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The Capitalist Corporation and the Socialist Firm;
a Study of Comparative Efficiency *

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I

The standard theory of production and exchange has provided fundamental insights into social problems that find their source in scarcity. It has demonstrated that in a competitive equilibrium, the extent of exchange is consistent with the equimarginal principle. The theory has suggested testable implications for a number of world events and, most significantly, explained the efficiency characteristics of competitive markets.

Competition for and transferability of the ownership rights in the market place thus perform two main functions for contracting. First, competition conglomerates knowledge from all potential owners – the knowledge of alternative contractual arrangements and uses of the resources; and transferability of property rights ensures (via flexible relative prices) that the most valuable will be utilized. Second, competition among potential contract participants and a resource owner's ability to transfer the right to use his resource reduce the cost of enforcing the stipulated terms in a contract ... because competing parties will stand by to offer or accept similar terms¹.

The limitations of the traditional theory are, however, real and quite significant. They can be traced to the structure of the standard competitive model which implies (i) that one specific set of private property rights governs the use of *all* resources, and (ii) that the exchange, policing and enforcement costs (i. e., transaction costs) are *zero*. The events that fall outside the scope of traditional theory can

* The writing of this paper was facilitated by grants from the Center for Research in Government Policy and Business, the University of Rochester, the National Science Foundation, and the Earhart Foundation.

¹ S. Cheung, "The Structure of a Contract and the Theory of a Non-exclusive Resource," *Journal of Law and Economics*, 13, April 1970, p. 64.

then be traced either to high transaction costs or the effects of various types of property rights assignments on the allocation and use of scarce resources. In either case, allocative solutions are inconsistent with the equimarginal principle (i. e., private and social costs and benefits are not identical).

Unfortunately, the inability of theory to explain *all* real world events has been only too frequently interpreted as its inability to explain *any* event. Thus, instead of trying to broaden the scope of validity of the standard competitive model, the inapplicability of theory has been blamed on externalities and imperfect competition. A number of *ad hoc* theories have been developed to deal with these exceptions².

While it is undoubtedly important to insist on the recognition of the inadequacies of the standard theory, it is equally important to recognize that *ad hoc* theorizing is always restricted to a limited class of observations and can offer no replacement for a more general theory³. In recent years, some significant advances have been made in the direction of expanding the scope of the standard theory of production and exchange. A body of literature has grown up around the notion of property rights structures⁴. The key theoretical concepts underlying the property rights approach to a generalization of the standard theory are (i) the concept of nonattenuated private property rights is no longer accepted as the only relevant configuration, and (ii) transaction costs are taken to be positive. By placing emphasis on the interconnectedness of property rights, incentives and economic behavior, the property rights approach extends the ability of the standard theory to explain a wider class of real events. More specifically, the property rights approach derives the implied behavior of many types of firms from the analysis of the interaction of the legal system and economic behavior.

The major objective of his paper is to use the property rights approach to discuss the question: Can the socialist firm offer allocative solutions that are more consistent with the equimarginal principle than those yielded by the modern capitalist corporation? First, however, the paper will briefly discuss the relationship between the concept of property rights and economic behavior.

II

We shall define property rights as behavioral relations among men that arise from the existence of things and pertain to their use. The property rights assign-

² Examples include division of externalities by types. Also, sales maximization, market share, the dominant ownership, etc., hypotheses concerning the behavior of modern corporations.

³ See A. Alchian, "The Basis of Some Recent Advances in the Theory of Management of the Firm," *Journal of Industrial Economics*, 14, November 1965, pp. 30-41.

⁴ See E. Furnbotn and S. Pejovich, "Property Rights and Economic Theory," *Journal of Economic Literature*, 10, December 1972, pp. 1137-62.

ments specify the norms of behavior with respect to things that each and every person must observe in his interaction with other persons, or bear the cost of non-observance – a penalty for parking in a no-parking area. Then, the prevailing system of property rights in the community can be described as the set of economic and social relations defining the position of each individual with respect to the utilization of scarce resources. It follows that the right of ownership, whether by a private individual or the state, is but a category of the general concept of property rights.

The right of ownership in an asset consists of the following rights: (i) the right to use that asset (*usus*), (ii) the right to capture returns from it (*usus fructus*), (iii) the right to change its form and substance (*abusus*), and (iv) the right to transfer that asset to others at a mutually agreed upon price. The last two rights define the owner's right to bear changes in the value of his assets and represent the fundamental components of the right of ownership.

Of course, it is relatively easy to assert that a relationship exists between property rights assignments, transaction costs, and the allocation and use of scarce resources. The crucial problems are to demonstrate (i) that the development and specification of property rights can be explained as responses to social problems that find their source in scarcity, and (ii) that the content of property rights, in turn, affects the allocation and use of resources in *specific* and *predictable* ways.

Let us begin our discussion with the following questions: What are the expected effects of the absence of property rights assignments in a resource on both the allocation of the existing supply between competing claimants (i. e., the current rate of utilization), and the long-run supply schedule? Clearly, the non-owned resource is a free good as far as individuals are concerned. However, it is a scarce good from the point of view of the community as a whole. The allocative criteria are then either first-come-first-serve, or violence, or both. That is, if I fail to capture a non-owned good *now* someone else will. The private cost of "purchasing" a non-owned good includes my opportunity income from labor but not the value of that good to society. The logic of economics then suggests that the rate of consumption of non-owned resources exceeds the rate that would otherwise prevail if the users had to bear the entire social costs⁵.

The absence of property rights in a resource is also bound to affect its long-run supply schedule⁶. A potential investor in a non-owned good must bear the entire cost of policing and enforcing his claim to the future benefits from investment. The absence of property rights raises transaction costs to the investor, and consequently reduces the present value of returns from any given flow of expected future returns.

⁵ S. Gordon, "The Economic Theory and A Common Property Resource: Fishery," *Journal of Political Economy*, 62, April 1970, pp. 124–42.

⁶ A. Bottomley, "The Effect of the Common Ownership of Land Upon Resource Allocation in Tripolitania," *Land Economics*, 39, February 1963, pp. 91–5.

It follows that the rate of investment in a non-owned good must fall short of what it would otherwise be in an environment where transaction costs are lower. Empirical evidence does not seem to refute this conclusion. One has only to ask what happened (and why) to the American buffalo, the whale, non-owned forests, the age distribution of fish in public lakes compared to private, etc. The old dictum that everybody's property is nobody's property seems quite relevant. From the social point of view the preservation of a resource, as well as incentives to use it more efficiently, requires some specification in property rights over that resource.

It is clear that individuals could capture additional benefits for themselves by excluding or constraining others from the uncontrolled access to a non-owned resource. It follows that acting in response to their desire for more utility, individuals or groups will try to exclude others from the exploitation of a good whenever their own expected benefits appear to exceed the costs of defining, negotiating, policing and/or enforcing the "claim". Of course, the act of exclusion of others from uncontrolled access to a good *means* a change in the content of the prevailing property rights in that good. New property rights are then created and the existing ones changed because it appears profitable for individuals and groups to bear the cost of bringing about such changes. This point relates the standard economic theory to changes in the content of property rights in scarce resources.

Social implications of the creation and specification of property rights are quite significant. When individuals and/or groups acquire the right to exclude others from exploiting a good, their own costs of using that good exceeds their opportunity income from labor. In other words, as individuals capture, more rights in a good the divergence between private and social costs diminishes. *The fuller the specification of property rights assignments in resources, the smaller the difference between private and social costs.* Given the law of demand and man's desire for more satisfaction, *a predictable consequence of improvements in the content of property rights is that resources will move to higher-valued uses.* As individuals capture more rights in resources, some incremental benefits will then accrue to both the individuals as well as the community as a whole. It follows that nonattenuated private property rights are a powerful, and possibly necessary, condition for the efficient allocation and use of scarce resources.

For example, in the early days of the Roman Empire a form of communal ownership *ager gentilicius* developed. *Agri gentilicii* were pastures and forests owned by Gens (a sort of clan of the same stock in the male line with the members having a common ancestor) which all members exploited in accordance with their needs. *Agri gentilicii* had all the major characteristics of communal ownership. Gens took care of their pastures because the clan bore the costs of using the land. Yet, privately borne costs from the exploitation of commonly held pastures differ from total social costs for two reasons: (i) not all costs of a member's activity are borne by himself – his private costs of grazing another steer on a commonly owned

pasture is clearly below social costs, and (ii) nontransferability of land prevents members of the group from capturing for themselves the value of the expected future benefits from pastures. Thus, pastures and forests owned by Gens in old Rome had to be over-utilized relative to the rate of exploitation that would have prevailed if each member of the clan had to bear the entire cost of his activity. Then, as agriculture developed in Rome, the relationship between the prevailing property rights and the cost-benefit considerations changed. The development of agriculture raised the value of crop-growing relative to ranching. To accomplish the required transfer of land to a higher-valued use, the content of property rights had to be changed. True enough, *ager gentilicium* was replaced by a form of family ownership, *consortium*. Consortium was a sort of property arrangement that permitted the family to enjoy exclusively a well-defined tract of land but not to sell it. The effects of this new property rights arrangement were many. The clan broke down into smaller family units, individuals captured more rights in the land, the difference between private and social costs of using the land diminished relative to previous conditions, and the land was put into a higher-valued use. However, the land was still nontransferable and some gap between private and social costs had to remain.

The development of property relations in post-Roman Europe is a classical example of the opposite phenomenon. The institution of private property was fully developed in the Roman Law and enforced by the state. This meant that transaction costs of policing one's property were reduced and the differences between social and private costs of using resources narrowed down. However, the collapse of the Roman Empire and a complete disintegration of its legal structure resulted in the replacement of order by chaos. As the costs of defining, negotiating, policing and enforcing private property rights rose relative to the benefits, a backward change in the content of property rights took place. Since violence became the predominant method for resolving conflict of interests among people in a world in which barbaric customs had replaced Roman Law, the cost of excluding outsiders from what one considered to be his property increased and the outcome was, as our analysis would suggest, a return to a sort of property sharing by a larger group. The survival trait for a weaker man was to turn to a stronger man and give him the nontransferable right of ownership in his land in exchange for protection and a right of tenancy – *the right to hold the land of the lord*. The lord-tenant (vassal) relationship then emerged as the basic social institution in medieval Europe. The land held by the vassal was called *feud*. A lord could – and often did – become the vassal of still another man; that is, he became both the lord of a weaker man and vassal of a stronger man. In time this chain between the lord at the top and the actual toilers at the bottom, lengthened and a socio-political system based on a hierarchical method of holding property rights in the most important resource of the day: land (feuds), developed. The system eventually developed a great many rules to regulate the rights of lords, vassals and serfs.

If our discussion above is correct, the creation and specification of property rights can be traced to changes in the economic situation in the community. A question must then be raised: How are changes in the economic situation translated into the development of new property rights?

The basic purpose of exchange is to help us to endure the fact that we live in a world of scarcity. The point is that a person voluntarily exchanges one good for another – a pair of shoes for ten dollars' worth of other things, or substitutes one activity for another – fishing for hunting because he *expects* to reach a higher level of satisfaction. The purpose of exchange is then independent of the prevailing property rights assignments in the community. However, the *extent* and the *terms* of exchange are not. This is an important point that emphasizes the relationship between the content of property rights and economic value. The relationship is inferred from the fact that exchange exists not so much to accomplish the transfer of goods and services but to permit the exchange of “bundles” of rights to do things with goods that are traded. The value of any good that is exchanged, and the value of any activity that is substituted for others, depends on the bundle of property rights that is conveyed in transactions. For example, the value of a house to an individual will be relatively greater if the bundle of property rights acquired contains the right to exclude gasoline stations, factories, etc., from the immediate vicinity of the house. Also, the value of fishing relative to other activities open to an individual will be relatively greater if fishing grounds are not open to all; that is, if some sort of property rights in fishing grounds is established. It follows that the bundle of various property rights held in goods affects the decision-maker's choice. Consequently, the content of property rights assignments affects the allocation of resources, the output mix and the distribution of income.

A *contractual agreement* is the means by which the bundles of rights to do things with goods are exchanged. Every transaction implies a contract, while every contract transfers some specified bundle of property rights from one contractual party to another. The purpose of contractual activity is then to specify the bundles of rights that are being exchanged and, in effect, move resources to their higher-valued uses within the constraints imposed by the prevailing property rights structures.

Legal contracts are expensive to draw up and also costly to enforce. It is therefore safe to suggest that the extent of exchange in the community would be sharply reduced if each and every transaction has to presuppose the actual existence of a legal contract. It is equally safe to predict that in his search for more utility, man has learned to economize on the high cost of negotiating, policing and enforcing legal contracts. All kinds of standardized contracts, sales contracts containing warranties, return privileges, *as is* purchases, etc., serve the purpose of

lowering transaction costs and assigning in advance the losses or gains of unpredictable events⁷.

The prevailing property rights structures determine the content of contractual agreements, that is, the bundles of rights that could be transferred *via* exchange. In other words, contractual stipulations are constrained in a specific way by the prevailing property rights structures. Then, a change in the content of contractual agreements presupposes either a change in existing property rights (e. g., changes in the liability assignments for accidental damages), or the development of new rights (e. g., technological development required contractual agreements based on the right of limited liability).

We can now summarize our discussion as follows: changes in the cost-benefit consideration create opportunities for individuals or groups to capture benefits by engaging in activities that were not deemed profitable before. To engage in those activities means, of course, to enter into some specific contractual agreements that will permit individuals or groups to capture the potential benefits. If the prevailing property relations are poorly attuned to, and fail to enforce such contractual agreements, legal arrangements and/or the constraints of custom must change in order to permit the enforcement of new contractual stipulations. Thus, to capture the potential gains it might be necessary to change the content of contractual agreements; but the acceptance of a change in the contractual forms must then lead to a new or modified property rights assignment. It follows that changes in property rights are triggered by the interaction between the prevailing property rights and man's search for more utility. In other words, the creation and specification of property rights can be deduced theoretically⁸.

III

The analysis of the creation and specification of property rights in scarce resources provides two powerful and possibly necessary conditions for extending the scope of validity of the standard theory to a wider class of real world events. First, the analysis establishes that the content of property rights assignments affects the value of goods, the allocation of resources, and the distribution of income. Second, the analysis shows that the development of legal institutions and norms that control the level and character of economic activity can be deduced theoretically. That is, instead of taking property rights structures as given from without – as a sort of human discovery that is not necessarily related to the current economic

⁷ See *S. MacCaulay*, "Non-contractual Relations in Business: A Preliminary Study," *American Sociological Review*, 28, February 1963, pp. 56–67.

⁸ For detailed discussion see *S. Pejovich*, "Towards an Economic Theory of the Creation and Specification of Property Rights," *Review of Social Economy*, 30, September 1972, pp. 309–25.

situation – the analysis suggests a strong mutual interconnectedness between the law system and economic life. It is important to demonstrate that the development of property rights is endogenous to the system because the analysis is then bound to contribute to the development of a theory of the state predicated on the impact of various property rights on the appropriability of rewards by officials.

The next step in relating property relations to economic behavior is to demonstrate that the content of property rights assignments affects the allocation and use of scarce resources in *specific* and *predictable* ways. For without this assurance there would be no possibility of developing analytically significant and testable propositions concerning the effects of various property rights structures on the behavior of different types of economic organizations. The purpose of this section of the paper is to relate the effects of property relations to the behavior of both the modern capitalist corporation and the socialist firm.

Instead of postulating objectives of the firm, the property rights analysis focuses its attention on *individual actions within* the firm. For, the behavior of decision-makers *within* the organization is taken to hold the key for understanding the behavior of the organization itself. In other words, the analysis takes into account the ways the decision-makers capture pecuniary and non-pecuniary benefits for themselves.

A good example is the much-celebrated Lange model. The Lange model is predicated on the proposition that the socialist manager is “instructed” to maximize his firm’s profit and, more significantly, on the assumption that he proceeds to do precisely that. While the analysis of the behavior of the socialist firm is then straightforward, it is based on a normative construct that has little predictive power. Quite simply, obedience to rules requires more than “orders”. What is missing in the Lange model is the analysis of the manager’s penalty-reward system, as well as explicit and formal recognition of the cost to the state of detecting, policing and enforcing appropriate managerial behavior.

A generalization of the standard theory along the lines discussed above requires that we define the bundle of rights in the firm and identify the sources of positive transaction costs. Then, assuming that the decision-makers want to maximize their total compensation, we can proceed to develop the implied behavior of various types of economic organizations and evaluate their implications.

Let us define the bundle of property rights that defines ownership in the economic organization as consisting of⁹:

- (i) the right to receive the *residual* after all other inputs have been paid contractual amounts;

⁹ See an excellent paper by *A. Alchian* and *H. Demsetz*, “Production, Information Costs, and Economic Organization,” *American Economic Review*, 62, December 1972, pp. 777–95.

- (ii) the right to *terminate* or *revise* the membership of the team (i. e., the owner of this right is a central party to a set of bilateral contracts), and
- (iii) the right to sell those rights specified under (i) and (ii).

The method of analysis is then simple and straightforward. First, we evaluate the bundle of property rights; next, we proceed to establish the effects of property rights assignments on the behavior of decision-makers; finally, we deduce the implied behavior of the organization and examine the analytical propositions yielded by the analysis in relation to the broad facts of business experience. In other words, specification of rights reveals the allocation of costs and rewards within the organization. Thus, specification of rights permits a behavioral analysis of the organization.

The Modern Corporation

To establish a proper perspective for our discussion let us briefly relate the concept of property rights to the behavior of the classical capitalist firm. The owner-manager of the classical firm is entitled to capture the residual, to fire and hire cooperating inputs, and to sell those rights in an open market. He is the decision-maker. Importantly, the classical model assumes that the owner's costs of exercising these rights are zero (i. e., transaction costs are assumed away). Thus, cooperating inputs find the cost of raising their total compensation by shirking or purchasing other nonpecuniary goods prohibitively high. At the same time, the standard set of assumptions concerning the environment in which the classical firm operates (perfect information, perfect mobility, open entry) renders the contractual pay of all inputs equal to their highest-valued alternative. By implications, the owner must seek the maximum profit in order to survive. The objective of profit-maximization is then *not a choice objective*. It is an externally imposed survival trait on the firm's owner. The decision-maker must allocate his assets to their highest-valued uses in order to earn the survival income (opportunity income). It follows that at equilibrium the equimarginal principle is satisfied. That is, the full equality of social and private costs and benefits is assured in the standard behavioral model of the classical capitalist firm.

The owner of the modern corporation is also entitled to capture the residual, to fire and hire cooperating inputs, and to sell those rights in an open market. The *legal system* imposes no changes in the bundle of rights that defines ownership of the firm. However, the *economic system* does: the ownership of a modern corporation is dispersed among many stockholders. The dispersion of stockholding means that individual owners face positive costs of detecting and policing managerial decisions, and of enforcing wealth maximizing (or any other) objective.

What are the expected consequences of positive transaction costs on the alloca-

tion and use of resources by the modern corporation? Positive transaction costs enable the manager to substitute away from the firm's potential profits to gain various benefits for himself. Of course, the relevant questions to ask are: given the "dictatorship of management" how can we explain the fact that millions of individuals are investing their assets in common stocks? Why don't they choose other forms of investment? Why equity financing has not been driven out by investment in fixed claims such as corporate bonds? Obviously, some forces exist within the systems that bend to protect the interest of stockholders in the publicly held corporation. The purpose of this section of the paper is to identify at least some of those forces and evaluate their effect on the performance of modern corporation.

An important consequence of positive transaction costs is that the firm's *potential* and *reported* profits might be different. That is so because the manager can increase his total compensation at the expense of the firm's earnings by consuming a number of different utility yielding goods, such as: expense accounts, impressive offices, large staff, beautiful receptionists, preferred by not necessarily most efficient colleagues and subordinates, etc. The consumption of those goods raises the manager's total income over and above his contractual pay. It is reported to the stockholders as the cost of doing business.

We must note, however, that the manager's on-the-job consumption depends on the existence of the difference between the firm's potential and survival (opportunity) profits. The firm's potential profits exceed its survival profit when a segment of the demand curve facing the firm lies above its average opportunity cost schedule. The standard competitive model of the firm treats this divergence between the potential and survival profits as a short-run phenomenon. For in a world of open markets and zero transaction costs, new entries tend to eliminate the excess profit *via* size adjustments of existing firms, lower product prices, and higher cost in inputs.

The difference between the *reported* profits and *survival* profits of existing firms regulates the rate of new entries into industry. But, when transaction costs are positive and the manager raises his total compensation *via* the consumption of nonpecuniary goods, the *reported* profits fall short of the firm's *potential* profits. The flow of new entries must then be inadequate to bring about the adjustment in resource allocation. In other words, an important consequence of positive transaction costs is that the difference between the firm's potential and survival profits ceases to be a short-run phenomenon. For example, if the firm's demand and average opportunity cost functions are $P = 200 - Q$ and $AC = 75 + .25Q$ respectively, its potential profit is \$3,125. Assuming that transaction costs are greater than \$3,125, the manager can add to his income \$3,125 worth of nonpecuniary goods and conceal it from the owners by reporting the average cost schedule as $AC = 75 + 1.5Q$. In this oversimplified example the firm's reported profit is equal to

its survival profit and the adjustment in resource allocation *via* new entries is discouraged.

Nonpecuniary goods that the manager can purchase for himself are limited to those activities that could be generally justified as the costs of doing business. They have two common characteristics. First, the consumption of nonpecuniary goods is worth something to the manager; it has its money income equivalent. However, the consumption of nonpecuniary goods is inferior to the money income equal to the cost of these goods. Second, the owner's loss is in the form of money income. Thus, the redistribution of income that is associated with positive transaction costs is inefficient. The stockholder's loss of wealth exceeds the manager's gain.¹⁰

It appears that positive transaction costs tend not only to reduce the stockholder's gain in wealth but also to lower economic efficiency of the modern corporation *via* two routes: (a) lower than socially desirable flow of resources into the industry, and (b) inefficient redistribution of income within the firm. In other words, positive transaction costs act to retard the flow of resources to their highest-valued uses.

This is but a general conclusion that offers no refutable implications and is consistent with any outcome. A behavioral model of the modern corporation must specify the manager's set of opportunity choices, and their costs of purchasing nonpecuniary goods.

The manager's set of opportunity choices with respect to the acquisition of nonpecuniary goods depends on (i) his *own* estimate of the transaction costs, and (ii) the difference between the firm's potential and survival profits. The lesser of these two factors determines the maximum the manager can spend on the consumption of nonpecuniary goods. It is shown in N_m in Figure 1. The conversion rate between profits and the cost of nonpecuniary goods is assumed to be one. It is a useful assumption that does not affect our general conclusion. π_m is then the maximum amount of profit that the manager can take away from the stockholders. π_m will be less than the firm's excess profits when (i) < (ii).

The OY_n curve in Figure 2 relates the cost of nonpecuniary goods as borne by the firm to their money value equivalent as seen by the manager. The slope of this line conforms to our assumptions that the cost of nonpecuniary goods exceeds their money worth to the manager, and that the variety of those goods that the manager can enjoy is limited to those that could be reported as business expenditures.

At this point it is tempting to assert that the manager will consume N_m worth of nonpecuniary goods in Figure 1. Moreover, it is equally tempting to conjecture that the greater the dispersion of ownership in a corporation, the farther the right will be the $\pi_m N_m$ line facing the manager. However, the effects of two sets of factors

¹⁰ See *A. Alchian*, "Corporate Management and Property Rights," in *Economic Policy and the Regulation of Corporate Securities* (H. Manne, ed.), Washington, D. C.: American Enterprise Institute, 1969, pp. 337-60. An excellent paper on the subject of the firm's behavior is *M. Jensen* and *W. Meckling*, "Theory of the Firms Managerial Behavior, Agency costs and Capital Structure (unpublished).

on the behavior of the manager must be incorporated into the analysis. One set of factors affects the cost to the manager of purchasing nonpecuniary goods. The second tends to shrink his opportunity set.

In most corporations the manager receives a money bonus for reporting higher than survival profits. The exact nature of the relationship between additional profits and money rewards varies from one firm to another. But whatever this relationship happens to be, the manager finds that income derived from the consumption of nonpecuniary goods is not a free good. For simplicity, let us assume that the manager's bonus is a constant fraction of the firm's profits: $B = b\pi$. Then, the manager's decision relative to the purchase of nonpecuniary goods can be explained as a trade-off between the two income producing activities: higher reported profits and the consumption of nonpecuniary goods.

At equilibrium, the manager's rate of substitution of income from additional profit for the consumption of specific goods is (b) . Since (b) is the slope of the $B = b\pi$ line the managers will choose a bundle of N in Figure 1 which corresponds to the point in Figure 2 where the slope of OY_n is equal to b . That is, where the money worth obtained from spending \$1 on specific goods equals the manager's income from reporting higher profits by \$1. Now, if b is greater than the increment in income derived from spending the N_m dollars on nonpecuniary goods, the utility maximizing manager will reduce his consumption of specific goods and move up along the $N_m\pi_m$ opportunity line in Figure 1.

Let us now assume that the managers have the same preference for the consumption of nonpecuniary goods and that the relationship $B = b\pi$ is the same in all firms. Then, the rate of consumption of nonpecuniary goods will tend to be about *the same regardless* of the differences in the dispersion of stockholding among the various firms. That is, the dispersion of stockholding does not necessarily lead to greater inefficiencies, other things being the same. Let us consider two firms that are equal in everything but the dispersion of stockholding. $N_1\pi_1$ and $N_2\pi_2$ in Figure 3 are opportunity sets facing their managers. As long as the managers' own estimates of transaction costs are less than the difference between the firms' potential and survival profits, their opportunity sets can be different. Now, if b equals the slope of OY_n curve at or before N_1 in Figure 3, the cost of managers' expenditures for nonpecuniary goods (and the stockholders' loss of profit) will be the same in both firms. Point A depicts such a situation. If b equals the slope of OY_n curve somewhere between N_1 and N_2 , say at C, the managers will spend ON_1 and OC respectively. The difference in the consumption of nonpecuniary goods between the managers will exist but it will be narrowed down.

Next, the manager's future earnings depends on his present performance. That is, if he reports higher than survival profit today, his pay tomorrow might be affected. The problem can be understood as involving a trade-off between the increment of current income from the consumption of nonpecuniary goods and

Figure 1

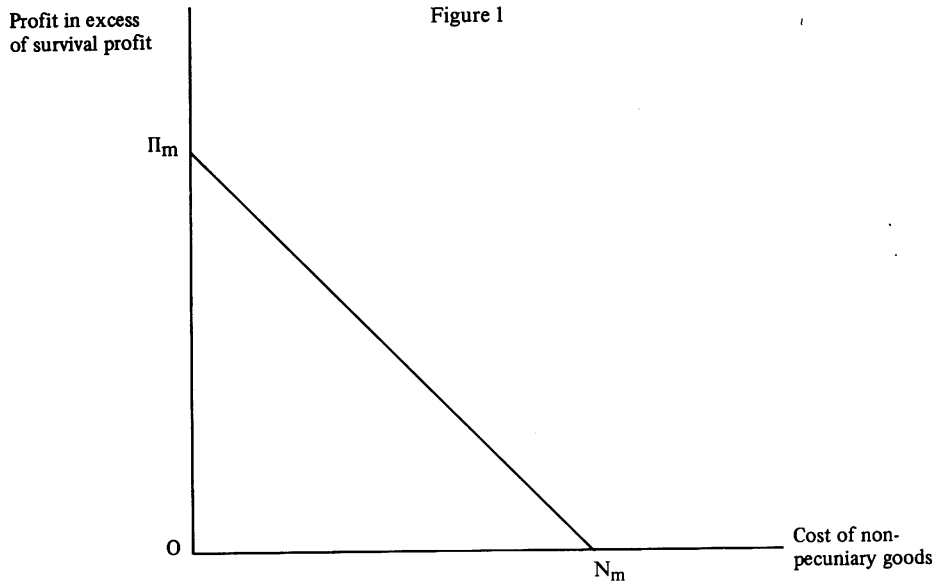


Figure 2

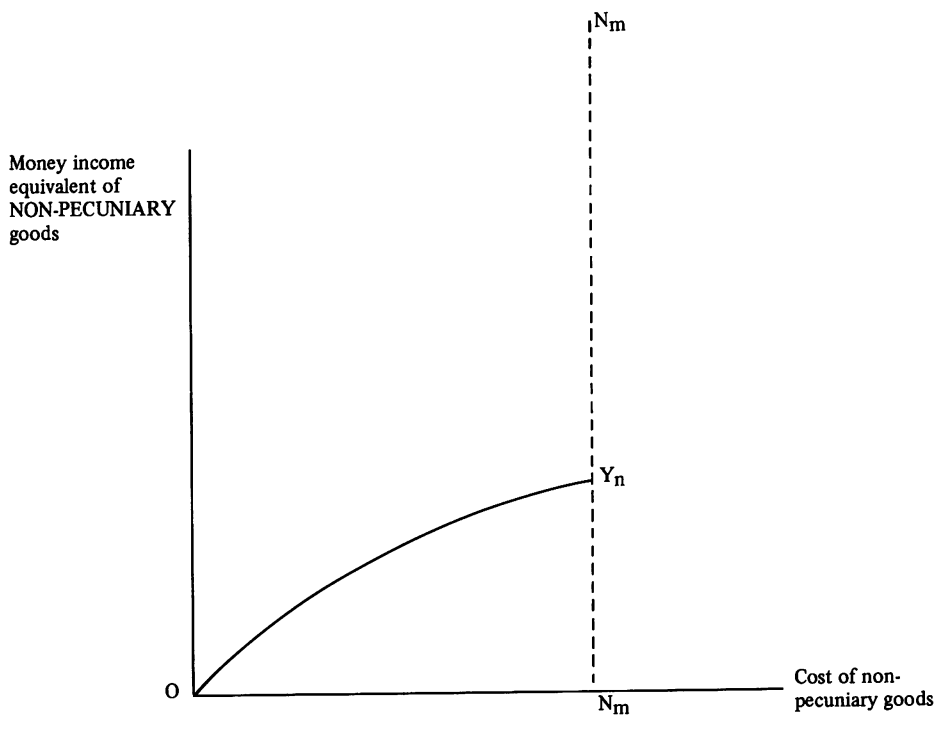
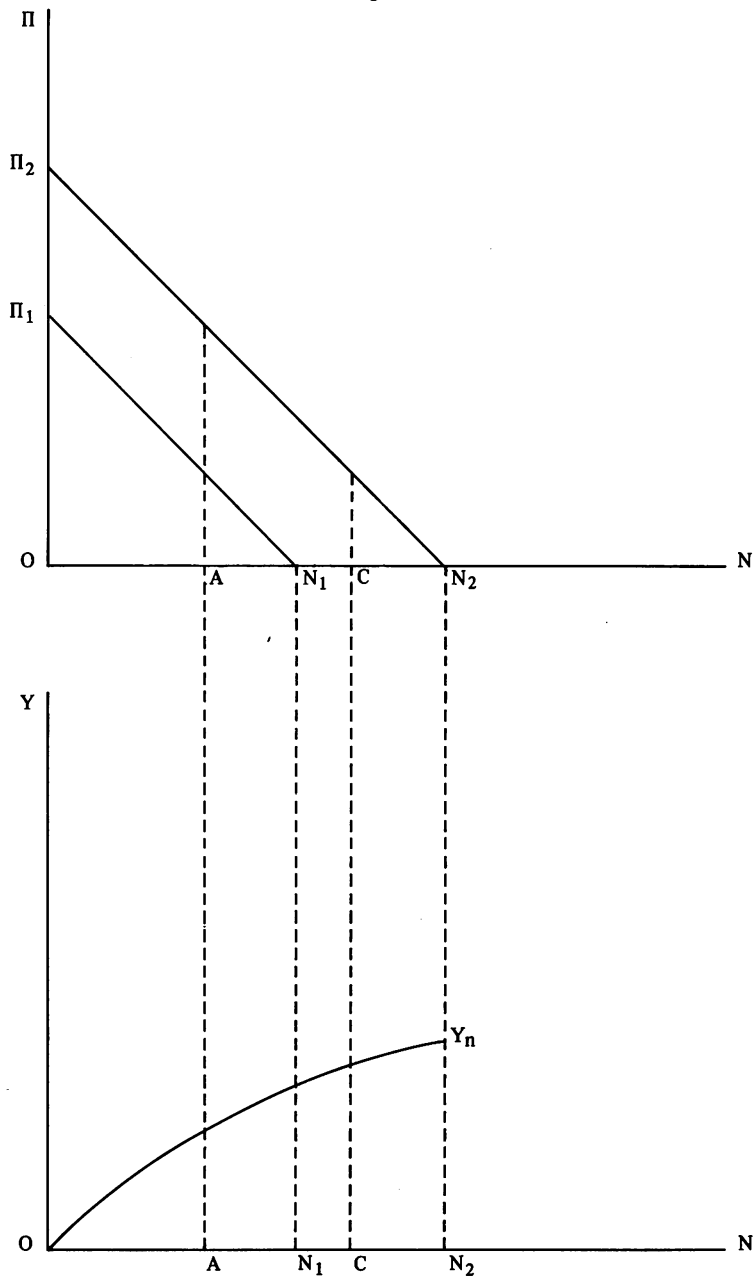


Figure 3



higher *money* income in the future. The indifference-preference analysis can be used here. At any rate, the cost to the manager of purchasing nonpecuniary goods is further increased.

Finally, we turn to the question: Do forces exist within the capitalist system that tend to shrink the manager's opportunity set? As long as stock prices reflect the present value of the expected future consequences of current managerial decisions, market valuation will tend to protect stockholders from less diligent concern by management for their wealth. The stockholders' freedom to sell shares in a market that reflects the capitalized value of current managerial decisions reduces the power of managers to pursue their own objectives at the expense of profit. For the more shares relative to their total number are sold, the lower will be the price of the firm's stock relative to that of other firms, and this presents a clear danger to the managers. The lower bid price for stocks of the corporation with more dispersed ownership would raise the cost to the manager of purchasing nonpecuniary goods. In terms of our discussion, the process reduces the costs to the stockholders of detecting and policing managerial decisions relative to what it would otherwise be. The effect of the capitalization process on transaction costs can be treated as a downward shift in the manager's opportunity line in Figure 1. In other words, his opportunity set shrinks.

Market forces tend to reduce the stockholders' costs of detecting and policing managerial decisions. Moreover, they also tend to narrow down the differences in the manager's consumption of nonpecuniary goods in corporations with different transaction costs. That is, one should expect to find no significant relationship between the dispersion of stockholding and the owners' gains in wealth (dividends plus capital value growth). In a recent study, Koshal and Pejovich used the percentage of the firm's stock held by institutions as a proxy for dispersion. It was assumed that institutions are more likely to incur the cost of detecting and policing managerial decisions. Thus, an increase in the percentage of the firm's stock held by institutions was taken to imply a reduction in the dispersion of stockholding. The sample consisted of 38 firms in the chemical industry whose shares are actively traded on the national and/or regional exchanges. Data were collected for the period 1962-72. The question was then asked: Do dispersed ownership corporations have lower rates of growth of stockholders' wealth (allowing for dividends and capital value growth) than less dispersed ownership firms? Regression analysis of both the intrafirm data and inter-firm data (for each year) showed no evidence of any significant relationship between the dispersion of stockholding and changes in the wealth of stockholders. Several other studies suggested the same results¹¹.

¹¹ R. Koshal and S. Pejovich, "A Note on the Separation of Ownership from Control," presented at the Western Economic Association meeting in Las Vegas, August 1973. Also see D. Kamerscher, "The Influence of Ownership and Control on Profit Rates," *American Economic Review*, 58, June 1968, pp. 432-47; and J. Elliott, "Control, Size, Growth, and Financial Performance in the Firm," *Journal of Financial and Quantitative Analysis*, January 1972, pp. 1309-20.

Let us now summarize our discussion. The existence of positive transaction costs tends to retard the flow of resources to their highest-valued uses. The rise of the modern corporation has then been alleged to impair economic efficiency of the capitalist system. The analysis in this section suggests that a number of factors exists in the capitalist system that tend to reduce transaction costs. Moreover, the analysis suggests that the trend toward more dispersion of stockholding does not necessarily contribute to economic inefficiency of the modern corporation. Market forces act to reduce transaction costs in corporations having different dispersion of stockholding. That is, they reduce the conflict between the manager and the stockholders as well as between the modern corporation and the interests of society.

Yet, transaction costs remain positive and the manager of the publicly owned firm can, indeed he does, depart from the ideal wealth maximizing objective. However, such divergence should be considered as a cost which stockholders and society must bear. These costs are clearly less than those of any alternative means of raising the necessary capital and risk reduction.

The Socialist Firm

In the 1960's the East European states moved away from the system of rigid, centralized planning of the 1950's. Their leaders recognized that the system of planning as practiced in the 1950's had failed to devise an effective incentive and control system to direct production efficiently. In other words, underlying the call for economic reforms in Eastern Europe was a change in the socialist belief that administrative planning is superior to the market-oriented allocations of resources. Economic reforms in Eastern Europe can then be defined as the search for a set of institutions that promise either to improve incentives for business firms to use resources more efficiently (Yugoslavia, Hungary), or to reduce the planner's cost of monitoring the firm's performance (USSR, East Germany) or both (Czechoslovakia, Bulgaria)¹².

Of course, it is easier to announce changes in the system than to implement them. All sorts of problems, including bureaucratic resistance to changes, did indeed arise in Eastern Europe. Predictably, the reforms fell behind schedule in most East European countries. Some reforms were revoked and some others never implemented. Yet, the reform drives of the sixties triggered a general process now underway in the socialist world of re-thinking the role of market mechanism and price systems, of centralized and decentralized decision-making, and of the institution of profit.

¹² See F. Pryor, *Property and Industrial Organization in Communist and Capitalist Nations*, Bloomington, Indiana: Indiana University Press, 1973, Chapter VII.

Given the failure of the system of administrative planning to direct production efficiently, the future of socialism as a viable alternative to capitalism hinges on the ability of socialist leaders to develop and *actually implement* an economic organization that would improve the allocation and use of resources while, most importantly, retaining the minimum socialist requirement of public ownership in capital goods. From a practical standpoint the question to ask is: *Have socialist leaders succeeded in developing such a system?* Speculative questions such as: *Can socialists develop an efficient system?* are self-serving, pregnant with normative judgments, and have little to do with positive economic reasoning. Yugoslavia is the only socialist state that has virtually abolished the system of administrative planning while retaining the fundamental socialist requirement of public ownership in capital goods. Thus, the Yugoslav economic system is a *real* socialist alternative to the system of administrative planning. Careful study of the precise advantages and limitations of the Yugoslav economy should then be helpful in evaluating the viability of a decentralized socialist system. The purpose of this section is to suggest an operational theory of the Yugoslav firm. Once again the relevant questions are: What is the content of property rights that defines ownership of the firm in Yugoslavia? Who makes the decisions within the firm? What are the objectives of the decision-makers? What is the specific penalty-reward structure that the decision-makers face? What are testable implications of their behavior?

Major institutional features of the Yugoslav economic systems are: (a) the state ownership of capital goods, (b) the employees' ownership of the returns from capital goods held by their firm, (c) the employees' right to approve, police and enforce the decisions made by the firm's director, and (d) the substitution of bank credit for the system of administrative distribution of investable funds. When this institutional framework is translated into the bundle of rights that defines ownership of the firm in Yugoslavia, the following picture emerges: (i) the employees *own* the residual, (ii) the employees have the right to *fire* and *hire* cooperating inputs including, most importantly, the firm's director, and (iii) the employees can *neither sell the rights specified above nor continue to enjoy them when they leave the employ of the firm*. That is, the right to capture the residual is contingent on the association of one's live labor with the firm's physical assets. When this association ceases to exist, the one's right to capture the residual ceases as well. The relationship between the employees and the stock of capital held by the firm is regulated by a legal category: *the right of use*. This right allows the collective to appropriate returns from capital goods. Moreover, the collective can produce, buy, or sell capital goods. However, the firm must maintain the book value of its assets *via* depreciation or other means (e.g., the firm must reinvest the proceeds from sale of capital goods). In other words, the collective can add to the firm's capital stock, change its composition, but never let its book value fall. To deal with the problems of inflation the Yugoslav government has periodically revalued the stock of capital held by business firms. If

the firm sells an asset to another firm for less than its book value, the difference must be deducted from the residual and earmarked for investment.

In practical terms, employees of the Yugoslav firm have the right to determine the allocation of net profits among the Wage Fund and retained earnings, decide on the distribution of the Wage Fund, control the use of retained earnings, replace the firm's director and approve new investments. With workers given such decision-making powers, questions must arise concerning how the firm is likely to behave.

The expected objective of the Yugoslav firm would appear to be the maximization of the average product of labor. This seems to be a self-evident objective of the employees. The director, who also participates in sharing the residual and can be replaced by the employees, must concur. Given competition, each non-labor input would be employed up to the point at which the value of the input's marginal product is equal to the given price of the input, and the value of the marginal product of labor is equal to the residual-maximizing wage. The wage rate in the firm can be expressed as:

$$W = \frac{P \cdot f(L, K^0) - Z}{L}$$

Where: L is the flow of labor services, K^0 is the fixed capital stock, P is the commodity price, and Z stands for the fixed production expenses of the firm. The magnitude of Z can be taken as a function of the capital stock.

Then, the optimization condition is:

$$W^* = P \cdot AP - \frac{Z}{L} = P \cdot MP_L$$

that is, the value of labor's average physical product minus average fixed cost per unit of labor must be equal to the value of labor's marginal physical product.

It could be then asserted that the Yugoslav system provides incentives for scarce resources to move to their highest valued uses, and ensures a harmony of private and social interests. However, this rather simplistic view completely ignores the effects of property relations in Yugoslavia on the behavior of the decision-makers within the firm. More specifically, the wage maximization hypotheses fails to distinguish between the workers who are employed by the firm, and *labor in general*.

This distinction is quite important because the individuals who are current members of the working collective will tend to vote for policies that promote their own welfare, not the welfare of labor in general. Also, the static nature of the wage maximization hypothesis fails to consider the effects of the content of the *right of use* in capital goods on the employees' behavior.

If the initial capital-labor ratio is large, and the firm can sell all it wants to sell at the going price, the residual per worker could be increased *via* an increase in the labor input or a decrease in the stock of capital. We recall that the firm must maintain the value of its stock of capital. Thus, the residual maximizing behavior would call for hiring additional workers. However, every proposed change in the labor force must be evaluated in terms of its expected effects on the “original” group of workers in each of two areas: *productivity* and *policy*.

New workers joining the firm are more than factors of production. They are potential policy-makers as well. Any increase in the labor force enlarges the voting base and may cause a shift in the firm’s policies (voting patterns). This presents a clear danger to the original group. They cannot, like the residual owners in capitalism, cash in the market value of their rights and leave the firm.

While it is true that the original group might consist of individuals with different utility functions, some minimum agreement by the majority of workers is bound to emerge. The original majority is likely to have: (a) the length of the planning horizon, and (b) the economic and social environment to be maintained within the firm during the period. Since an individual has no ownership rights in the firm’s capital stock, it would be irrational for him to take the long view in considering the firm’s policies. He must secure whatever gains he is to have *during his tenure* with the firm. Thus, the rewards that are meaningful to the worker are the pecuniary and nonpecuniary return that he can obtain during his employ. It follows that the expected tenure with the firm will limit his planning horizon and that he will be willing to trade some pecuniary income from adding to the firm’s labor force for the security of common interests provided by the original group. The decision on the hiring of new employees represents a compromise for the original majority. While an enlargement of the firm’s labor force may increase the residual per worker, a larger labor force can endanger the attainment of other goals desired by the controlling group. Thus, the value of the marginal product of labor at equilibrium will tend to deviate from the residual-maximizing wage. Similarly, the value of the marginal product of each nonlabor input will not be equal to its price.

In addition to varying the labor force, the collective also has the right to add to the firm’s stock of capital. The Yugoslav firm has two major sources of funds: retained earnings and bank credit. At the same time, the employees of the firm face two different wealth-increasing alternatives. They can take the residual out as wages and invest individually in savings accounts, jewelry, or some other assets (taxis, small restaurants, etc.) where the right of private ownership does not necessarily and obviously violate the principle of public ownership in capital goods. Or the workers can leave some fraction of the residual with the firm for joint investment in capital goods and receive returns in the form of incremental wages for as long as they remain with the firm. Given the structure of property rights in Yugoslavia, when the worker leaves the firm he loses all his claims to the future

returns from capital stock even though his earlier sacrifice of current income helped the enterprise to purchase additional assets. For convenience we shall refer to these wealth-increasing alternatives as investments in *owned* and *non-owned* assets¹³.

Since the return from joint investment in capital goods *via* retained earnings is received in the form of incremental wages and for only as long as the worker remains with the firm, the internal rate of return on such investment must be *higher* than the rate of return on owned assets to make the alternative forms of investment equally attractive to the workers. In fact, the precise "equalizing" differential can be determined. To simplify our exposition we assume that the rate of interest (*s*) on savings accounts represents the highest return available to workers from taking the residual out and investing individually, and that owned and non-owned assets are alike in all characteristics (risk level, nonpecuniary returns, etc.) *but* yield. Then, private savings of *S* dinars in period one permits consumption of *S* + *sS* dinars in period two. The same amount of money left with the firm for joint investment in capital assets makes possible a consumption level of *rS* dinars in the second period. In other words, over a one period hairpin, a five per cent return on owned assets is just as appealing as a 105 per cent return on self-financed investment in the firm. In general, the conversion formula for an alternative involving the investment outlay *S*₀ over *T* period planning horizon is:

$$S_0 = \sum_{t=1}^T \frac{r^* S_0}{(1+s)^t}$$

Where *r** is the critical rate of return that non-owned assets must yield in order for workers to be indifferent between collective investment in the firm and individual investments at interest rate *s*. For example, the rates of return that make investment in non-owned assets equally attractive to workers as savings deposits at 5 per cent are 23 per cent, 19 per cent, 13 per cent, and 9 per cent for time horizons of 5, 6, 10 and 15 years, respectively¹⁴.

Our equation indicates that unless the interest rate (*s*) is quite small and/or the planning horizon (*T*) very long, the magnitude of *r** will be substantial. Given the prevailing property relations in Yugoslavia, (*T*) is unlikely to be long. Then, with *r** large, the marginal efficiency of investment in the firm (*r*) must also be large or no incentive will exist for workers to save *via* joint investment in nonowned assets. It follows that if the firm's production function is characterized by constant returns to scale, and the given capital-labor ratio is smaller than the ratio which would maximize the wage per worker the employees can find it advantageous to add to the

¹³ For detailed analysis see *E. Furnbotn* and *S. Pejovich*, "Property Rights and the Behavior of the Firm in a Socialist State," *Zeitschrift für Nationalökonomie*, 30, Fall 1970, pp. 431-54.

¹⁴ See *S. Pejovich*, "The Firm, Monetary Policy and Property Rights in a Planned Economy," *Western Economic Journal*, 7, September 1969, pp. 193-200.

original capital stock, and raise the residual. Yet, the required rate of return r^* will make the adjustment in the K/L ratio *via* self-financed investment inadequate.

The analysis here presents a pessimistic picture concerning the growth of employment and the possibility for self-financed investment by firms in Yugoslavia. An equilibrium may easily be reached where the capital-labor ratio is either smaller or larger than the residual maximizing ratio determined by the given price structure. The implication is that the community gets a lesser total output from its firms than it could under a different property arrangement.

Given the property rights structure in Yugoslavia, the firms' employment and capital accumulation policies tend to be non-optimal. For the legal system gives each collective significant decision-making powers and allows workers to reject alternatives that are not favorable to their own welfare, but, it also enforces property relations that limit individuals to *the right of use* of capital goods and, thus, reduces severely the incentives for investment of their nonconsumed income in the firm.

It is certainly surprising that Yugoslav economists as well as government officials expected retained earnings to be the major source of investable funds. The banks were expected merely to provide supplementary funds. Since the average marginal productivity of capital was estimated close to 30 per cent, the economists saw no obstacle to self-finance. However, the share of residual allocated to the investment fund of firms fell from about 40 per cent in 1965 to 24 per cent in the early 1970's¹⁵. Moreover, some of this allocation was mandated by the fact that repayment of bank loans is made from the firm's retained earnings. The firm's liquidity position also deteriorated. In the early 1970's about 33 per cent of the total value of nonhuman assets held by firms was financed by non-bank debt (primarily *via* accounts receivable and accounts payable). The average defense interval of business firms defined as the ratio of the firms' money holdings to their daily cash needs stood at slightly over three indicating an extremely low level of liquidity.

It is reasonable to say that the behavior of the Yugoslav firm can be given plausible explanation if the implications of the prevailing property rights structure are examined systematically. It is clear that the bundle of property rights that defines ownership in the Yugoslav firm affects the workers' time preference, hiring policies and investment decisions in specific and predictable ways. In other words, the behavioral model of the Yugoslav firm suggests testable implications. An important implication is that the banking system should be expected to take on a crucial role in freeing the rate of investment from the limitations imposed by

¹⁵ All data in this paper concerning the performance of the Yugoslav economy are taken from the *Statistical Yearbook of Yugoslavia* published annually by the Federal Institute for Statistics in Belgrade, and the *Statistical Bulletin* published monthly by the Agency for Social Accounting. Since 1973 there has been an increase in the allocation of profits to the investment fund. This change reflects the reimposition of some administrative measures.

inadequate self-finance, as well as in providing firms with needed liquid assets¹⁶. Indeed, it did. From 1965 to 1974 the annual volume of long-term and short-term credits to firms increased by 200 per cent and over 300 per cent, respectively. Also, self-financed investment *inclusive of depreciation* fell from 26 per cent to about 20 per cent of gross investment in the early 1970's, while the percentage of gross investment financed by bank credit rose from 36 per cent to about 50 per cent.

The basic reason for the appeal of bank credit to the workers is quite obvious. While self-financed investment requires a reduction of current consumption, bank financed investment does not. Thus, as long as the cost of borrowing to the collective is less than the increment in the residual generated by additional investment, the workers will seek to expand the firm's capital stock through bank financing. In fact, the collective will want to borrow investable funds up to the point at which the value of the marginal product of credit is equal to the marginal cost of borrowing. Clearly, the availability of bank credit is likely to make the collective's disposition of its residual even more biased against self-financed investment than it would be in the absence of bank credit. This condition is significant because it helps to explain growing demand by firms for short-term credit and its consequences. As the firm acquires additional capital goods, its scale of operations must increase. That means greater requirements for goods in process, inventories and liquid holdings. But a reduction in the allocation of the residual to retained earnings must affect the firm's *own* sources of working capital and raise its demand for short-term credit. As long as banks are willing to accommodate firms, a predictable consequence of this expansion of short-term credit is inflation. The rate of inflation in Yugoslavia was close to 20 per cent in the 1970's. Importantly, inflationary pressures are inherent in the prevailing property rights structure in Yugoslavia.

This is a logical deduction from the relationship between the bundle of property rights that defines ownership in the Yugoslav firm and the penalty-reward system of the decision-makers within the firm. The Yugoslav experience bears it out. The relevant question is now: What are the effects of the firm's dependence on the banking system?

When it is recognized that a positive relationship exists between the firm's investment in additional fixed assets and its need for liquid assets, it becomes clear that the aggregate demand for investable funds and the marginal efficiency schedule of the firm do not coincide. This raises the problem of assigning a separate rate of return to liquid assets. Lutz and Lutz argued that in a private property free-market community, we can treat those assets as just earning what they cost; that is, the short-term market rate of interest¹⁷. In that case, the conventional proposition

¹⁶ S. Pejovich, "The Banking System and the Investment Behavior of the Yugoslav Firm," in *Plan and Market* (M. Bornstein, ed.), New Haven: Yale University Press, 1973.

¹⁷ F. Lutz and V. Lutz, *The Theory of Investment of the Firm*, Princeton: Princeton University Press, 1951, p. 161.

that the firm's rate of investment depends on its schedule of investment opportunities and the market rate of interest remains valid. An important question is: Does economic logic support the extension of this proposition to the investment decision of the Yugoslav firm?

The common feature of those items that are included into our definition of liquid assets (cash balances, near money, inventories) is that they are productive because they help business firms (i) to economize on the high cost of information, and (ii) to maximize the extent of exchange. In a private property capitalist economy the firm can use some of its liquid assets to purchase interest bearing securities (i. e., to hold financial inventories). While the distribution of liquid holdings of the capitalist firm between interest bearing assets (near money) and non-interest bearing assets, such as money balances and physical inventories, depends on a multitude of factors including transaction costs and the market rate of interest, the essential point is that the enterprise can *choose* to hold some of its liquid assets in interest bearing securities¹⁸. The fact that capitalist firms have been consistent in using some of their liquid holdings to purchase interest bearing securities suggests that they view the alternative of holding all liquid assets in non-interest bearing forms (i. e., physical inventories and cash) as an inferior (costlier) one.

Financial markets do not exist in socialist states. Assuming that the demand for liquid assets does not differ between the capitalist and the socialist firm, it is then possible to assert that the cost of each given investment in fixed assets is higher in socialism, other things being the same. This difference in costs is then a price the socialist state has to pay for its refusal to allow the future consequences of current allocative decisions to be capitalized *via* the right of private ownership in earning assets.

While better experts might, it is hoped, test the expected consequences of the analysis for finer and more extended applications, the broad facts of Yugoslav experience do not contradict the qualitative results suggested by the model.

IV

The standard theory of production and exchange modified to take account of the behavioral effects of alternative property rights arrangements yields interesting, suggestive, and testable propositions concerning the behavior of the modern corporation and the socialist firm in Yugoslavia. Since the modern corporation is the dominant form of business organization in capitalism, and the Yugoslav firm is the only fully tested alternative to the system of administrative controls from the center, the comparison between these two types of firms is useful and important.

¹⁸ *W. Baumol*, "The Transaction Demand for Cash: An Inventory Theoretical Approach," *Quarterly Journal of Economics*, November 1952.

The analysis shows that, at equilibrium, the allocation and use of resources by both the modern corporation and the Yugoslav firm does not conform to the equimarginal principle. However, the analysis also suggests that the deviation from the social optimum is much more serious in the case of the Yugoslav firm. True, the dispersion of stockholding in the modern corporation increases the costs to the owners of policing the behaviour of the managers. However, the fact that the expected future consequences of the current managerial decisions can be capitalized, and that a positive relationship exists between the manager's current performance and his future earnings, suggests a reduction in transaction costs. Most significantly, the analysis suggests that an increase in the dispersion of stockholding does not necessarily imply a greater divergence between private and social costs and benefits.

With respect to the Yugoslav variant of a decentralized socialist economy, the analysis shows that inherent in the structure of property rights that define ownership in the Yugoslav firm, are forces conducive to conflict between the interest of society as a whole and the interests of the collective. The major economic problems in Yugoslavia – inflation, unemployment, the liquidity crisis, low level of self-financed investment, and the virtually complete dependence of business firms on the banks – can be traced to the incentive patterns that the prevailing property relations and the absence of capital markets generate. That is, economic decentralization permitted Yugoslavia to escape the inefficiencies of central planning *at a cost*. The analysis suggests that if this cost is to be lessened the government must either grant individuals fuller rights in capital goods, or reduce the worker's decision-making powers¹⁹. In other words, the question: Which set of institutions is capable of promoting efficient allocation of resources in a socialist state, is still very much open.

¹⁹ E. Furnbotn and S. Pejovich, "Property Rights, Economic Decentralization, and the Evolution of the Yugoslav Firm, 1965–1972," *Journal of Law and Economics*, 16, October 1973, pp. 275–302.

Zusammenfassung

Die Kapitalgesellschaft und das sozialistische Unternehmen; eine Studie über den Vergleich deren Leistungsfähigkeit

Der Aufsatz tritt auf die folgende Frage ein: Führt die Kapitalgesellschaft oder die sozialistische Unternehmung zu einer optimaleren Allokation, gemessen an der Vereinbarkeit mit dem equimarginalen Prinzip? Da die moderne Kapitalgesellschaft die vorherrschende Form der Geschäftsorganisation im Kapitalismus ist und die Unternehmungsform in Jugoslawien die einzige vollständig getestete Form eines sozialistischen, administrativen Planungssystems verkörpert, wird der Vergleich zwischen diesen beiden Formen gewählt.

Zur Analyse der Leistungsfähigkeit der Kapitalgesellschaft und der jugoslawischen Unternehmung wurde der Ansatz der Eigentumsrechte verwendet. Aus der Analyse der beiden Alternativen geht hervor, dass die Zuteilung und die Nutzung der Produktionsmittel in der Kapitalgesellschaft wie in der jugoslawischen Unternehmung nicht nach dem equimarginalen Prinzip erfolgt. Allerdings sind die Abweichungen vom sozialen Optimum im Fall der jugoslawischen Unternehmung grösser.

Résumé

La compagnie capitaliste de l'entreprise socialiste; une étude d'efficacité comparée

Cette étude soulève la question suivante: l'entreprise socialiste est-elle à même de présenter des solutions d'allocation qui soient mieux adaptées au principe équi-marginal que celles qui sont fournies par la firme de type capitaliste? Puisque la compagnie de type moderne représente la forme dominante de l'organisation des affaires au sein du système capitaliste, tandis que le type d'entreprise existant en Yougoslavie représente la seule alternative – expérimentée à fond – à la planification administrative des pays socialistes, une comparaison est établie entre ces deux types d'entreprises.

L'approche de la question des droits de propriété a été choisie pour analyser les performances des deux types d'entreprises – la compagnie moderne et l'entreprise yougoslave. Le résultat de l'analyse fait ressortir que l'allocation et l'utilisation des ressources par ces entreprises ne satisfont ni l'une ni l'autre au principe équi-marginal. Cependant, l'analyse a également montré que les déviations de l'optimum social sont plus graves dans le cas de l'entreprise yougoslave.

Summary

The Capitalist Corporation and the Socialist Firm; a Study of Comparative Efficiency

The paper raises the following question: Can the Socialist firm offer allocative solutions that are more consistent with the equimarginal principle than those yielded by the capitalist firm? Since the modern corporation is the dominant form of business organization in capitalism, while the firm in Yugoslavia is the only fully tested alternative to the system of administrative planning in socialism, the comparison is made between these two types of firms.

The property rights approach was used to analyze the performance of both the modern corporation and the Yugoslav firm. The analysis suggested that the allocation and use of resources by those firms does not conform to the equimarginal principle. However, the analysis also indicated that the deviations from the social optimum are more serious in the case of the Yugoslav firm.