. It is important to emphasize that the role played by our multilateral bargaining model in this phase is quite different from its role in the other phases. In Phase I, the MB model was used as a stylized description of *existing* decision-making institutions. In this phase, however, the nature of the local decision-making process is itself a decision variable; it is included as part of the design of the transition regimes. More specifically, it is beyond the scope of transition design to prescribe how interest groups should negotiate with each other at the level of central government. On the other hand, it is certainly appropriate for transition designers to specify alternative structures of the negotiation process between local participants. Of course, these designers must take into account the actual political configurations that exist at the level of each enterprise, or else the structures they propose will not be sustainable. However, there is clearly some scope for modifying this existing configuration at the margin, through an appropriate institutional design.

Our MB model will provide a useful analytic tool here, even if there is little apparent relationship between our formal MB model and the proposed structure for actual enterprise-level negotiations. For example, suppose that the only structure imposed on the local negotiations is that certain groups must sign off on any agreement that is negotiated between the enterprise and the ministry. What is the effect of including or excluding a particular group from the list of signatories? Some insight into this question will be obtained by comparing MB games in which the group in question is or is not an essential player.

To illustrate the potential usefulness of the MB model as a tool for investigating alternative negotiating structures, we will consider some highly simplified and artificial scenarios. As usual, we emphasize that these examples are intended only for instructional purposes. (The remainder of section 3.3 is somewhat more technical than the rest of the paper. Readers who are uninterested in the inner workings of the MB model might choose to skip to the beginning of subsection 3.4.)

First, for the simplest possible case, assume that there are only two participants in the localized negotiations--management and the founding ministry--and that both are essential players. Assume that each participant has a distinct "ideal point" in the space of local decision vectors, i.e., a vector that he or she strictly prefers to all others. Assume also that payoff functions are continuous and strictly quasi-concave. Construct the "contract curve" in the usual way: it will be a curve joining these two points. It is a simple exercise to verify that the solution to the MB game must lie on this curve and that an increase in one player's access probability will shift the solution along the curve in the direction of that player's ideal point.

Now, complicate the example by adding an additional participant, for example, a representative of the workers. Assume that each player has a positive access probability. If all three players are essential, the analysis is much the same as before.

Construct the triangle joining the ideal points of the three players (i.e., the convex hull of the ideal points). Once again, it is straightforward to check that the solution to the MB game must lie strictly inside this triangle and that an increase in the access probability of one player will shift the solution closer to that player's ideal point.

The problem becomes more interesting if the workers' representative is not an essential player, while the first two players remain essential. In this case, the solution will once again lie on the contract curve joining the the first two players' ideal points. In general, however, it will be different from the solution that would be obtained if the workers' representative were excluded from the negotiations. Moreover, the solution will be closer to management's ideal point, the greater the communality of interest between workers and management relative to the communality of interest between the workers and the ministry. Finally, if the workers have more in common with management than with the ministry, then an increase in the workers' access probability will shift the solution along the original contract curve in the direction of management's ideal point.

The scenarios above are sufficiently simple that the model does little more than confirm what seems intuitively obvious. The model can, however, provide more tangible benefits in more complex situations. For example, suppose that there are many participants in the local negotiations. Assume that the government is concerned only with maximizing the overall "quality" (i.e., potential economic efficiency) of the packaged enterprise while the other interest groups are less interested in overall quality than in maximizing their own private benefits. Many questions can be asked about the relationship between the structural characteristics of the MB game and the political and economic efficiency of the resulting product. First, what is the relationship between quality and the "size" of the space of local decision variables? In particular, will quality be greater if participants are allowed to negotiate over the distribution of ownership shares or if this distribution is imposed from above as part of the specification of the transition regime? Second, is quality enhanced or degraded when the minimum size of an admissible coalition (or the required number of signatories to a privatization plan) is increased?[6] We have studied similar questions to these in a different context (Rausser and Simon [1991b], [1991c]). The answers we obtained were perhaps surprising, though with hindsight the arguments are relatively transparent. First, quality is enhanced if players are allowed to negotiate over ownership shares. Second, quality is degraded by increasing the minimum size of the coalition.

There is a host of other questions that are much more complex to analyze. For example, how does the quality of the transition process vary with the distribution of access probabilities (political power) among the various participants? Since, at the local level, the vector of access probabilities is, at least at the margin, a policy variable, the answer to this question will be of considerable interest to transition designers.

3.4 Phase IV: The Renegotiation Phase.

Between phases III and IV, the economy evolves randomly over a short period of time. The properties of the stochastic path depend on all of the variables that were negotiated in phases I and III. As we observed in the introduction, the economic, social and political topography will be in flux during this evolutionary period. Some existing groups will become more powerful, others will become less so, and new power centers will emerge as newly created institutions acquire vested interests in the status quo. To illustrate the importance of changes in political power, we consider three examples. First, if the managers as a group gain financially from the privatization process, their political power will increase commensurately; if the

[6] Alternatively, suppose that one policy variable available to the transition designer is the number of required signataries to the negotiated agreement between the enterprise and the ministry. How is quality affected by increasing or decreasing this number?

privatization process is perceived to be successful and if the managers are perceived to be partly responsible, then their power will be enhanced even further. On the other hand, to the extent that their recent financial fortunes are viewed by the public as unfairly acquired, their power base will be eroded. Second, consider the newly formed holding companies. If these groups play the dominant role that is expected of them in Poland, then as a group they will certainly develop into a significant political force, introducing a new set of economic interests to the political equation. Third, political support for the government leadership will increase or decrease depending on public evaluation of the way the transition process has been implemented, as well as on early indicators of the success or failure of the privatization process. Regardless of these early indicators, an opening of the political system to the broader representation by alternative local participants in Phase III may be the most effective means for sustaining the public policies implemented in phases I and II. The diffusion of power that comes with open access and participation at the local level should result in more transparency and enhance the credibility of the entire transition process (Rausser and Thomas [1990]).

All of these developments will be captured in a summary way in Phase IV by changes in the structural characteristics of the cabinet-level MB game, i.e., the vector of access probabilities, the set of admissible coalitions and the disagreement outcome. These changes may lead to a renegotiation of decisions agreed upon in phase I. To the extent that the distribution of political power favors groups whose interests conflict with those of society as a whole, the outcome of this renegotiation process will compromise progress towards the long-run goal of a market economy. On the other hand, to the extent that the government's position is bolstered by early indicators of a successful transition, the resulting increase in the government's access probability will strengthen its negotiating position, and allow it to consolidate its program towards reform.

Clearly, decision makers in phase I should take into account these feedback effects when they evaluate alternatives in Phase I. We will mention just one example here; several others are discussed in section 4.6. A view that appears to be widely held is that those enterprises in which private investors show most interest should be assigned to a classical Western-style transition regime and should be sold off to the the highest bidder. The arguments in favor of this view are transparent: at least some enterprises will be sold, so that progress towards privatization will be seen to be made, and some sales revenue will be generated for the state.

The arguments against this approach are less transparent. We will present them in terms of a particularly grim scenario. If the approach just described is adopted, then the tendency will be for the most eligible enterprises--i.e., those with the highest potential and least risk--to be sold off to foreigners and domestic wealth-holders. The remaining enterprises, i.e., the ones with little potential, will be privatized via radical voucher/giveaway methods to the public at large. As the better enterprises continue to do well in the post-privatization economy, while the weak enterprises continue to flounder, there will be widespread public dissatisfaction with the inequitable situation. The government and the pro-privatization forces will lose political support and, in the renegotiation phase of the model, anti-market forces may be powerful enough to slow down or reverse the drive towards privatization. To summarize the point we have just made, when the implications of phase IV are fully taken into account, decisions that in phase I seemed rational from a myopic perspective may be called into question because of their negative long-term

SECTION 4. CONCEPTUAL ISSUES.

Our multiphase process-oriented model offers a novel perspective on several aspects of the privatization process. We present these issues in this section. Our discussion is organized around the following themes: (1) the speed versus the quality of the transition; (2) the heterogeneous nature of the problem; (3) the potential for corruption; (4) the assignment problem; (5) centralized vs decentralized transition designs; (6) pluralism; (7) political economic feedbacks; and (8) policy credibility. For each of these themes, we have attempted to summarize the views currently being expressed in the literature, present our own perspective on the issue, and relate these perspectives to our model.

4.1 The speed versus the quality of the transition.

There is a tradeoff that must be resolved between, on the one hand, the speed and cost of the transition and, on the other, the "quality" of the resulting process. For example, in Phase III of our model, the key local decision variables could all be negotiated entirely in private, in bilateral meetings between the founding government ministries and the current management of each enterprise. Privatization could be implemented very rapidly using this method, but the distributional and efficiency costs might be exceedingly high. The potential for collusion between the negotiating parties would be very great, and managers would be able to package their enterprises in ways that maximized their personal gain, without much regard for the implications of their actions for the future economic viability of the enterprise. At the other extreme, a broad-based, open, and pluralistic negotiating environment would result in a more equitable disposition of the enterprises; but the process could be slow and costly, especially if it involved extensive outside auditing or independent overseers to monitor proceedings.

How should each society resolve this tension between the speed, the cost, and the quality of the transition? As a way of conceptualizing the problem, we can treat these variables just like any economic attributes. In principle, we can associate preference orderings in speed-cost-quality space to each of the participating parties. Similarly, we can conceive of a "aggregate transition technology" and identify a "production possibility set" in the same three-dimensional space. Having embedded the problem in a traditional economic framework, we can analyze it using our MB model, or some other, more traditional economic technique. The kind of conclusion we would expect to emerge, for example, is that the more emphasis is placed on speed relative to quality, the fewer enterprises will be assigned to a transition regime involving oversight. That is, the extent of asymmetric information will have to be more extreme in order to warrant an "oversight" classification.

4.2 Heterogeneity

The privatization proposals for large enterprises in both Czechoslovakia and Poland seem to rely on two basic types of transition regimes: some kind of voucher scheme, and some variant of a Western classical-style regime. We have three remarks about this two-track approach. First, there is a potentially huge range of alternative regimes which differ in many respects: different degrees of oversight; different levels of prior audit evaluation; etc.; straight giveaways versus sales with "symbolic" prices; different forms of foreign capital involvement, etc. We believe that any program for massive privatization should include a diverse menu of alternative regimes. There are limits, of course, beyond which additional diversity ceases to be productive, since each additional transition option increases the complexity of the overall process and, hence, the costs of administering it. Moreover, additional diversity also reduces the transparency of the process to both participants and the general public. In principle, then, it is important to determine a level of diversity that is optimal relative to the transactions cost constraints.

Second, there must be some systematic method for classifying enterprises into categories, and identifying a transition regime that is most appropriate for each category. The classification task will be particularly difficult when there are informational asymmetries that can be exploited by the informed parties. We propose that information revelation games be developed in which local participants at the level of each enterprise are induced to reveal information that will facilitate the assignment process.

Our final remark relates also to the centralization/decentralization theme discussed in subsection 4.5. The packaging process must include the specification of some kind of corporate governance function. Obviously, enterprises face such a wide variety of different circumstances that it will be infeasible to design a uniform governance function that meets the needs of all enterprises, and then impose this function from above. To illustrate, we will focus on just one issue that the governance function will have to address: the division of responsibility for management tasks between the board of directors and the manager. This distinction is particularly important in Eastern Europe because the boards of directors are expected to be professional generalists who are expert at the generic aspects of running companies but are unlikely to have any detailed knowledge of the individual companies they direct. How much discretion should the manager be given? One variable is the quality of the manager and his particular strengths and weaknesses. Obviously, this variable can *only* be evaluated at the enterprise level. Any attempt at a centralized evaluation of the quality of local management will result in fiascos similar to those that characterized the old centrally planned economies. Another, purely local variable involves the particular types of adjustments that each enterprise has to make. Some enterprises will be "workout" situations, that is, the enterprise will be in severe financial difficulty and in need of radical restructuring. In this case, workout expertise will be required; this will (or should) be included in the repertoire of skills available within the holding company director pool. In each individual situation, it will be important to select from the pool the director who has the most applicable skills. It seems manifestly clear that the process of assigning directors from a central pool to local institutions can succeed only if the process involves both central and local decision-makers.

4.3 Corruption

There is, obviously, a significant potential for corruption in the development of the individual privatization plans for each enterprise. Even if there were an explicit, centrally mandated, pluralistic process for developing these plans, there would still be opportunities for corruption because of incomplete information. Management will often have unique access to private information about the enterprise: its financial position; the quality of its physical assets, inventories, etc. The potential corruption problem may be less acute when privatization occurs via one of the mainstream, voucher regimes. In these regimes, the rules of privatization are specified in a fairly detailed way. Neither Poland nor Czechoslovakia, however, impose much in the way of groundrules for "exceptional" regimes in which privatization occurs outside the voucher system. Here, there will be many ways in which local managers, and maybe the workers, can line their own pockets. Even when other parties are, in principle, allowed to participate in developing privatization plans, informational asymmetries may put them at a serious disadvantage. This situation is exacerbated by the possibility that the managers and the state representatives can collude. Finally, there is the possibility that the enterprise can be acquired by foreign investors with undisclosed links to the existing management. By proposing a joint venture with such investors, the current management may be able to gain effective control over the enterprise, and disguise this fact from the central authorities.

There are three obvious ways to address the problem. All three have been alluded to in previous remarks and can be explained in terms of our model. First, institute an explicit pluralistic procedure for formulating the individual privatization plans of each enterprise. Second, develop the legal infrastructure, including conflict-of-interest laws, etc., to make corruption more costly. Third, attempt to identify those enterprises in which there is the highest potential for corruption because of asymmetric information (the dark street case) and, in those instances, attempt to mitigate corruption by imposing stringent audit requirements.

4.4 The Assignment Problem

The criteria that should be used to decide how to match enterprises to regimes must be determined by a process of backward induction. Each regime will result in a different kind of packaged enterprise. These differences will affect the performance of enterprises as the economy evolves in the short-run following phase III. Aggregate differences in short-run performance characteristics will result in the emergence of different political configurations at the beginning of phase IV. A change in the political configuration in phase IV will result in different long-run values for the institutional policy variables, and hence different long-run performance characteristics for the economy. The preferences of the participants in our model are defined over these long-run performance characteristics. Society's collective preferences over performance characteristics will suggest a particular set of criteria for matching enterprises to regimes. For example, two long-run performance measures that may partially conflict with each other are long-run growth and the survival of the government that is sponsoring reform. To the extent that rapid short-run growth is crucial for maintaining the political survival of the reform-oriented government, short-term success will be emphasized at the expense of sustained long-run growth. In this case, transition regimes that emphasize speed will tend to be chosen at the expense of, say, regimes that lead to high long-term quality privatizations. The current literature on privatization has virtually nothing to say about alternative criteria for selecting among transition regimes. This is hardly surprising since the literature says very little about the assignment problem in the first place.

4.5 Centralization Versus Decentralization

Once an enterprise has been assigned to a particular regime, should the remaining aspects of the packaging problem be resolved by negotiations at the enterprise level, or should they be subject to tight central control? This issue involves some delicate political economy questions. One argument for central control might be that, in certain cases, the configuration of power at the enterprise level may be so unbalanced that politically disadvantaged groups may be unable to protect their interests, while these groups may be better able to defend themselves in a centralized forum. The reverse argument may be equally valid under certain conditions. It may be the case that less privileged groups can be mobilized at the local level to exert influence on matters that concern them deeply. Because of problems such as coordination, etc., these same groups may be quite ineffective at the central level.

Clearly, there is unlikely to be an entirely satisfactory answer to this question that applies uniformly across enterprises. Thus, the menu of transition regimes should include a variety of options involving differing degrees of centralized control. The mechanism by which enterprises are matched to transition regimes should be capable of distinguishing enterprises in which the various local participants are unable to advance their interests from those in which participants are able to protect their own interests.

Are less privileged groups better able to defend their interests at the local or the central level? Obviously, the answer will depend on the particular local environment. That is, local power configurations may vary widely so that, in some cases, the center can protect them better than they can protect themselves; in others, the situation may be reversed. For example, one important variable is the relationship between participants who are powerful at the local level and their contacts in the founding ministry; to the extent that the ministry is "captured" by the locally powerful groups, the interests of the remaining groups will be at risk. If the ministry maintains its independence from these powerful groups, the rights of the less privileged are more likely to be protected. An second important variable relates to the distribution of information. To the extent that information is highly asymmetric, the interests of informationally disadvantaged players will be at risk.

In summary form, the arguments for centralization are: (a) it is inefficient to reinvent the wheel each time another enterprise is privatized; (b) if participants at the local level are permitted to negotiate extensively over issues such as ownership shares, they may be distracted from more important issues and hence vulnerable to exploitation; (c) it may be easier to control powerful special interests at the central level than the local level; for example, workers and management may have roughly equal power at the central level, while one may dominate the other at the local level; and (e) if they are negotiated at the central level, the fine structure of individual privatization plans can be integrated more effectively with macro issues such as monetary and fiscal policy. The arguments for decentralization include: (a) the importance of local information; (b) the poor track record of command economies; (c) the virtues of participatory democracy; (d) the likelihood that local participants are in a better position than the center to identify and deal with corrupt special interests, such as ex-nomenklatura. Ultimately, however, the degree of decentralization is itself a systemic variable that can only be determined at the central level. In the language of this paper, the degree to which decision-making is delegated to local participants is an outcome of the negotiations in phase I of our model.

4.6 Pluralism

In Czechoslovakia, the approach to privatization is relatively decentralized but there is not much explicit institutional support for a pluralistic determination of the transition. Officially, in Czechoslovakia, any party can propose a privatization project. However, the founder is not obliged to take notice of each of the different proposals. There is not much in the way of explicit insistence on an open debate. It appears that a party can submit a project at the last minute before some deadline, imposing a lot of pressure on the founder to accept without giving the proposal much consideration.[7] In Poland, there is even less explicit provision for pluralism. By contrast, the need for an explicit pluralistic approach seems particularly great in these countries because of the potential for collusion between the nomenklatura in the enterprises and the ex-party members who remain powerful with the founding ministries.

4.7 Political Economic Feedback

This issue addresses the relationship between short-term economic developments and longer term political ramifications. It is a subtle issue that seems to have received relatively little attention in the literature. Economic developments can shift the balance of political power, creating new institutions and strengthening the power of interest groups that want to defend these institutions. It is important to foresee these secondary developments and anticipate their economic consequences. For example, in Czechoslovakia, relatively little attention is being paid to the problem of industrial concentration. The expectation is that foreign competition will discipline the domestic monopolies and that in order to compete, the monopolies will have to restructure themselves into smaller, more efficient units. Indeed, from private interviews, it appears that the war cry is: "privatize, then evaluate and restructure;" because, if you

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[7] By way of comparison, consider the Public Hearing model familiar in the United States, where competing alternatives are posted for a fixed minimum amount of time, hearings are scheduled, and responses to written objections are required by law.

wait until after restructuring before beginning the privatization process, then the latter process will never get off the ground.

The problem we foresee is that the political power of the managers of the newly created monopolies will be enhanced as the economy develops, and they will be in a position to defend their position by political means (rather than economic). That is, they will apply pressure for legislation that protects their privileges. If their industries are threatened by import competition, they will apply pressure for protectionism. If foreign companies try to set up competitors within the countries, they will apply pressure for capital prohibitions. If competitors do become viable, they will attempt either to beat them by predatory pricing or to join them by colluding with them, and will resist attempts to regulate this activity through antitrust laws. The point here is that these political forces based on economic privilege are not currently in position, but they will be later and this development should be anticipated.

Similarly, in Poland, the planners are relying on minimal barriers to entry to ensure market discipline. But the economic situation will change and with it the political configuration. The cultural ethic of free entry will have to withstand the threat of new forces. The forces will include not only the management and shareholders of new industries, who will fight to preserve their interests, but also the workers, who will fight to preserve their jobs. It should not simply be assumed that these forces will be resisted. Another example of the failure to fully consider the danger of feedback problems concerns the formation of Holding Companies in Poland. Several authors have suggested that the charters of these companies should include instructions to self-destruct after a certain time period. (Blanchard and Layard [1990], for example, suggest ten years.) Our expectation is that even in the presence of such clauses, once the Holding Companies are established, they will develop into a new political constituency that will surely resist its own destruction.

Regardless of whether new economic developments result in a change in the configuration of political power, these developments can still have significant political ramifications, just because the status quo has changed. It seems obvious that once a policy is in place, it will be more difficult to remove that policy than it would be to prevent the policy from emerging if it had never been implemented in the first place. In our framework, this phenomenon can be studied by specifying an MB model in which the disagreement outcome is just the status quo outcome; that is, if agreement is not reached, the presumption is that nothing will change.

Formally, political-economic feedback effects during the transition should be modelled within a dynamic, closed-loop framework. In static, political economic models of transition, the current configuration of political power is an "input" of the model and the "outputs" of the model include the set of economic policy decisions that determine the entire process of transition. In a closed-loop dynamic model, the transition is viewed as a multi-phase process, in which the outputs of earlier phases are the inputs of later phases. In particular, the early phases of transition will change the configuration of political power, as the beneficiaries of these early phases apply political leverage based on their newly acquired economic power and as the prime movers of the original privatization program gain or lose political support depending on initial assessments of the success or failure of the program. To the extent that the private objectives of these early-stage beneficiaries conflict with the public interest, these changes in the political configuration will tend to detract from the success--viewed from the perspective of the public interest--of the transition process. We would expect, therefore, that models in which these "feedback effects" are neglected will tend to overestimate the prospects for a successful transition.

To illustrate this point, consider the relationship between long-term competitive policies and the extent to which enterprises are restructured prior to privatization. The current Czechoslovakia proposal for "large scale" privatization leaves open the possibility that existing, state-owned, over-concentrated industries will be transferred to private owners more or less on an "as is" basis, without any attempt to restructure the industries and reduce concentration, to enhance efficiency and a more competitive environment. The presumption here is that "the market will take care of everything," i.e., that market discipline will force the restructuring of inefficient firms. In particular, foreign competition is expected to be a front-line force against anti-competitive and inefficient behavior. In our view, this expectation is unrealistic since it ignores the likely political implications of the Czechoslovakian proposal. We expect that if this proposal is implemented, the beneficiaries of the new status quo will accumulate economic wealth and hence political influence in the new environment, and will use their newly acquired political assets to maintain the new status quo. For example, the current foreign trade legislation might be very liberal (as it appears to be in Poland) so that based on the current situation, the scenario of foreign firms disciplining domestic firms seems plausible. However, in the new privatized economy, the incentives for free trade will surely diminish and simultaneously there will develop a new constituency with considerable economic power and a vested interest in protectionism. These issues indicate the importance of developing a model in which it is possible to predict the effect on the future policy debate of the new-found power of new constituencies that have a vested interest in resisting enlightened economic policy.

4.8 Policy Credibility

An issue related to political-economic feedback is credibility or consistency of official policy. This is an important issue because domestic and foreign companies will watch these newly emerging economies for signs that the environment is stable enough that the country is a good risk for investment purposes. If policies set at phase I are overturned in phase IV, then this may be taken as a signal to outside investors that the environment is unreliable. Foreigners will require a greater potential return as a requirement for investing and this additional leakage will detract from growth of domestic wealth.

We presume that consistency is positively correlated with participation at phase III. The chain of events might be as follows. If the important parties feel that they have been consulted at key points in the decision process, they will be more willing to accept a wide range of outcomes without withdrawing support for the system.[8] Even if participation has no direct positive effects, a bad draw from nature--which leads to poor performances by specific industries or the economy at large--will be less likely to lead to disaffection among the general public, to significant reduction in support for the center in phase IV and, ultimately, to revisions in policy that dampen or even reverse the trend towards reform.

SECTION 5. CONCLUDING REMARKS.

In this paper, we have presented a game-theoretic model of the process of transition from centrally planned economies to market economies in Eastern Europe. The design of our model reflects the influence of a number of basic premises that we maintained at the outset. In the final analysis, our major conclusions are methodological rather than substantive. First, we believe that research effort should be directed towards the development of a general conceptual framework that provides an overview of the entire transition process, viewing it, so to speak, through a wide-angled lens. Our ideal formulation would provide an exhaustive, conceptual classification of the decisions that have to be made, the players that will have to make them, the institutional structures within which decision-making will take place and a set of performance criteria against which the process can be evaluated. A particularly important requirement of our ideal formulation is that it be "logically complete," in the sense of specifying an explicit decision-making process for dealing with "residual contingencies" not dealt with elsewhere in the formulation.

Second, we emphasize the importance of modeling the dynamic interaction between the economic and political facets of massive privatization programs and warn that unless these interactions are taken into account, there will be a natural tendency to overestimate the prospects for a successful transition. Third, given the heterogeneous conditions facing state-owned enterprises, we take the view that that no one method of privatization will dominate all other methods in all instances. Fourth, if the ultimate goal is to establish a pluralistic, decentralized, market-oriented system, then the transition process itself should have similar characteristics. Many experts in the area apparently disagree with this premise: they advocate a centralized, bureaucratic implementation of the process. We ask of them: why should a centralized approach to privatization be any more successful than the centralized planning techniques whose poor performance fueled the drive away from communism in the first place? Fifth, we maintain that both political and economic benefits can be gained by involving a large number of players in the privatization process. One obvious benefit of broad-based participation is that political support is more likely to be robust to the inevitable setbacks that will be experienced as the newly privatized economy gets under way.

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