

A Longitudinal Study of the Distribution of Control in Yugoslav Organizations

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The legal system of workers' self-management in Yugoslavia provides to all of the employees of each enterprise ultimate authority over basic policy, personnel, and technical issues of the firm. This study explores the "actual" and the "ideal" distribution of control in Yugoslav industrial organizations as reported by members during a five-year period, from 1969 through 1973. The data are based on questions administered at yearly intervals (excepting one year) to a probability sample of more than 3,000 persons in 100 organizations. Because important legal changes in the direction of greater participation in the governance of Yugoslav organizations were introduced immediately prior to and during this period, we expected to find some change in the distribution of control during the five years of the study. The data fit a pattern that has been found in other countries, thus illustrating principles that may transcend culture and political system. The data also differ in degree from those of other places thus also illustrating the impact of the unique legal system or organizational control in Yugoslavia. Furthermore, the data seem to be characterized more by stability than by change during the five years of the study. If change has occurred it appears to have occurred more with

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respect to the expectations or "ideals" of respondents than with regard to their perception of the realities of control in their organization. We nonetheless assume, partly on the basis of these data and of those from studies in other countries, that substantial change in distribution of control has occurred since before the Yugoslav revolution and that a process of evolution in the distribution of control is continuing. We offer a hypothesis about this process. In addition, because we rely on the judgment of organization members for our measure of control, we present data that may shed some light on the meaning of the concept of control to these persons and therefore on the degree of correspondence between their implicit definition of control and our own.

INTRODUCTION

We report in this article the results of a study designed to explore the distribution of control in Yugoslav industrial organizations and possible change in this distribution as perceived by members during a five-year period. The data are based on questions administered at yearly intervals (excepting one year) to more than 3,000 persons in 100 organizations selected by probability methods from the population of all industrial firms in Slovenia. The period is 1969 to 1973.

That change should have occurred in the distribution of control in Yugoslav industrial organizations during this period is suggested by the fact that the Yugoslav law that defines the management of the work organization has undergone change immediately before and during the period. Furthermore, the law has moved progressively in the direction of defining the Yugoslav enterprise as a highly participative social entity. The legal system of workers' self-management in Yugoslavia today is, from a formal standpoint, the most intensive and extensive national system in Europe, if not in the world. It provides to all of the employees of each enterprise ultimate authority over basic policy, personnel, and technical issues of the firm. Legally, the members of an enterprise are responsible to one another and to society as a whole for managing the enterprise. We are thus able in this study to learn about the implications of a very substantial national system of participation on the distribution of control in organizations, as perceived by members, and to learn whether the change that may have occurred is in accord with theoretically based arguments concerning the relationship between participation and control. In addition, because we rely on the judgment of organization members for our measure of control, we shall present data that may shed some light on the meaning of the concept of control to these persons and therefore on the degree of correspondence between their implicit definition of control and our own.

THE SYSTEM OF WORKERS' SELF-MANAGEMENT

Yugoslav enterprises are owned by society as a whole, and the management of an enterprise is delegated by society to the workers' collective—those people who work in it.³ The prerogatives of such ownership are limited by law only in that the workers' collective is responsible for maintaining and enhancing the value of the enterprise. Thus, the system of social ownership in Yugoslavia differs from that in most other socialist societies in that in Yugoslavia, basic decisions about a firm, including decisions about the purchase of supplies and the pricing of products, are made within the firm itself rather than by a centralized federal agency. Furthermore, firms purchase their supplies and sell their products in large measure in competition with other firms inside Yugoslavia as well as outside. Such decentralization and the autonomy that it implies for individual companies is an essential basis for the Yugoslav system of workers' self-management. Without it the decision-making power of persons in the firm—rank-and-file workers and managers alike—would be substantially limited.

The first law of self management in Yugoslavia was introduced in 1950. It provided for a workers' council in each enterprise, consisting of 10 to 50 persons, depending on the size of the enterprise. The council also included the director of the firm as an *ex officio* member. The council was designed to represent all employees in the decision-making process, although initially the council was a consultative body with limited jurisdiction. More recently, law has defined the council as the supreme operative authority in an enterprise; it is responsible only to the workers' collective as a whole. In addition to deciding about purchases and prices, it decides about such issues as: approval of annual and long-term production plans; investments; allocation of profit; distribution of wages and salaries; use of the enterprise's funds; hiring and firing of employees (especially managerial and staff personnel); verifying and approving the annual balance; and discipline.

Changes were introduced in federal law in 1968 in order to overcome problems faced by councils, including an inordinately heavy workload. The long and frequent meetings that were necessary to handle all of the councils' business proved impractical and the 1968 law therefore allowed councils to create executive bodies or "boards" to facilitate decision making. For example, different boards might be created to

³We cannot provide in this article information about the background of the Yugoslav system which the reader can find in Adizes (1971), Burt (1972), Hunnius (1973), Kolaja (1965), Sturmthal (1965) and Tannenbaum, Kavčič, Rosner, Vianello, and Weiser (1974).

handle different problems like division of income, investment, or production planning. These executive bodies are elected by the council and they can be dissolved by the council.

In addition to indirect participation through their representatives on the council, workers may participate directly through meetings of the entire workers' collective, meetings of work units, or through referenda. Meetings of the entire collective are held once or twice a year to evaluate the financial status of the enterprise and to discuss other important issues. Meetings of a work unit may be called more frequently to decide issues relevant to the unit. Referenda may be held to decide such questions as merger with another enterprise, major investments, changes in product, or the liquidation of the enterprise.

In the early 1970s further decentralization was achieved through a number of enactments including: amendments to the constitution in 1971, a new constitution in 1974, and the Associated Labor Act in 1976. The first of these occurred during the course of this study and, although the new constitution was enacted only subsequently, it was broadly discussed in the country prior to its enactment during the latter part of the study. It therefore could have affected the expectations of organization members concerning self-management. The amendments to the constitution in 1971 define "basic organizations of associated labor" as the fundamental decision-making units within and among firms. These units consist of persons who, together with their equipment and physical plant, form a productive unit within an enterprise. Such a unit assumes complete responsibility for its production; it is a sociotechnical system resembling the so-called autonomous work group. The autonomy of the basic organization of associated labor, however, is substantially greater than that of the usual autonomous work group since the basic organization has complete responsibility for its economy as well as its production. It is therefore like a "profit center" in which the value of its product or service is established, either through negotiations with other basic organizations with which it is associated in a firm or through a market in which it sells its product(s) or service(s). The basic organization decides about the allocation of its resources and, within the limits of its market, the price of its product(s) or service(s). The members may also decide to move the unit outside the firm, or to establish additional basic organizations or firms, providing such action does not harm the original parent company. All of these decisions, according to law, are made jointly by all of the members of the basic organization of associated labor.⁴

⁴For a detailed description of the formal role of the basic organization of associated labor in the Yugoslav system see Secretariat of Information SFR of Yugoslavia Assembly (1976).

PARTICIPATION AND CONTROL

Control, as we define it, is any process through which a person or group of persons determines (i.e., intentionally affects) the behavior (overt or covert) of another person or group of persons. To talk about participation is to talk about control. Presumably the participative system differs from the nonparticipative system in the way control is exercised and distributed. Several conceptions proposed in the literature suggest how these systems differ from one another in distribution of control. The prevailing and perhaps most obvious conception is that of "power equalization." "The main thrust of the human relations movement over the last 20 years" according to Strauss (1963, p. 41) "has been toward . . . 'power equalization,' that is, toward reduction of the power and status differential between supervisors and subordinates." According to this conception the rank-and-file exercises a degree of control in the participative organization that it does not exercise in the nonparticipative organization, thus reducing (if not eliminating) the large power differential that ordinarily exists between groups at the bottom and at the top of the hierarchy. Advocates of "power equalization" often assume a "fixed pie," zero-sum conception of control; increasing the control exercised by one group (such as the workers) results necessarily in a decrease in the control exercised by another (such as managers).

A second, and perhaps more naive, conception associates participation with the notion of permissiveness. Participation in this conception somehow eliminates the need for interpersonal control. Such control is replaced by "self-control," each organization member controlling himself or herself. This conception may have a moralistic basis, the argument being that participation means democracy; democracy means freedom; and freedom means the absence of control. This second view therefore suggests that Yugoslav organizations are moving in the direction of less control, to the extent that they are becoming more participative.

A third view argues that participation may lead to an increase in the total amount of control in an organization, including a possible increase in control exercised by managerial persons as well as persons at lower levels (Tannenbaum, 1976):

Participation is often thought to imply taking power from managers and giving it to subordinates, but in fact managers need not exercise less control where there is participation. A reduction in managerial power may occur but it need not, and there is evidence to suggest that participation may be a means through which managers actually increase their own control along with that of workers. Thus, contrary to stereotypes that assume participation to be a vaguely permissive or *laissez-faire* system, the participative organization may be one in which the *total amount of control* is higher than in the nonparticipative organization. There

is no escaping the need for some system of control in organizations, participative organizations included, and the success of participative approaches hinges not on reducing control, but on achieving a system of control that is more effective than that of other systems. (pp. 78-79)

March and Simon (1958) provide insight into the relationship between participation and the total amount of control in an organization:

Where there is participation, alternatives are suggested in a setting that permits the organizational hierarchy to control (at least in part) what is evoked. "Participative management" can be viewed as a device for permitting management to participate more fully in the making of decisions as well as a means for expanding the influence of lower echelons in the organization. (p. 54)

Similarly, Strauss and Rosenstein (1970) argue that the "chief value" of participation "may be that of providing another forum for the resolution of conflict as well as another means by which management can induce compliance with its directives."⁵

RESEARCH DESIGN

One hundred firms were selected by probability methods from the population of all industrial firms in Slovenia which is the most industrialized part of Yugoslavia and is located in the northwest part of the country. Organizations in the population were stratified into three groups according to size, and random selections of organizations were made within each stratum with a probability proportional to the number of organizations in each, thus assuring a good representation of firms of different size. These 100 firms comprised a panel that was utilized during each of the years for which measurement was taken. Within each firm random selections of 25, 34, and 36 persons were made each year from the rosters in each of the small, medium, and large firms, respectively. Earlier research indicated that these numbers were the minimum necessary to provide reasonably stable measures of the firms. Such sampling means that persons in small companies have a greater probability of falling into our sample than do persons from large companies, since the ratio of 36 to 25 is smaller than the ratio of the size of large plants to the size of small ones. However, our sample was not designed to represent *individuals* (persons from small plants being over-represented) but rather to represent *firms* (each of which has an equal probability of falling into our sample). Thus the data that we present below were obtained by

⁵See also Hofstede (1967), Jacques (1968), Lammers (1967), Mulder (1971), Pateman (1970), Russell, Hochner, and Perry (1979), Tannenbaum (1968).

averaging first the responses of persons in each firm and then averaging these averages to obtain a statistic that represents all of the firms in the population. The following data therefore refer to the average industrial firm in Slovenia, not the average organization member.

The data were collected through questionnaires administered to respondents at a location in the plant near their work place. The data were collected each year in November from 1969 to 1973 except in 1970 when no data were collected. The following question was employed to measure the "actual" distribution of control in the firm: "How much influence do the following groups or persons actually have on what happens in this plant?" Answers were checked on a 5-point scale from 1, very little influence to 5, a very great deal of influence, with respect to each of the following persons or groups: the general director, heads of sectors,⁶ department heads, supervisors, workers, the workers' council, executive bodies of the council, the League of Communists, and the trade union in the firm. A similar question, designed to measure "ideal" control, was asked for the above groups: "In your opinion, how much influence *should* the following groups have on what happens in this plant?"

RESULTS

Figure 1 presents the "actual" and "ideal" control graphs based on the above questions asked in 1969 and 1973, the first and last years of the survey. Several facts are apparent from these graphs.

First, the "actual" curves conform to the usual, hierarchical pattern, although the slope of these curves may be less steep than that in the typical industrial organization of other societies as suggested by studies in a large number of organizations in countries of East and West Europe, Israel, and North and South America (Tannenbaum & Cooke, 1979; see also IDE 1979). In any case, the director and groups at upper levels exercise more control than do the workers and other groups at lower levels according to our respondents.

Second, the "ideal" curves proposed by respondents diverge rather sharply from the "actual" curves, the former conforming to a polyarchic, power equalized distribution of control. Furthermore, comparison of the "ideal" and "actual" curves of Fig. 1 reveals a pattern of differences that is very much like that found in other countries (Tannenbaum & Cooke, 1979; see also Bertsch & Obradović, 1979). In fact, Zupanov and Tannen-

⁶Sectors refer to functions like production and personnel.

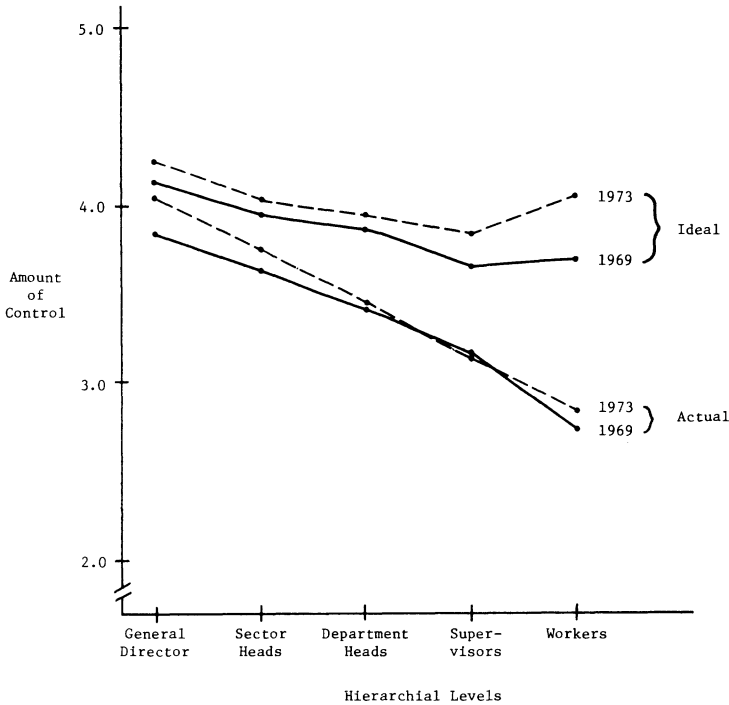


Fig. 1. "Actual" and "ideal" control curves for 1969 and 1973 (100 firms; about 3,000 respondents).

baum (1968) in an earlier study in Yugoslavia note how closely their data fit the generalization based on American studies reviewed by Smith and Tannenbaum (1963). The present data fit that generalization perfectly:

A negatively sloped distribution of control occurs [in all the industrial] organizational units studied. It is also apparent that the ideals which members have concerning the pattern of control differ from the actual pattern in almost all cases. The ideal distribution of control is more positively sloped than the actual and the ideal level of total control is higher than the actual level in a large percentage of the organizational units. While members desire a more positively sloped distribution of control than they perceive, they do not wish to achieve this by reducing the control exercised by other levels. They are more inclined to increase the control exercised by most groups, especially their own. (Members desire an increase in the control exercised by the rank-and-file group in 99 percent of the organizational units examined.) This results in a higher level of ideal than actual total control in most organizations. It also results in the actual curve approaching most closely that of the ideal near the upper levels of the organization. It is at the level of the rank-and-file member that the greatest discrepancy between actual and ideal control, as reported by members, occurs.

But there is an important difference between the Yugoslav data and those from other places. It is a very rare work organization in other societies in which the ideal control curve is so flat. Factories in the kibbutzim of Israel are in this rare set (Tannenbaum & Cooke, 1979). In any case, the large discrepancy between the "ideal and "actual" distributions suggests that our respondents by and large answered the questions thoughtfully and frankly. They may, of course, be in error in their judgment about the actual distribution of control in their organization, but the distribution of control that they portray does not simply fit a socially acceptable stereotype or politically sanctioned ideal.

Third, the curves for 1969 and 1973 seem more characterized by stability than by change. If change has occurred it appears to have occurred more with respect to the expectations or the ideals of respondents than with regard to their perception of the realities of control in their organization. But in either case, the change that may have occurred seems very gradual and it is in the direction of a greater total amount of control.

Tables I and II provide data to fill the gap between the years 1969 and 1973 for the groups represented in Fig. 1, and they also show information about the influence of several additional groups within the enterprise such as the workers' council and the communist party. We have ordered the groups in each table according to the amount of their "actual" and "ideal" influence in 1969 (Tables I and II respectively). Again we see that the most influential echelon during each of the years for which measures are available is that of the general director, while the least influential echelon is that of the workers as a group, and in general the

Table I. Amount of Control Exercised by Groups within the Enterprise During a Five-Year Period (Averages—100 firms; about 3,000 respondents)^a

	1969	1971	1972	1973
General Director	3.85	3.99	3.84	4.06
Sector heads	3.65	3.75	3.64	3.76
Department heads	3.41	3.38	3.39	3.44
Workers' council	3.39	3.34	3.43	3.55
Executive Bodies of				
Workers' Council	3.33	3.34	3.34	3.38
Supervisors	3.15	3.14	3.20	3.14
League of Communists	3.01	2.86	3.07	3.27
Trade union	2.84	2.81	2.90	3.20
Workers	2.75	2.77	2.85	2.84
Average	3.26	3.26	3.29	3.40

^aData for 1970 unavailable.

Table II. "Ideal" Amount of Control Exercised by Groups within the Enterprise During a Five-Year Period (Averages – 100 firms; about 3,000 respondents)^a

	1969	1971	1972	1973
Workers' Council	4.17	4.25	4.23	4.36
General Director	4.13	4.24	4.22	4.23
Sector heads	3.96	4.08	4.06	4.05
Executive Bodies of				
Workers' Council	3.89	3.98	4.03	4.04
Department heads	3.88	3.94	3.98	3.97
Trade Union	3.71	3.97	4.05	4.12
Workers	3.69	3.84	3.99	4.03
Supervisors	3.67	3.79	3.83	3.84
League of Communists	3.59	3.68	3.94	3.89
Average	3.85	3.97	4.04	4.05

^aData for 1970 unavailable.

relative ranking of groups is virtually constant during the five-year period. The "ideal" ranking, however, is a little different from the "actual" with respondents indicating that the workers' council should have the greatest amount of influence while the supervisors should have the least or near the least, amount of influence. In fact, the workers' council does have a reasonably high degree of influence, according to respondents but, as earlier research in Yugoslavia (Zupanov & Tannenbaum, 1968) suggests, influence within the council itself is likely to be hierarchical, with the director and others at upper levels in the enterprise being a good deal more influential within the council than are the workers at the bottom. While respondents do not think that the Party should be among the most influential groups in the enterprise, they report that in fact it is not among the most influential groups.

Figure 2 presents graphically the discrepancies between actual and ideal control for each group over the five year period. All of the discrepancies are positive, the ideal in each case being greater than the actuality as perceived by organization members, but the discrepancies for the workers are among the largest and they have risen steadily during the five-year period, apparently because the respondents' ideals concerning the control workers should exercise has outrun the reality, as respondents perceive it. Relatively large discrepancies occur also for the trade union and the workers' council, organizations that should represent the workers, but the discrepancies in these cases have not increased regularly over the years as have the discrepancies for the workers as a group. In the case of the trade union, a relatively substantial increase in influence over the five-year period seems to have occurred, in the judgment of organization

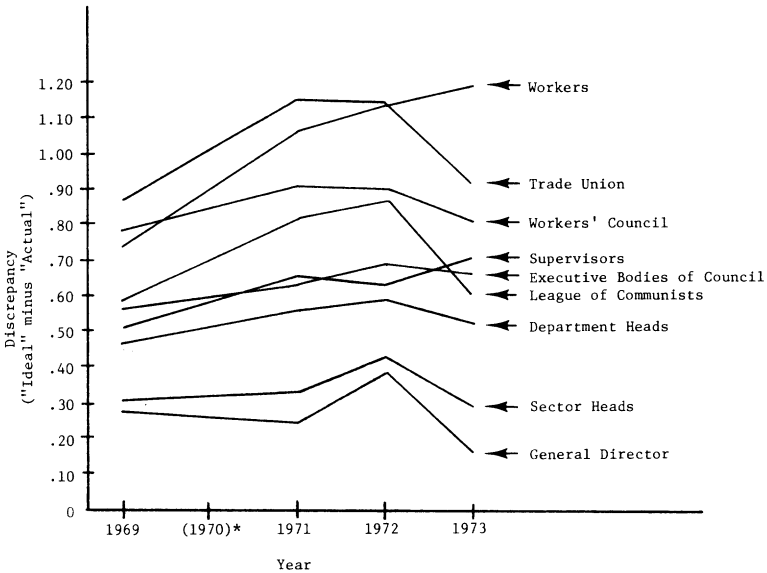


Fig. 2. Discrepancy between "Actual" and "Ideal" control for groups within enterprises during a five-year period (100 Firms; about 3,000 Respondents). *Measures unavailable in 1970.

members, leading to a decline in the discrepancy during the last years for which measures are available. But whether respondents perceive a group to exercise much or little control they report that the group *should* exercise more than it does. Respondents seem implicitly to hold a non-zero-sum conception of control for their organization and they seem implicitly to argue that they and their organization would be better off were the total amount of control somewhat greater than it is, which may in fact be the direction in which the organizations in Slovenia (and possibly throughout Yugoslavia) are moving, albeit slowly. If so, theory would suggest that Yugoslav organizations are being strengthened from the standpoint of their performance and the integration of their members (Tannenbaum, 1968; Tannenbaum & Cooke, 1979).

THE MEANING OF THE CONCEPT OF CONTROL TO ORGANIZATION MEMBERS

Because we rely for our data exclusively on judgments by members, it seemed appropriate to obtain some measure of the meaning of control to them. We therefore devised a brief exploratory "test" which we thought

Table III. Percent of Respondents Who Gave Definitionally Correct Responses to Hypothetical Statements about Control ($N \approx 3,000$).

Statement	"Definitionally correct" response	Percent of respondents "definitionally correct"
6. A director has great influence if others always follow his suggestions	Correct	81
3. A person has influence if he makes decisions, even if no one carries out the decisions	Incorrect	78
1. Only persons who make decisions have influence; others carry out decisions.	Correct	70
10. A supervisor can never have greater influence than his subordinate.	Incorrect	70
8. Only those who formally make decisions can have influence.	Incorrect	70
4. A person has influence if he can change the attitude of others.	Correct	69
12. A person can have influence only if he is feared.	Incorrect	68
9. Sometimes it is possible that subordinates have greater influence than their supervisors.	Correct	66
11. If a director has great influence, he will never take into account the suggestions of others.	Incorrect	65
7. A subordinate has influence on a superior if a superior follows the suggestions of a subordinate.	Correct	64
2. A person has influence on others only if they like him.	Incorrect	47
5. A person at a high level has little or no influence if no one does what this person wishes them to do.	Correct	42

might help us gauge the extent to which respondents hold what we believe is a technically correct conception of control. The test consists of 12 statements, each of which describes a situation in which influence or control might be exercised. The respondent is asked to indicate whether the assertion in each statement is correct or incorrect. We are able to gauge the extent to which the respondent's conception of control agrees with ours since some of the statements are correct according to our definition and some are not.

Table III presents the statements along with the percent of respondents who answered them correctly from a definitional standpoint. The column labeled "Definitionally Correct' Response" shows the response that we consider to be correct for each question. For example, Statement 3 is technically incorrect and the response "incorrect" therefore is scored as the definitionally correct response. Between 7% and 10% of the respondents did not answer each question and these persons are excluded

from the percentages shown in Table 3 on the assumption that they should not be counted as having either a correct or incorrect conception for the particular item in question.

Most of the respondents have provided definitionally correct responses on all items but two, suggesting that the average respondent's implicit definition of control is reasonably close to ours. Statement 5, on which only 42% of the respondents are definitionally correct, may be problematic because it is poorly formulated grammatically and it includes a double negative; many respondents may therefore have been confused by it. Statement 2, on the other hand, may indicate a bias on the part of some respondents associating influence with being liked. Being liked and being influential may in fact be correlated empirically, but our definition allows for unliked as well as liked persons to be influential and Statement 2 is therefore definitionally incorrect, contrary to the view of most of the respondents.

CONCLUSIONS

There are three contending conceptions in Yugoslavia concerning how control *should be* distributed in an enterprise. First is the official conception, defined in the Constitution and in Party documents. It prescribes a "democratic" distribution of control in which the workers' collective, i.e., all of the workers of an enterprise, exercises supreme authority directly and through representative bodies such as the workers' council. The manager in this conception may "coordinate" but he does not control. His role is instrumental—helping the workers realize their objectives for the enterprise. The distribution of control in this conception, translated in terms of the control graph, has a "positive" slope; workers as a group exercise more control than does the manager. Thus, the conception is "idealistic" in the sense that it diverges markedly from the realities of the contemporary work organization (as members report it), not only in Yugoslavia, where we have substantial documentation, but in other countries of East and West Europe, Israel, and North and South America where the method of control graph has been applied in large numbers of organizations (Tannenbaum & Cooke, 1979; Tannenbaum et al., 1974; Tannenbaum & Rozgonyi, in 1982).

A second conception is the polyarchic which apparently is the conception our respondents themselves have concerning how control should be distributed in their firm: a high level of control exercised by all major hierarchical groups, from the workers to the manager. But this prescription, like the first, does not correspond to the reality of the Yugoslav industrial organization nor to that of the industrial organization of other

societies, at least as members describe that reality. Organization members in Yugoslavia, however, are unique in *proposing* a polyarchic distribution. In other places (with the exception of kibbutz factories) where these measures have been applied, members propose a *negatively* sloped control curve for their organization, consistent with the reality of organizational control in these places (Tannenbaum & Cooke, 1979).

The third conception, based on a technocratic-pragmatic rationale is less "idealistic" than the other two. It prescribes the more usual bureaucratic distribution of control, although in Yugoslavia the advocates of this conception may compromise in some degree with the first conception. The prescribed control curve in this case therefore is negatively sloped but not so steeply sloped as that of the traditional work organization, which is the presumed model outside of Yugoslavia. In fact, the "actual" distribution of control reported by our respondents fits this prescription reasonably well. The "actual" curve is clearly negative in slope and, insofar as comparison is possible with data from other countries, the slope appears less steep in Yugoslav industrial firms than in industrial firms of most other places (Tannenbaum et al., 1974; Tannenbaum & Cooke, 1979).

The slope of the curve has not changed in a more equalized direction, however, during the five years of this study. If anything, the curve has moved toward a greater *total amount* of control, with perhaps the greater part of the increase being attributable to a strengthening of the position of the director—and also the Party and trade union organizations within the enterprise.

The Yugoslav system is in a state of flux. New laws concerning workers' self-management are being enacted and the system is probably moving toward an equilibrium that is a result of ideological and legal "imperatives" on the one hand, and administrative and technological "imperatives" on the other. In any case, whatever the movement in distribution of control, it appears to have been gradual, as indicated through the perception of organization members during the five years of this study. The system is probably close to what Lewin (1947) has called a "quasi stationary equilibrium."

But five years, after all, are only a brief moment in the life of a national industrial system and, furthermore, an established system consisting of thousands of organizations (represented by our sample of 100) does not change readily. Organizations, like all living systems, tend to establish a "steady state," countering disruptive forces and maintaining, insofar as possible, their essential character (Katz & Kahn, 1978, pp. 26-28). The stability implicit in this "steady state" for a massive national system composed of many organizations is probably much greater than that of a

single organization, which we might expect to change more readily, since substantially more energy is required to disrupt or to rearrange the large system than is required to rearrange a small one. On the other hand, *laws* can readily imply rapid and dramatic change, as they have in Yugoslavia, and the *expectations* of organization members might also change in a relatively short period of time as they apparently have during this study. Thus, both the laws and the expectations of organization members regarding the distribution of control may have changed more rapidly than has the actual distribution.

The alternative to gradual change and to the “steady state” is, of course, revolutionary change. Yugoslavia had its revolution over 30 years ago. Like any revolution, the Yugoslav revolution was designed to disrupt and to overthrow an earlier system. Change was rapid, and a degree of chaos accompanied that change. More recent years, represented by the data of this study, have been characterized by consolidation and stabilization. Thus, the distribution of control in Yugoslav organizations has probably changed substantially since the days prior to the revolution and even since the post-war period and the time of the first law of self-management in 1950. For example, a comparison of data from 10 Slovenian plants collected in 1968 with data from 10 matched plants, each in Austria and Italy, reveals a slope that is clearly less steep in the Yugoslav plants than in the others (Tannenbaum et al., 1974). Yugoslav industrial organizations prior to the revolution were surely as hierarchical as were the Austrian and Italian plants in 1968. The less steep slope reported by organization members in the Yugoslav plants in 1968 therefore implies a substantial change since before the revolution. This change, however, was consummated during a period of about 30 years, suggesting that the *average* yearly rate might very well have been like that during the five years of this study—very gradual. Nonetheless, the rate and the direction of change were probably different during different periods and Fig. 3 illustrates a hypothesis about how the distribution of control in Yugoslav plants might have changed since before the revolution and how it continues to change. The hypothesis is based partly on the data of this study and of others, but largely on conjecture. Unfortunately we cannot fully test it since the requisite historical data are unavailable. The hypothesis, however, offers a prediction that can be tested.

Curve I of Fig. 3 describes the hypothetical distribution of control in prerevolutionary Yugoslav plants. It is a curve like that found in neighboring Austrian and Italian plants in 1968 (Tannenbaum et al., 1974); we assume that the distribution of control in the prerevolutionary Yugoslav plants was at least as negatively sloped as that in the more contemporary Austrian and Italian plants. The revolution, however, brought a change,

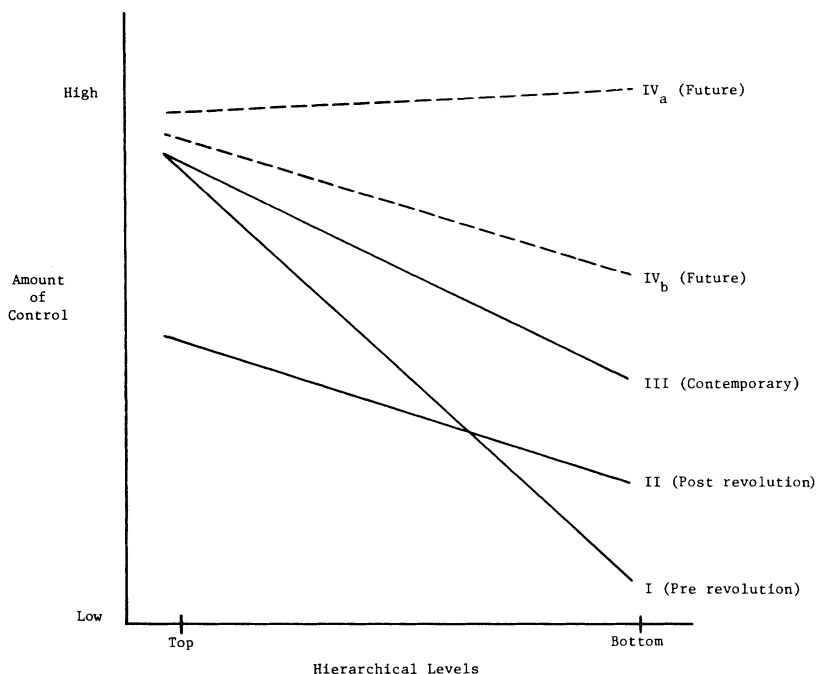


Fig. 3. Hypothetical development of control in Yugoslav firms since before the revolution.

and curve II describes the hypothetical results of that change shortly after the revolution. The change is revolutionary in several senses. First, it occurred over a relatively short period of time; hence the rate of change from I to II was rapid. Second, the revolution brought some "power equalization" although the equalization may have been characterized more by a decrease in the control exercised by managers than by an increase in the control exercised by workers. Zupanov and Tannenbaum (1968), in reviewing the postrevolutionary history of the work organization in Yugoslavia, pointed out that an attempt had been made after the revolution to increase the control by workers by reducing some management prerogatives. "This assumed that decreasing the control by managers would increase that by workers. However, this proved a mistaken assumption" (p. 107). The result, therefore, was a decrease in the total amount of control in the work organization and the attendant move toward anarchy. Furthermore, centralization of the economy, which was patterned after the Soviet model, exacerbated the problem since it reduced to a minimum the decisions that might be made within the enterprise. Neither managers nor workers, for example, could make decisions at this

stage about pricing, purchasing, hiring, or firing. Since most of the company's income was taken by the central economy, decisions within the company about the allocation of funds were impossible and this vital base of power for the company and its members was removed.

Curve III illustrates the contemporary distribution of control documented in the present study; thus the period II-III represents about 25 years of gradual change and consolidation and the small change that we may have detected in this study represents the last 5 years of this 25-year period. This period was characterized by a shift from the highly centralized, planned economy of period I-II to a more decentralized, market-oriented economy, and by the introduction of various procedures of self-management. Managers regained influence in their companies during this period, but workers also increased their influence, perhaps more indirectly, through representative bodies such as the workers' council, than directly. Furthermore, Yugoslav organizations became stronger, more organized, less entropic, and more efficient during this phase, bringing about gains in productivity and growth in gross national product.

The marked increase in control exercised by managers during this period is not inconsistent with the increase in participativeness of Yugoslav firms since the *total amount of control* increased including an increase in control exercised by the workers. Thus, the change fits the model that associates participation with a relatively high level of total amount of control.

The increase in control, and especially that exercised by managers during phase II-III probably reflects a number of circumstances in addition to the introduction of participative structures into industrial plants, including the recognition among Yugoslav leaders that Yugoslav organizations, if they were to be effective, needed sophisticated and influential managers. During this phase a good deal of training of managerial and supervisory personnel took place through newly established schools of administration, workers' universities, academic institutions, and other agencies. The education level of the general work force also rose, although an influx of workers from rural areas with little formal education and constituting an average of 3.8% of the work force entered industry each year. Special courses were organized to help such persons, who might be elected to one of the self-management bodies or trade union boards, to acquire the knowledge to perform their special functions. Thus conditions were being created that would permit both workers and managers to join in a more participative and effective organizational effort. (Organizations in China may now be entering this phase and interestingly they seem to be adopting some of the approaches developed in Yugoslavia.)

The authors disagree with one another concerning details of the above curves; nonetheless, they represent a reasonable consensus between us. We disagree more substantially, however, concerning aspects of the distribution of control that is likely to evolve in the future and we therefore present two curves, IVa and IVb, to illustrate our separate predictions for the next 25 years. Both curves anticipate movement toward the ideal that Yugoslav members now express for their enterprise (shown in Fig. 1), although only one of the predictions, curve IVa, implies that the degree of power equalization now proposed by organization members will be fully achieved and that the control curve will actually become positively sloped. In any case, we expect that movement toward an ideal "democratic" model, whether complete or partial, will be associated with a gradual strengthening of Yugoslav work organizations and an increase in the participativeness of these organizations. The Associated Labor Act will become the operational (in addition to being merely the formal and legal) framework for the Yugoslav enterprise, and this Act specifies a very high degree of decentralization in the Yugoslav economy down to work groups within each enterprise. The Act is revolutionary but its full and functional (as opposed to just formal) implementation will be gradual. Ironically, such a revolutionary law would not have been practical in 1945 at the time of the actual Yugoslav revolution. Workers and managers were not ready for it then, even though many of them would have accepted it as an ideal. The law is a more practical ideal in contemporary Yugoslavia, however, with its more trained and educated work force and one that has acquired some experience with earlier forms of self-management. Thus, the law is likely to represent an even more realistic ideal in the future with the advancing level of education, skill, and experience of the Yugoslav work force.

THE MEASURE OF CONTROL

The data that we have presented in this article are based on the perceptions and judgments of organization members and they may not, after all, be sensitive enough to detect change that has occurred. In fact, the constitutional amendments of 1971 did lead to substantial structural change in Yugoslav enterprises which we had expected would be reflected by more substantial change in the data than we found. Our failure to detect more substantial change therefore leads us to reemphasize the possibility that the measure may not be capable of detecting the change that may have occurred, and the need therefore for further method-

logical work concerning the errors inherent in measures based on the judgment of organization members.⁷

We have tried to learn something about the error attributable to respondents' "misconception" of control through a brief, exploratory test designed to gauge the extent to which respondents' implicit definition of control corresponds to our own definition. In fact, a majority of the respondents responded "correctly" to most of the items in the test. In any case, it is important to recognize that individuals differ from one another in their judgment about control in their organization, not only because some differ from others in their implicit definition of control, but also because some of them may not know or they may misperceive some of the facts of control in their organization. Nonetheless, although the judgment of individual respondents may be in error for these reasons, the responses of numbers of respondents taken together need not be entirely unreliable or invalid provided that the "average" respondent implicitly understands or comes close to understanding the concept, and is reasonably knowledgeable about the facts in his or her organization.

Respondents were selected from all levels in each organization and therefore they should have, as a group, a reasonably accurate perception of the facts of control in their organization. And our exploratory test suggests that the average respondent comes reasonably close to understanding what we mean by the concept of control. We therefore feel some confidence in the data. In addition the data appear, at a gross level at least, to have some validity. We see in the data a manifestation of principles that have been inferred from earlier research in a large number of organizations in many countries, and that seem to us realistic and reasonable in Yugoslavia as well. For example, the hierarchical distribution of control that they portray corresponds to what we believe is a reality of the work organizations of all societies. Similarly, the discrepancy between the ideal and actual curves fits the pattern that earlier research in Yugoslavia and elsewhere suggests is very general: members express a preference for a more positively sloped distribution than they perceive exists in their organization. At the same time, the relatively flat "ideal" curve in Yugoslavia, which is rare in organizations of most countries, seems reasonable in terms of the Yugoslav reality as we understand it: the emphasis in Yugoslav ideology and law on workers' control, and the effect such emphasis has on the ideals and expectations of organization members in that country. (Earlier research in social

⁷See, for example, Gundelach and Tetzschner (1976) and Patchen (1963).

service organizations in Yugoslavia actually shows members proposing a positively sloped ideal curve) (Raziskovalni Center, 1974). Furthermore, the substantial discrepancy between the "ideal" and "actual" curves suggests that respondents have discriminated appropriately between the questions, and they are not simply saying that control is distributed in the way that Yugoslav law and ideology propose that it should be distributed.

The measures of control are not as strong as we would like them to be, but we take them to be a "satisficing" approach at this point to the measurement of control in organizations. Further work in improving the measures is called for. We think that the development of a test (such as that explored in this research) that is designed to gauge the extent to which respondents understand the concept of control, as the researcher defines it, represents a promising avenue for exploration. It should be possible to refine and validate such a test and to use it as a criterion for selecting respondents whose judgments about control are likely to be based on an understanding of the concept. In any case, measures based on the judgments of organization members are likely to require *large numbers* of respondents since members, even those who have a good understanding of the concept, will differ in their perception of the facts. The "average" respondent from a large group of knowledgeable respondents should, however, provide a reliable and valid measure.

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