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MARKETS, TRUE AND FALSE: THE CASE OF YUGOSLAVIA*

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This paper will discuss the emergence and shortcomings of Yugoslav market socialism. The central theme is that markets without saleable property rights are an illusion. As Mises and Hayek have so clearly demonstrated, truly competitive markets require individual freedom and hence private property rights. Property rights are important because they help determine the actions individuals can take and the rewards that can be captured. It will be shown that although the Yugoslavs have approached a market-type economy, the lack of saleable claims to present values has tied workers to their firms. This constraint, together with the institution of workers' management, has prevented true capital and labor markets from emerging in Yugoslavia. Hence, non-human and human capital tend to be misallocated.[1] The significance of this paper lies in a further clarification of the role of property rights in shaping incentives and behavior under socialism.

We begin by considering the function of private property rights in a free market economy and the consequences for individual freedom when such rights are abolished. Next the case of Yugoslav market socialism is considered. First we explore the reasons that Yugoslavia switched from central planning to decentralized market socialism. We then examine some of the highlights of the 1961 and 1965 economic reforms. In particular, we observe their effects on the distribution structure and workers' claims to enterprise income. Finally, some implications of the reforms are considered. First, employment and investment behavior is discussed for "capital-rich" and "capital-poor" firms and industries.[2] We then examine the impact of the reforms on interfirm and interindustry personal income-per-worker differentials, along with their implications for resource misallocation.

I. MARKETS WITHOUT PROPERTY: AN ILLUSION

Private enterprise rests on the individual's right to own non-human capital. Private property is characterized by (1) the freedom of choice in the use of property, (2) the freedom to buy and sell property — both part of individual freedom under private enterprise, and (3) the owner's right to capture income from (1) and (2).[3] The effectiveness of appropriability is important because it affects one's incentive to direct resources to their highest valued uses. Appropriability, of course, is shaped by the existing set of institutions plus transactions costs.[4]

The distinguishing feature of private "for-profit" firms is the exclusive right of owners to capitalize future expected income into its present value. This is made possible, of course, by the existence of capital markets in which owners can buy and sell ownership claims, including claims to current residual income. Hence, saleability of rights to present values means private owners will immediately bear the current and future value consequences of their present actions. For example, if the private capitalist misdirects investment, the lower future expected profits will immediately be capitalized in a lower market price of his assets or stock shares. Under private enterprise, therefore, the owner will have a strong incentive to monitor managerial behavior affecting

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the firm's present value. In fact, this so-called "profit motive" is the driving force in the private enterprise, free-market economy.[5]

Saleability of property rights also allows individuals to specialize in ownership and risk-taking. Consequently, under private enterprise, ownership claims will tend to be held by those individuals most adept at directing capital to its highest valued uses.[6] In sum, the benefits which emerge spontaneously from competitive capital markets depend on individual freedom to invest and organize production, and to capture the consequent rewards. That is, they depend on effective private property rights. The effectiveness of such rights, of course, depends on stable government by law; for unless government is limited by the "rule of law", private property would be fictitious.[7]

Ludwig von Mises has demonstrated that without private ownership of the means of production and money prices, economic calculation is impossible.[8] He was reacting to the notion that *pure* socialism could abolish scarcity prices and still achieve an efficient allocation of resources. However, he also questioned whether quasi-markets for the means of production could replace private capital markets. It is here that Mises is yet to be fully heard. Many socialists, for example, believe in the possibility of imitating the free capital market without allowing private ownership. Hence, it is useful to review Mises's line-of-argument.[9]

Mises explained that without real competition based on private property rights, socialist markets could not duplicate the market process. He reasoned that without the right to capture present values, no one would have an incentive to find the least-cost production methods, nor to search for the highest valued uses of resources. In fact, since resource prices would be distorted, it would be impossible to minimize real costs. Hence, resources would tend to be misallocated.

Socialists, however, claim that decentralized socialism is possible since socialist managers could be instructed to act "as if" they were managing a private "for-profit" firm. Moreover they assume that the "instructors" would possess all the relevant knowledge available to market participants. Hence, quasi-markets in the means of production could emerge, even though no one could appropriate the returns to capital. Mises, of course, sees this as wishful thinking, since it is unlikely that socialist managers would seek to increase their firm's wealth when the state would capture it. Moreover, no state agency would know how to efficiently direct the uses of resources, since the relevant information is dispersed among numerous individuals. Finally, government bureaucrats would have little incentive to enforce the present value maximization rule, since they have to share any profits or losses with society.

Mises has emphasized that competitive prices and profits are important only in a changing economy. In such an economy, capital must continuously be shifted from one use to another as consumer preferences change. The role of prices and profits is to guide the behavior of entrepreneurs and capitalists. Moreover, it is a mistake to think that the information contained in these signals is given; rather, it is the *result* of a continuous search process on the part of entrepreneurs and capitalists for higher returns on investment. The delusion of market socialists is that they think factor prices will automatically be known once product prices are determined. However, we know from Mises that:

> It is not possible to eliminate from such markets the influence of the supply of capital from the capitalists and the demand for capital by the entrepreneurs, without destroying the mechanism itself.[10]

Nevertheless, socialists persist in thinking that the state can achieve an optimum allocation of investment resources: the state simply has to distribute funds to those managers offering the highest return. These managers can then direct resources to where consumers value them most highly. The same objections that were raised above, however, apply equally well here. Socialists also fail to see that under socialism the more optimistic managers would tend to acquire investment funds, *irrespective of the opportunity cost of capital.* Under private enterprise, on the other hand, managerial opinion about prospective returns is never the ultimate determinant of investment allocation. Instead, it is the judgment of capitalists about expected profits *and risk* which is the deciding factor. Needless to say, investment decisions will be more rational when *private* rather than public funds are used. Therefore, much of the analogy that socialists make between socialist managers and managers of joint stock companies is misplaced. Only the latter are effectively constrained by the incentive of private owners to enforce wealth maximizing behavior.

The above discussion implies that under *any* form of socialism, the state must retain effective ownership of the means of production. Mises's message is that if socialists understood the market process, they would have to grant individuals (a) the freedom to buy and sell nonhuman capital, and (b) the right to capture present values. However, this is precisely what they cannot do, if the essence of socialism is to be retained. Meanwhile, the lack of private property rights precludes the benefits of spontaneous market order, and necessitates deliberate investment planning. Consequently, even under decentralized socialism individual freedom will be precarious.

Friedrich von Hayek has also criticized market socialism along Misesian lines. In particular, he has expounded Mises's argument that without effective appropriability, prices and profits will be distorted. That is, they will not reflect the relevant knowledge of alternatives possessed by individual market participants.[11] As Hayek says:

> To assume that it is possible to create conditions of full competition without making those who are responsible for the decisions pay for their mistakes seems to be pure illusion.[12]

Under private enterprise, individuals are both free and encouraged to use their unique knowledge to move resources to higher valued uses. Of course, individual perceptions about future profitability can be wrong. The benefit of freedom, however, is that individual plans can be quickly revised; thus increasing the probability of attaining market-clearing prices. In fact, only a small number of individuals need act on their limited knowledge of alternatives to generate socially beneficial results.[13] This is

> because their limited individual fields of vision sufficiently overlap so that through many intermediaries the relevant information is communicated to all.[14]

Therefore, although no central list of investment alternatives is available, the free market, in effect, generates such a result.[15] Hayek criticizes socialists for failing to see that the economic problem is largely one of rapidly adjusting to changed circumstances, not known in their entirety by any single mind.[16] Hence, he rejects the notion that some "super-bank" could deliberately bring about an efficient allocation of capital based on "pseudo-competition". In fact, Hayek contends that market socialism would probably be more impractical than strict central planning; because, it tries to abolish central planning of investment without establishing private property rights in the means of production.[17]

II. THE CASE OF YUGOSLAVIA

Emergence of Yugoslav market socialism

Yugoslav market socialism emerged in response to political-ideological disputes and was enforced by the government; it was not the result of spontaneous market forces. Furthermore, it seems that the designers of Yugoslav market socialism were unfamiliar with the earlier market socialist debate. There is no evidence, for example, that the Yugoslav leaders patterned their new institutional arrangement on Oscar Lange's model, or that they were aware of the "Austrian" criticisms of decentralized socialism.[18]

The initial inducement to abolish Soviet style planning[19] came on June 28, 1948 when Yugoslavia was expelled from the Communist party alliance by Stalin's Cominform Resolution. Although Yugoslav party leaders had criticized the excessive bureaucratization associated with Soviet style planning, and angered Stalin by delaying collectivization of agriculture, their expulsion from the communist bloc came as a shock. Hence, their initial reaction was to placate Stalin by pushing forward with central planning and collectivization. By 1950, however, Yugoslav leaders were again reacting to the imposition of strict central planning. In particular, Boris Kidric, Edvard Kardelj, and

Milovan Djilas were openly promoting a departure from the Soviet model.[20] Kidric was the first to formulate a theoretical model of market socialism; therefore let us examine his position.[21]

In 1950 Boris Kidric, chairman of the Yugoslav planning commission, laid out blueprints for decentralizing the Yugoslav economy.[22] Using the notion of "socialist commodity production", Kidric argued that during the transition to communism, the limited use of markets would not be inconsistent with Marxism, correctly interpreted. By "socialist commodity production", he meant social rather than state ownership of the means of production and production by semi-autonomous, worker-managed enterprises. According to Kidric, social ownership would differ from state ownership, since workers would be given control over the means of production.[23]

Besides giving worker-managed enterprises the right to use capital assets, Kidric proposed the following changes: (1) Enterprises were to be made economically responsible for their operations; (2) workers were to participate in the planning process, including the right to implement the state's investment plans; and (3) workers' councils were to acquire the right to distribute that part of enterprise income in excess of the planned amount. Any such "residual income" could then be used to increase personal income and/or be reinvested in the firm.[24]

The implementation of Kidric's scheme required dismantling the central planning apparatus, which by 1950 had become quite entrenched. Moreover, prices would have to be decontrolled and markets reestablished for commodities and the nonhuman factors of production. The first step along these lines came in July, 1950 when the "Law on Management of Enterprises by Workers' Collectives" was passed.[25] This law provided for workers' management and reorganized the ministerial system of central planning. In December, 1951, the "Law on Planned Management of the National Economy" was enacted.[26] This law provided for the decentralization of production planning. By the end of 1952 the general directorates and supply allocation plan had been abolished, giving enterprises greater autonomy in production planning. Furthermore, many prices were decontrolled by this time.[27]

In December, 1953 enterprises were given social ownership of their capital assets by the "Law on Management of Fixed Capital by Enterprises".[28] According to Pejovich, it was this law that signaled the *de facto* turning point in the Yugoslav system.[29] The subsequent transition to market socialism, however, was slow. It wasn't until the 1957, 1961 and 1965 economic reforms that enterprises gained effective rights *vis-à-vis* the state. These reforms introduced the so-called "net income system" of distribution, and gave enterprises more autonomy over employment and investment decisions.[30] Before discussing these reforms, let us consider the two basic features of Yugoslav market socialism: workers' self-management and social ownership.

Workers' management

Much has been written about workers' management, and need not be repeated here.[31] Rather, our purpose is to describe the basic rights and duties of the council, the management board, and the director.

The workers' council. Council members are elected and can be dismissed by a majority vote of the collective. The council consists of 15 to 150 members elected for two-year terms. Three-fourths of the council must be production workers.[32] The council has the right to determine what to produce and how to organize production.[33] These rights, however, have been restricted by price controls.[34] The council is also responsible for labor relations. The 1957 "Law on Labour Relations" delegated the council the right to hire, fire, and discipline workers.[35] It also provided for the adoption of the "Rules on Labour Relations", by which the council specifies employment conditions.[36] However these rules must be submitted to a special commission for approval.[37]

In 1957, the council acquired the legal right to distribute net income between personal incomes and "funds".[38] This right, however, did not become highly effective until 1965 because of various external constraints, which will be discussed later. The council specified its distribution policy in its by-laws until 1961; thereafter distribution was internally regulated by the council's adoption of the "Rules on the Distribution of Net Income".[39]

Another important right acquired by the Council in 1957 was the right to determine personal incomes, i.e. the right to prepare the pay scale.[40] As we shall see, however, this right was narrowly limited until 1961, when the council acquired the right to independently adopt its "Rules on the Distribution of Personal Incomes".[41] These rules state that the council should determine relative pay rates based on such criteria as education and skill level, job responsibility, and working conditions.[42]

At this point it is worthwhile to consider the process of income distribution in Yugoslav enterprises.[43] The process begins when the council holds a general meeting at the end of the year to discuss distribution policy for the coming year. After hearing workers' opinions, the council decides the division of planned net income between personal incomes and funds. The planned amount of personal incomes is then "pre-distributed" among the workers according to the pay scale. Workers, of course, will not know their actual personal incomes until the end of the year when the final accounts are settled. If the planned net income is achieved each month, workers will receive the full rate of pay according to the pay scale. Otherwise, they will receive proportionately more or less depending on whether the realized net income exceeds or falls short of the planned amount. *Their personal incomes, however, cannot be reduced below the minimum guaranteed by law.*[44] In fact, Rikard Stajner points out that if the enterprise cannot meet the minimum personal income rate out of its reserve fund, the local commune must make up the difference.[45] This, of course, will dull incentives to place resources in their highest valued uses.

The board of management.[46] Board members are elected and dismissed by the council. The board consists of 3 to 11 members including the director, who is an *ex officio* member. Members are elected for one year and are limited to a maximum of two consecutive terms. Board members, like council members, are not entitled to remuneration for their official duties. During their term of office, however, they cannot be fired or transferred to another job without their consent.[47] The duties of the board members are as follows. (1) They must submit periodical management reports to the council and assist in preparing the enterprise's statute, rules, and plans. (2) They must implement the council's policy decisions, other than those executed by the director. And, (3) they must monitor the director and his staff to ensure that their behavior conforms to the council's policy objectives — perhaps their most important function.[48] Various rights may be delegated to the board by the council. For example, the council may give the board the rights to: (a) decide upon the utilization of enterprise funds up to a specified amount, and (b) appoint and dismiss executives, except the director, subject to the council's approval.[49] Moreover, whenever the director's position is vacant, the board has the right to occupy it until a new director is appointed.[50]

The director.[51] The director plays an important part in the day-to-day operation of the enterprise. He also has the competence and position to influence the council's policy decisions. Of course his actual influence will be affected by his persuasive powers.[52] Some of the more important rights of the director are: (1) The right to negotiate and sign contracts for specified amounts in the enterprise's name.[53] (2) The right to impose limited disciplinary measures. (3) The right to make proposals to the council regarding business operations. (4) The right to nullify any decision taken by the council or management board that is illegal.[54] Other rights may be delegated to the director by the council; these are specified in the enterprise's statute, its rules, and its regulations.[55]

The procedure for hiring and firing the director should be noted. As of 1958, the director's employment status was determined by the Communal People's Committee. The 1963 Constitution transferred the right to appoint and dismiss the director to the workers' council. The Constitution, however, still required the joint selection commission to hold a public competition, and submit a list of no more than three candidates to the workers' council. This stipulation tends to limit the council's choice of director.[56] Furthermore, any request for the director's dismissal must be approved by the joint commission.[57]

In effect, the director is the legal guardian and technical manager of the enterprise. He is therefore somewhat of an intermediary between the state and the council. Moreover, unlike a private entrepreneur owner, the Yugoslav director's opportunity set is limited by the council's right to ratify major decisions; and his powers flow from the state. Hence, the director is in a rather tenuous position.[58]

On the other hand, recall that workers are not remunerated for time spent at council meetings, etc. This implies that as the opportunity cost to workers of performing managerial functions increases, less of that activity should be observed, *ceteris paribus.* In fact, there has recently been some movement toward specialization in managerial functions. V. Tričkovič, for example, suggested in 1969 that a contractual relationship be established between the council and the professional staff, including the director. The professional managers' reappointment and pay would then depend on realizing the goals set by the council.[59] Such a scheme was actually introduced by Sava, a Slovenian rubber factory, in 1970.[60] It is too soon to tell, however, what implications such arrangements might have for the future of workers' self-management in Yugoslavia.

Social ownership

Ever since 1950 the Yugoslavs have been confronted with the problem of property rights. That is, they have been concerned with defining the enterprise's bundle of rights to take various actions and capture rewards *vis-à-vis* the state.[61] The establishment of private property rights, of course, was out of the question. State ownership, however, was also rejected, since enterprises would have virtually no control over capital goods. Hence, in December 1953, Yugoslavia established "social ownership".[62] Under this rights structure, workers' councils were given the right to use and dispose of the "social property" entrusted to their enterprises.[63]

The council's right of use is exclusive in the sense that the social assets at the firm's disposal cannot be removed except by law[64] — the council has the sole authority to delegate the right of use and disposal to the management board and director. Nevertheless, Yugoslav law provides for the following restrictions.[65] (1) Enterprises must maintain the "book value" of their assets.[66] That is, the council must (a) set aside monies for depreciation of fixed assets and (b) provide for capital losses resulting from the "sale" or misuse of capital goods before distributing personal incomes. (2) Enterprises must pay a tax on the book value of their fixed and working capital funds. Finally, (3) enterprises must reinvest any gain realized from the "sale" of capital goods.[67]

Social ownership is the most important characteristic of the Yugoslav economy, and has affected all the rights changes that occurred during the 1960s. It means that no one can sell shares of common stock. Hence, workers will gain from their "investments" in the firm *only if they remain employed.*[68] Furthermore, forcing firms to maintain the book value of their assets will impede the efficient allocation of capital.[69] Consequently, social ownership affects both capital and labor mobility. Moreover, it restricts the free entry and exit of firms. Entry will depend mainly on the decisions of government officials, not on private investment decisions. Meanwhile, the exit of inefficient firms will be hampered by officials seeking to maintain employment.[70]

Yugoslav economic reforms, 1957–1968

In 1957 the "net income system" of distribution was introduced.[71] This replaced the so-called "profit system" that had been in existence since 1954.[72] Under the net income system, workers are residual claimants, whose personal incomes depend on: (1) the size of enterprise net income, (2) the distribution of net income between personal incomes and funds, (3) the criteria used to determine the distribution of personal incomes, and (4) the number of workers. Hence, appropriability is affected by the council's effective rights to (a) distribute net income, (b) determine personal incomes and

(c) control the volume of employment.[73] The *size* of capturable net income, however, and hence the importance of any rights to net income will depend on the tax structure.

The 1961 and 1965 reforms caused important changes in the tax structure and in enterprise empowerments. In the following discussion, we will first summarize the relevant tax changes, then consider the impact of the 1961 and 1965 reforms on workers' effective claims to net income.[74]

Changes in the tax structure

In 1960, the State siphoned off, through taxes, 56.8% of enterprises' net product (i.e. total revenue minus material costs and depreciation).[75] The following taxes were of particular importance: (a) The capital tax, a flat 6% tax levied on the book value of an enterprise's fixed and working capital; (b) the turnover tax, an *ad valorem* tax ranging from 0 to 25% levied at the finished product stage;[76] and (c) a steeply progressive tax on enterprise income, the rate of which depended on the ratio of income to the size of the minimum personal incomes fund.[77] Other taxes of interest were those levied on the portion of net income allocated to gross personal incomes — the social security tax, the housing construction tax, and the personal income tax[78] — and the 20% tax on allocations to the collective consumption fund.[79]

The 1961 reform replaced the progressive tax on enterprise income with a proportionate tax rate of 15%[80] This increased enterprises' share in net product from 43.2% in 1960 to 51% in 1964.[81] Moreover, it increased workers' take-home pay and thereby helped to correct some of the earlier disincentives to work. Various other taxes, however, still limited the size of their capturable rewards. The taxes levied on allocations to gross personal incomes, for example, left only 56% of that fund available for final distribution.[82] In addition, there was a tax of 25% on that part of personal incomes exceeding the minimum guaranteed amount by more than 160%.[83] Finally, a tax of 20% was levied on allocations to the business and collective consumption funds.[84]

Further changes in the distribution structure were introduced by the 1965 reform. In particular, the 15% tax on enterprise income was abolished,[85] and both the turnover and capital tax were virtually eliminated.[86] Consequently, enterprises' share in net product increased from about 50% in 1964 to 56.5% in 1968.[87] Moreover, subsidies and other forms of assistance to enterprises were substantially lowered, making workers somewhat more dependent on the success of their firms.[88]

Another relevant aspect of the 1965 tax reform was the switch from favorable to unfavorable tax treatment of allocations to personal incomes relative to the business fund. During the 1961–1964 period, the personal income tax rate (paid by enterprises on the net income allocated to personal incomes) was 15%. Funds reinvested in the firm, on the other hand, were taxed at a rate of 20%. After the 1965 reform, however, the personal income tax rate dropped to 10.5%, while the tax on reinvested funds fell to zero.[89]

In sum, the 1961 and 1965 tax reforms significantly increased the size of enterprises' net income. Moreover, the decrease in the capital tax meant that part of this increase in net income could be attributed to returns on capital. The importance of the enlarged net income, however, will depend on appropriability. Hence, we now turn to consider the effect of the reforms on workers' effective claims to net income.

Changes in workers' effective claims to net income

The 1957 reform gave the council the rights to independently distribute net income, determine personal incomes on the basis of the results of individual work plus the success of the enterprise, and appoint and dismiss workers.[90] Because of various external constraints, however, the council's *effective* rights to distribute net income and determine personal incomes remained narrowly limited until 1961, when they were given real content, and 1965, when they became highly effective. Consequently, the ability of workers to capture net income in the form of take-home personal incomes differed in each of the three periods: (1) 1957–1960, in which workers had narrowly limited claims to net income; (2) 1961–1964, in which workers acquired additional, but still rather limited claims to current net income; and (3) 1965–1968, in which workers acquired more effective and thus more valuable rights to net income. Each of these rights structures will be used to categorize a particular type of enterprise ownership form, namely: (1a) "narrowly-limited net income" enterprises, (2a) "limited net income" enterprises, and (3a) "net income-seeking" enterprises.

"Narrowly-limited net income" enterprises, 1957–1961. During the 1957–1960 period, the distribution of enterprise net income was influenced by the "producers' council" of the local commune, which had the right to examine an enterprise's financial statements.[91] If the local producers' council discovered that an enterprise's distribution violated existing regulations, it could "recommend" the necessary changes. In the event the workers' council did not comply with the recommendations, the communal people's committee had two alternatives: it could refuse to make loans and/or it could refuse to act as guarantor for bank loan applications. If the council still refused to abide by the recommendations, the matter was handed over to the district council of producers for resolution.[92] In practice, the recommendations were usually followed even though they had no legal force.[93]

The adoption of the pay scale was also subject to a recommendation procedure in which the trade unions played an important part. The 1957 "Law on Labour Relations" stated that before an enterprise's pay scale could become operative, it had to be approved by the communal people's committee, or a commission appointed by it, and by the appropriate trade union.[94] If the pay scale was not approved, the council was supposed to make the recommended changes. In the event such changes were not made, the matter was to be settled by the district council of arbitration. Its decision had to be incorporated into the enterprise's "Regulations on the Determination of Personal Incomes".[95] The pay scale recommendations were not legally binding, but the available evidence indicates they were effective.

The 1957 "Law on Labour Relations" stipulated that workers' councils could be assisted in the preparation of pay scales and in the determination of personal income differentials by entering into "pay scale agreements". These agreements, worked out by trade union officials, representatives of economic chambers, and/or industrial trade unions, specified "the general criteria, grounds and methods" for determining workers' personal incomes.[96] Pay scale agreements had to be approved by the Secretariat of Labour and Labour Relations of the Federal Executive Council.[97] Their basic goal was to achieve "a unified pay scale policy in enterprises".[98] In order to accomplish this objective the 1959 agreements provided for: (1) the distribution of net income between personal income and funds; (2) the ratio between the highest and lowest pay scale rate; (3) personal income differentials for different skill categories; and (4) the general criteria for determining bonuses and production standards.[99] Although these agreements were not legally binding, they were quite effective according to Štajner, in coordinating "wage rates for similar jobs within the same industry".[100]

Four other constraints should be mentioned. The first two pertain to the 1957–1960 period, or parts thereof, while the latter two are inherent features of the Yugoslav socio-economic system. (1) The 1959 and 1960 Federal Social Plans stipulated that for every amount earmarked for fixed capital at least 20% had to be set aside for working capital.[101] This requirement limited the council's freedom to distribute net income. (2) A regulation in effect from January 1958 to June 1959 restricted the net income that could be distributed as personal incomes: monthly and quarterly distributions were limited to the minimum personal incomes guaranteed by the State plus 50%. Only the Federal Executive Council could modify this limitation.[102] (3) The supervisory powers of the Financial Inspectorate, the Social Accounting Service (*Sluzba Drustvenog Knjigovodstva*), and the National Bank introduced further constraints. The Financial Inspectorate and the Social Accounting Service monitor enterprises' accounts to ensure their legality and supply government officials, trade unions, etc.

with the information needed to evaluate performance. In particular, the Social Accounting Service provides a system of uniform accounts that facilitate intra and inter-industry comparisons. The National Bank and its branches help supervise the use of enterprises' capital assets via their right to audit accounts of firms to whom credit has been extended.[103] Enterprises are also required to finance about 25% of any investment loan.[104] In effect, this motivates them to reinvest part of their net income. (4) Finally, the League of Communists is represented in the majority of enterprises. These units have no legal right to interfere with the self-management process, but their political influence can be significant.[105]

In conclusion, it appears that the above methods of "social control", particularly the communal recommendations and the pay scale agreements, narrowly limited the council's right to distribute net income and determine personal incomes before 1961.[106] This conclusion is supported by the observations of several well-known Yugoslav economists. Dusan Bilandžić, for example, stated that the institutional changes introduced by the 1957 reform had little effect due to the "administrative determination of the distribution and disposal of net income".[107] Likewise, Bajt points out that before 1961 "the system of wage formation . . . continued to be firmly centralized".[108] Finally, Ljubomir Madžar observed that "income distribution [i.e. the formation of personal incomes] was rather strictly regulated" prior to 1961.[109] It appears, therefore, that *in fact* enterprises could not independently determine their distribution policies during the 1957–1960 period.

"Limited net income" enterprises, 1961–1964. In 1961, the constraints on personal income formation were removed. Hence, for the first time, enterprises became autonomous in their decisions affecting the distribution of net income and the determination of personal incomes.[110] Such independence, however, was short-lived; controls limiting the free disposal of net income were reintroduced at the end of 1961. These controls became more pervasive during 1962 and 1963, and remained in effect until 1965.

The legislative package adopted by the Federal People's Assembly in March 1961 is commonly referred to as the 1961 economic reform. The "Law on Changes and Supplements to the Law on Assets of Economic Organizations"[111] and the "Law on Changes and Supplements to the Law on Labour Relations"[112] were particularly important. The relevant articles of the refined texts of these laws, which were adopted on 15 April 1961, are discussed below.[113]

The "Law on Assets of Economic Organizations of 1961" gave enterprises the right to independently distribute net income. Workers' councils were responsible for laying down the "basis and criteria" for distributing net income between personal incomes and funds in their *"Pravilnik o Raspodeli Čistog Prihoda"* ("Rules on the Distribution of Net Income").[114] According to article 14, para. 1, these Rules also had to specify the principles for distributing personal incomes among workers.[115] Article 16 obliged the council to behave "with the care of a good businessman" in determining distribution criteria. This meant that it should provide for the growth of enterprise investment funds and base personal incomes on productivity.[116] Article 17, para. 1, stated that enterprises could enter into agreements concerning "the principles to be observed . . . in determining the bases and criteria for the distribution of net income". Article 19 stipulated that the council must "allow workers to review the proposed rules" and must recognize their "observations and proposals". Article 20 gave the communal authorities the right to examine the council's draft of the Rules on the Distribution of Net Income. Finally, Article 21 provided that if the communal producers' council considered the bases and criteria set forth in the Rules to be in violation of existing legal prescripts, it could recommend the appropriate changes. However, even though the workers' council had to consider these recommendations, they were not legally binding. The same is true with regard to the council's adoption of the Rules on the Distribution of Personal Income.[117] It is important to note that trade unions lost their authority in the area of personal income formation in 1961.

Furthermore, pay scale agreements could become effective without the approval of the communal authorities.[118]

Yugoslav economists and others familiar with the 1961 reform agree, in general, that it effectively abolished the major social controls applied during the 1957–1960 period — making the workers' councils virtually free to distribute net income and determine personal incomes.[119]

On December 29, 1961, however, the Federal People's Assembly adopted the "Recommendation on the Distribution of Net Income in Work Collectives".[120] Its purpose was to remind enterprises that any increases in personal incomes should be tied to "the results of work and management". Nevertheless, the newly acquired freedom to determine personal incomes led enterprises to increase personal incomes far in excess of productivity gains.[121] Consequently, the Federal Assembly passed a law on 9 April 1962 that provided for the formation of commissions to implement regulations on the distribution of net income.[122] And, on 13 April 1962, the Federal Executive Council adopted the "Instruction on the Implementation of the Principles and General Standards for the Distribution of Net Income in the Rules of Economic Organizations".[123]

Article 1, para. 1 of this Instruction required enterprises to incorporate various "principles and general standards" into their "Rules" governing the distribution of net income and personal incomes. Enterprises were to distribute net income (to personal incomes and collective consumption) in accordance with their business success and provide for their growth by reinvesting part of their net income.[124] Article 3 stipulated that in their net income distribution, enterprises must consider not only the amount of net income realized, but also "the conditions under which it was realized". Article 5 ruled out price increases as a justification for increasing personal incomes.

Finally, Article 8 of the 1962 Instruction required enterprises to use a distribution formula in determining the per cent of net income earmarked for personal incomes.[125] This formula specified that in order to increase the ratio of personal incomes to net income in the current year, there must be a decrease in the current year's ratio of capital to labor relative to the previous year. Hence, insofar as this guideline to use labor intensive methods of production.[126] The 1962 formula, however, was somewhat inconsistent: on the one hand it rewarded increased productivity, which depends on increases in the ratio of capital to labor, and on the other hand it provided an incentive to reduce capital intensity!

The 1962 Instruction required enterprises to submit their "Rules on the Distribution of Net Income" to the appropriate Communal Commission. If illegalities were found, the commission could recommend changes. In the event that the workers' council did not accept the recommendation, the communal officials could suspend the enterprise Rules. The council had the right to appeal to the Republic Commission whose decision was final.[127]

On 7 May 1963, the Instruction of 1962 was superseded by the "Instruction on the Implementation of the Principles of the Distribution of Net Income of Economic Organizations".[128] This new Instruction abolished the distribution formula of 1962. Article 9 provided for the establishment of various success criteria by the Federal Secretariat for Work in conjunction with the Central Council of the Confederation of Yugoslav Trade Unions and the Federal Economic Chamber. These criteria, referred to as the "uniform indicators of business success" (*"jedinstveni pokazatelji poslovnog uspeha"*), were supposed to help enterprises analyze their operations and guide them in the distribution of net income and personal income.[129] On 3 July 1963, the "Agreement on the Uniform Indicators of Business Success of Economic Organizations" was adopted. It established three types of uniform indicators: the "uniform indicators of business success"; "net indicators of the conditions of business" (e.g. capital per worker); and the "uniform indicators of distribution" (e.g. gross personal incomes per worker).[130]

According to Bajt, the 1962 and 1963 "Instructions" were not very effective.[131] L. Madzar agrees; he thinks that the controls introduced after 1960 were not highly restrictive. In particular, he argues that "the period after 1960 can be treated, by and large, as the period of the free formation of personal income".[132] Within this period, however, he distinguishes between the years before the 1965 reform and those thereafter. Hence, his division is consistent with the one independently adopted in this paper.[133]

In conclusion, although the controls introduced in 1962 and 1963 did not effectively constrain the council's right to distribute personal incomes, they did tend to limit the free disposal of net income until 1965. Therefore, the 1960–1964 period can be viewed as one in which workers' rights to net income were substantially enlarged relative to the 1957–1960 period, but still somewhat limited relative to the 1965–1968 period.

"Net income-seeking" enterprises, 1965–1968. The 1965 reform abolished the commissions that had been set up to regulate the distribution of net income in enterprises and the 1963 Instruction.[134] The removal of these restrictions made the worker's councils virtually free to distribute net income in accordance with their "Rules on the Distribution of Income" (*Pravilnik o Raspodeli Dohotka*). Some forms of social control still remained, but were not legally binding; they merely sought to keep increases in personal incomes in line with increased productivity through voluntary measures.[135] Thus, they did not interfere with the rights granted by the 1965 reform. As Hanzeković pointed out in 1968:

> From 1965 onward there have been no more regulations which define how economic organizations must distribute their income.[136]

Virtually all Yugoslav economists and others familiar with the reform measures agree that enterprises acquired greater independence in distributing their net income between personal incomes and funds relative to the earlier periods.[137] A careful investigation of the literature indicates that the council's newly acquired legal right to independently distribute net income was effective after 1965. Hence, even though we cannot see a black-and-white distinction between pre-1965 (i.e. 1961–1964) and post-1965 rights to income, we assume that workers' rights to income expanded and became more effective as a result of the 1965 reform.

III. SOME IMPLICATIONS OF THE REFORMS[138]

We have seen that the 1961 and 1965 reforms: (a) increased the *size* of enterprise net income; (b) virtually eliminated the tax on the firm's capital value; and (c) gave workers more effective claims to their firm's net income, including the return to capital. These changes in effective appropriability will differentially affect the workers' council's employment and investment behavior in capital-rich and capital-poor firms and industries.[139] Before deriving these implications, however, we must keep in mind that one right which workers never acquired is the right to capture present value changes resulting from their investments in the firm. As previously mentioned, this lack of private property rights in nonhuman capital means that workers can only capture *current* net income; i.e. they must stay with their firm if they are to realize the expected increase in future income stemming from their investments in the firm. This point deserves further elaboration.[140]

In Yugoslavia the worker can be thought of as having two investment alternatives: (1) He can invest in his firm's capital stock by allocating net income to the business fund; or (2) he can allocate net income to personal income and then invest in a savings certificate paying a fixed rate of interest (i).[141] These investment alternatives differ, of course, since the first is socially owned, while the second is privately owned. The implication of this is that the rate of return (r) on the socially owned investment must exceed that on the privately owned investment to make workers indifferent between the two alternatives. Moreover, the extent of this difference will depend on the average length of employment desired by members of the firm (t). In particular, as t increases, the rate of return (r^*) required on socially owned assets to make the council *indifferent* between the two investment alternatives declines and approaches i. For example, given an i of 5%, r^* will be 23, 13, 9 and 8% respectively for "t values" of 5, 10, 15 and 20 years.[142]

In sum, the important points to note are that: (1) rates of return on alternative investments in Yugoslavia are not directly comparable because of the differences in property rights; and (2) the desired tenure of workers with their firms will affect the amount of net income which they voluntarily reinvest in their firms' capital stock. On the other hand, if workers had private property rights in nonhuman capital, there would be no such relationship between employment and investment behavior. Workers would not have to be employed by an enterprise in order to invest in it, since they would not have to remain with that firm in order to capture expected income streams. That is, if Yugoslav workers had private ownership rights in capital goods, they could immediately realize expected future increments in net income by selling their claims in a private capital market. Clearly, the lack of capital markets in Yugoslavia hampers capital *and* labor mobility. Wachtel, for example, notes that:

> If the worker decides to remain with the enterprise because his personal income has been deferred to some future period, when he would otherwise have changed employment, then severe immobilities will have been introduced into the labor market.[143]

We shall now look into this phenomenon more carefully.

Differences in average lengths of desired employment in capital-rich and capital-poor firms.

The effect of the 1961 and 1965 reforms on the average length of employment desired by members of capital-rich and capital-poor firms is a complex problem. To approach it, we must first recall that t, the average length of employment desired, depends on *capturable* future net income-per-worker; that is, on expected personal income-per-worker. Second, we must recognize that under the net income system, personal income-per-worker depends on net income-per-worker. Thus, firms with above average net income-per-worker will tend to have above-average personal income-per-worker. Furthermore, workers in such firms will tend to have longer average periods of desired employment than in firms with below-average net income-per-worker. In the following discussion, we shall specify the major determinants of interfirm net income-per-worker, one of which is capital-per-worker. We shall then analyze the impact of the reforms on the relation between capital-per-worker and net income-per-worker and personal income-per-worker on the other. Of particular importance will be the effect of the 1961 and 1965 reforms on the capturability of implicit interest income from the socially owned capital assets at firms' disposal. From this analysis we will derive predicted differences in t, i.e. average length of employment, between capital-rich and capital-poor firms.

Three major reasons for interenterprise net income-per-worker differentials can be specified.[144] First, there may be differences in monopoly power and/or privilege. Some firms may have control over their prices, and/or be subsidized by the government. Second, there may be differences in implicit interest income according to the size of the firm's capital stock, and depending on the capital tax. If the capital tax, which may be thought of as an "interest rate" paid to the State on the value of the firm's capital assets, is less than the opportunity cost of capital, part of the firm's net income will consist of implicit returns to capital. Firms that have been endowed with a large amount of capital-per-worker will have relatively high net income-per-worker, insofar as implicit interest income can be captured.

Finally, there may be differences in the quality of entrepreneurship, especially if the entrepreneurial functions are performed by a collective — with all members participating in management, innovation, and risk-bearing. These differences in the quality of entrepreneurship may cause differences in net income-per-worker.

We are primarily interested in the effect of the reforms on differences in t between capital-rich and capital-poor firms. In the following discussion we shall assume that differences in monopoly power and/or privilege, and differences in entrepreneurial quality, are not important sources of *interfirm* net income-per-worker differentials.

Let us consider the impact of the 1961 and 1965 reforms in the relation between capital-per-worker and net income-per-worker. Before the 1961 reform, differences in capital-per-worker should not have been responsible for very large differences in net income-per-worker or personal income-per-worker. There are several reasons for this. First, the tax on capital was relatively high at 6%. If we assume that this tax effectively siphoned off most implicit interest income, differences in capital-per-worker should not have been an important determinant of interfirm net income-per-worker differentials. Second, the progressive tax on enterprise income should have reduced interfirm net income-per-worker differentials, thus further reducing any interfirm differences in net income-per-worker due to capital-per-worker. Finally, personal income-per-worker differentials were narrowly limited before 1961, so that any differences in net income-per-worker due to capital-per-worker should not have shown up as large differences in take-home pay.

After the 1961 reform, however, we would expect differences in capital-per-worker to have a greater impact on differences in net income-per-worker and personal income-per-worker. Although the legal rate of tax on capital remained at 6% until 1964, the effective rate averaged only 2.5% in 1963. This implies that after 1961 enterprises could capture relatively greater implicit interest income from the capital assets at their disposal. In addition, the replacement of the progressive tax on enterprise income by a proportionate tax of 15% should have allowed more of the implicit interest income to be reflected in net income-per-labor. Finally, the removal of most effective controls on the distribution of net income should have allowed the differences in net income-per-worker (assumed here to be due to differences in capital-per-worker) to be reflected more fully in differences in personal income-per-worker.

The 1965 reform reduced the legal rate of tax on capital from 6% to 3.5%. The effective rate, however, was judged to be about 1.3% in 1966.[145] Moreover, all taxes on enterprise income were removed in 1965. Thus, the 1965 reform should have allowed differences in capital-per-worker to show up to a greater extent as differences in interfirm net income-per-worker. Finally, the removal of all remaining controls on the distribution of net income in 1965 should have allowed differences in implicit interest income to be even more completely reflected in interfirm differences in personal income-per-worker.

The preceding line-of-reasoning suggests that firms with above average capital-per-worker should have above average net income-per-worker, and thus above average personal income-per-worker. In turn, this implies that workers in capital-rich firms should have longer average lengths of desired employment than in capital-poor firms. Furthermore, the foregoing analysis suggests that personal income-per-worker differentials between capital-rich and capital-poor firms, and thus interfirm personal income-per-worker differentials, should have increased over the 1957–1968 period.[146] This further implies that differences in t between capital-rich and capital-poor firms, and therefore interfirm differences in t, should have increased over the 1957–1968 period as rights to net income became more valuable.

Using cross-sectional multiple regression analysis, we found that the evidence from both industry-wide and individual firm data were consistent with our hypothesis that capital-rich firms have higher net income-per-worker than capital-poor firms. However, the industry-wide multiple regressions were more appropriate, since in them we attempted to control for the effects of monopoly power *and* quality of entrepreneurship on net income-per-worker.[147]

We also found evidence to support our hypothesis that interenterprise personal income-per-worker differentials increased over the 1957–1968 period. Using the coefficient of variation to measure interenterprise personal income-per-worker differentials in the textile industry, we found that the coefficient of variation increased from 0.206 in 1960, to 0.276

in 1963, to 0.432 in 1967. Similar results were obtained using interindustry data.[148]

Finally, it might be noted that, in theory, differences in capital-per-worker should not result in differences in personal income-per-worker *under socialism.* Yugoslav firms have the right to use the capital goods at their disposal, but they have no ownership title, and must pay a tax on the value of their capital stock. The purpose of this tax, you recall, is to siphon off implicit interest income. Thus, if this "interest rate" reflects the true cost of capital services, differences in capital-per-worker should not affect interenterprise personal income-per-worker differentials.

Using a variant of two-stage least squares regression analysis, we found that for selected years (each year selected to represent a particular rights structure) the evidence both from the textile industry data and Korać's interindustry data suggest that enterprises do capture part of the income flowing from their capital assets. Hence, it appears that interenterprise and interindustry personal income-per-worker differentials can be attributed, at least in part, to differences in implicit interest income, resulting from differences in capital intensity.[149]

We can now derive a specific implication about the behavior of Yugoslav firms. Workers in capital-rich firms will have longer average periods of desired employment (t) than workers in capital-poor firms, since such firms will have above-average income-per-worker in each successive period. Moreover, as the workers' rights, including the "right of use", became more valuable over the 1957–1968 period, interenterprise differentials in t should have increased due to the spread in interenterprise personal income-per-worker differentials.[150] This means, given our assumptions, that differences in t between capital-rich and capital-poor firms should also have increased. We can now state this line of argument more succinctly:

Implication No. 1. Workers in capital-rich firms will have longer average lengths of desired employment (t) than in capital-poor firms in each successive period. And, this difference will increase as workers' rights, including the "right of use", become more valuable.

To test this implication we would have liked to proceed as discussed earlier and find for each rights structure, the average length of employment desired by workers in the various circumstances. If we found little difference between the average length of contractual employment in the average capital-rich and average capital-poor firm before 1960, a greater difference after the 1961 reform, and an even greater difference after the 1965 reform, we would have evidence to support Implication No. 1. However, such data is not available. Therefore, we resorted to a less rigorous method of checking this implication.

The quit rate (QR) was used as a proxy for t. Quit rate data, however, were not available before 1964, so our ability to check Implication No. 1 was further limited. Moreover, since quit rate data were available only by industry, we could not examine differences in interenterprise behavior. Nevertheless, we were able to examine interindustry behavior, which is assumed to follow a pattern similar to that predicted for interfirm behavior. Our procedure was to initially examine interindustry differences in t, as measured by the QR, and then analyze these differences for 1964 and 1966, using a regression model of interindustry quit rates.[151]

Our statistical results confirmed that the quit rate is negatively related to capturable rewards, as measured by adjusted personal income-per-worker.[152] Although the regression coefficient was not statistically significant, we believe that if the average length of desired employment (t) could be measured more precisely, one would find a statistically significant positive relationship between t and personal income-per-worker. Thus, we interpret the positive relationship found between personal income-per-worker and capital-per-worker to mean that workers in capital-rich firms have longer average lengths of desired employment than workers in capital-poor firms, *ceteris paribus,* in each successive period.

Moreover, we observed that interindustry quit rate differentials, as measured by the coefficient of variation, increased from 38.3% in 1964 to 49.1% in 1966, and to 52.2% in 1967.[153] We interpret this to mean that differences in average lengths of desired employment behavior between capital-rich and capital-poor industries widened as workers' property rights became more valuable. A crucial link in this reasoning is that capital-rich industries have above average income-per-worker.

Differences in average investment behavior in capital-rich and capital-poor firms.

Given the link between employment and investment behavior in the Yugoslav firm, a corollary to Implication No. 1. can be derived. Namely:

> *Implication No.* 2. Workers' councils in capital-rich firms will *voluntarily* distribute a larger fraction of their net income to the Business Fund relative to capital-poor firms, in each successive period.

That is, the longer average period of employment desired by workers in capital-rich relative to capital-poor firms would lead us to expect workers' councils in those firms to reinvest relatively more of their net income, *ceteris paribus.*

Our evidence confirmed that capital-rich firms have tended to reinvest more than capital-poor firms. However, it is difficult to say anything about how differences in investment behavior between these two sets of firms will change as rights to income become more valuable.[154]

Property rights changes and interfirm personal income-per-worker differentials

Earlier we showed that *even in the absence of differences in reinvestment* between capital-rich and capital-poor firms, personal income-per-worker differentials between such firms should have increased as rights to income became more valuable over the 1957 – 1968 period. Our empirical evidence supported this hypothesis. We found that both interfirm and interindustry personal income-per-worker differentials increased over the 1957 – 1968 period.[155] However, we now have a further reason to believe that personal income-per-worker differentials should have increased between capital-rich and capital-poor firms. Namely, the differences found in net investment between these two sets of firms should have deepened productivity differences, increasing the spread in net income-per-worker, and thereby increasing personal income-per-worker differentials. Wachtel reached a similar conclusion, via a different routes:
worker differentials. Wachtel reached a similar conclusion, via a different route:

> The tendency for high-wage [personal income-per-worker] industries to have relatively larger investments than low-wage [personal income-per-worker] industries could increase interindustry wage differentials over time in Yugoslavia.[156]

Our study, however, stresses that the underlying rights structure in Yugoslavia, as shaped by the 1961 and 1965 reforms, has been a basic factor leading to the increase in interfirm and interindustry personal income-per-worker differentials over the 1957–1968 period. The final implication of our study is simply that point with respect to capital-rich firms, capital-poor firms, and all enterprises.

> *Implication No.* 3. Personal income-per-worker differentials between capital-rich and capital-poor firms will increase as rights to income become more valuable and as a consequence of different reinvestment ratios. These differences will be reflected in increasing interfirm personal income-per-worker differentials over the 1957–1968 period.

Implication No. 3 also applies to interindustry personal income-per-worker differentials.

We have already indicated that income-per-worker differentials increased over the 1957–1968 period. In addition, this variance was analyzed and found to be largely consistent with Implication No. 3.[157] Finally, our findings tend to support (and our theory helps explain) the popular contention in Yugoslavia that:

> . . . a major current problem of the system is, . . . , the discrepancy between rich and poor enterprises, the rich ones allegedly having too small a work force, paying a too high a wage, and preserving their relative wealth by relatively heavy investment.[158]

Resource misallocation

At this point, let us consider the implications of our results for resource misallocation. In addition, let us examine several proposals by Yugoslav economists to dampen the increase in personal income-per-worker differentials.

Misallocation and capital markets

If workers are tied to their firms by the investments they make in non-owned assets, it seems that the *sine qua non* of an efficient allocation of resources in Yugoslavia is the creation of a capital market. Under existing conditions, even though rates of return may be higher in capital-poor firms relative to capital-rich firms, there may not be any flow of capital from one group to another.[159] Capital resources will therefore be misallocated, since there are higher valued investment alternatives that are not being utilized. The socially desirable flow of resources, of course, will be from lower valued uses, e.g. in capital-rich firms to the higher valued uses, say in capital-poor firms. However, this does not occur because of the absence of a free capital market.

On the other hand, capital-rich firms will tend to have higher net income-per-worker, and therefore higher personal income-per-worker than capital-poor firms, regardless of the alternative social cost of different categories of labor. As Madzar says, the payment of labor according to enterprise net income does not guarantee:

> . . . that a given category of the labor force will be equally rewarded in alternative jobs. This implies apparently a certain inefficiency in the allocation of resources.[160]

If the value of labor's marginal products is in fact higher in the capital-rich firms, the value of society's output could be increased by the movement of workers from capital-poor to capital-rich firms. Workers, however, are prevented from moving to their highest valued uses by the institutions of social ownership and workers' management.[161]

Social ownership has a tendency to tie workers to their firms, since they must remain with their firms to capture any increments in future net income resulting from their investments in non-owned assets. Moreover, making workers "residual claimants" rather than wage earners causes workers' councils to be somewhat reluctant to hire new workers. They are reluctant because new members of the collective would share in the fruits of past investments, even though they incurred no sacrifice.

The introduction of a capital market would divorce the investment and employment decisions, make rates of return on alternative investments directly comparable, and provide for capital and labor mobility. Moreover, the existence of a competitively determined market rate of interest, reflecting the scarcity value of capital, would mean that rational investment decisions could be made. Thus, capital would tend to flow to its highest valued uses. Finally, once a share market was introduced, specialization in management and control (ownership) could occur. Workers would lose their status as residual claimants and a competitive labor market would emerge. In such a market, of course, workers would tend to be paid a wage rate reflecting what they could earn in their next best alternative. Thus, the value of labor's marginal product in alternative uses would tend toward equality, implying an efficient allocation of resources.

These institutional changes would almost certainly remove the sources of behavior that we believe have led to increases in interfirm and interindustry personal income-per-worker differentials. They would also enhance individual freedom. Nevertheless, it would be sheer folly to think that such changes, which require private property rights in the means of production, would be instituted in a socialist country. What is fascinating is that the Yugoslavs have gone so far towards a market orientated economy, while retaining social ownership of nonhuman capital resources. This, however, is precisely their impasse.

Yugoslav policy proposals

Given the ideological constraints on private ownership, the following alternatives appear open to Yugoslav officials as ways to mitigate the increase in interfirm pay differentials. (1) Provide for interfirm capital mobility and give workers more complete claims to the income expected from their investments in the firm. (2) Promote integration of smaller firms within an industry. (3) Reintroduce controls on the formation of personal incomes, and increase taxes on enterprise income and capital. Let us consider the actions that have been taken along these lines.

Improving the investment atmosphere. Before 1963, enterprises having excess funds could not invest in other firms. Hence, these excess funds would be distributed as personal incomes, or reinvested in the firm, even if there were more attractive investments in other firms. The 1963 Constitutional Amendment XXII, however, allowed interfirm investment, subject to the constraint that interest earned on funds invested in other firms should not be paid out as personal incomes. Nevertheless, if firms can share in the distribution of net income created by loans to other firms, this implies that they will be able to pay out higher personal incomes. According to Madzar, such a solution would not be ideologically acceptable, since it would allow enterprises to capture interest income.[162]

With respect to giving workers a less uncertain claim to their investment income, Yugoslav policy has been rather silent. However, some Yugoslavs are beginning to realize the need for promoting investment incentives by establishing more effective claims to net income arising from investments in the firm's capital stock.

D. Dubravcić, for example, recognizes that the lack of private property rights in capital goods means that workers must stay with their firm in order to capture expected increments to future net income resulting from their investment in the firm.[163] He therefore proposes the following method of giving workers less uncertain claims to investment income:

> Procedures could be set up to "transfer" certain claims of older workers to pension funds, and even a system of bond issues to members of the co-operative could be envisioned.[164]

According to Dubravcić, such a scheme would undermine socialist ideology of payment according to labor.[165] Hence, the plausibility of such a scheme being adopted is slight.

Aleksander Bajt also recognizes the need for some sort of capital market. His proposal is that since Yugoslav workers act as if they own the means of production they should be given *legal* property rights to their firms' assets. He believes such a transfer of legal title from the state to worker-managed enterprises would allow a freer flow of nonhuman resources, improve entrepreneurial decision making, and enhance economic efficiency. Bajt, however, would not allow workers to have any effective claims to present values. The state would retain effective property rights in capital, by which Bajt means "the undifferentiated income invested in all previous periods in order to increase the productive capacities of the economy". To assure that capital income flows into the state budget and is not appropriated by enterprises, Bajt would have the state place an "adequate" interest charge on capital. Hence, in his scheme, workers would be rewarded only for their labor input plus entrepreneurship, but not for changes in capital value which belong to the state. According to Bajt, this distribution scheme would be consistent with the socialist principle "to everybody according to his work".[166]

There are many difficulties with Bajt's proposal. The main problem, however, is his assumption that giving enterprises legal (but not effective) property rights in their assets will lead to a more efficient allocation of nonhuman capital. We have already seen that without effective appropriability entrepreneurs will not be strongly motivated to efficiently utilize their unique knowledge. This means the competitive search process will be thwarted, true capital markets will not emerge, and interest rates will not reflect the scarcity value of capital. Under Bajt's quasi-ownership scheme, therefore, it is doubtful if nonhuman capital resources could or would be placed in their highest valued uses.

Integration. The integration of capital-poor firms could reduce interfirm differences in capital-per-worker, if jobs were eliminated in the process. Integration would then tend to reduce interfirm differentials in net income-per-worker, and thereby reduce interfirm differentials in personal income-per-worker. Yugoslav economists appear to accept the merger route as a justifiable means of reducing personal income-per-worker differentials among firms.[167] In fact, M. Dautović points out that one of the goals of the 1965 reform was to foster integration, and "to favor enterprises which combine into various forms of association".[168] In his study of economic integration, Dautović found that between 1958 and 1966, the number of medium-sized enterprises employing 125 workers or less decreased substantially, while the number of larger-sized firms increased.[169] He also found that most enterprises that integrated in 1965 and 1966 were in the same branch or group.[170] Dautović's findings suggest that smaller firms were integrating with each other (hence the reduction in the number of medium-size firms) to strengthen their position in the market *vis-à-vis* the richer firms.

We might mention that on January 26, 1967, the Federal Assembly's Economic Chamber adopted the "Recommendation on the Further Development of Economic Integration and Business Cooperation". This measure recommended that Yugoslavia:

> Build into the existing system adequate solutions which would permit a freer movement of accumulated capital, a freer capital market and the elimination of statist methods of concentration of investment capital.[171]

It appears that some Yugoslav officials are beginning to recognize the need for greater capital mobility but are prevented from introducing private ownership, which is the prerequisite for a true capital market, by their ideological commitments.

Reintroducing controls on personal income formation, and increasing taxes on enterprise income and capital. In the final analysis, of course, Yugoslav officials can always resort to personal income controls, and/or higher taxes on enterprises' income and on the value of their capital assets. This measure would certainly dampen the increase in interfirm personal income-per-worker differentials. However, the price would be a revision towards a centrally controlled economy. Nevertheless, given the constraints on the introduction of a private capital market, the Yugoslavs may have little choice in the matter. In fact, since the end of 1967, various controls have been reintroduced along with a tax on the income of specific enterprises.

E. Berković points out that: (1) At the end of 1967 controls were imposed on increases in personal incomes of those persons earning relatively high incomes in the following areas: "banks, power production and distribution, foreign trade, commercial agencies, social security offices and business associations". (2) A tax was placed on the income of enterprises in banking and foreign trade in order to prevent workers in these areas from earning excessive personal incomes due to privileged conditions. (3) Finally in 1968, the "Law Governing the Determination and Distribution of Income to Enterprises" was enacted. This law provided for "social consultation and agreements" among business associations, trade unions, and political organs in order to jointly settle questions relating to the formation of personal incomes.[172] The law aims at making personal income differentials depend more closely on "the results of work", and

> . . . provides for the possibility of imposing progressive taxation on that amount of revenue allocated to personal incomes which exceeds the level of personal incomes fixed by agreement or law.[173]

None of these measures has been very successful in dealing with the problem of widening income-per-worker differentials. In fact, if the hypotheses of this study are correct, Yugoslav officials are headed in the wrong direction as evidenced by their abolishment of the capital tax in 1971. Such a move will probably exacerbate rather than mitigate their problems.

IV. CONCLUSION

The theme of our paper has been that markets without private property rights are an illusion. In Yugoslavia, the absence of private property rights in nonhuman capital not only prevents true capital markets from emerging, it also hampers the efficient operation of labor markets. This occurs because without saleable rights to present values, workers must remain employed with their firm if they want to capture the expected increments in future net income.

The 1961 and 1965 economic reforms sought to decentralize investment decision making and enlarge workers effective claims to net income. It was hoped that this would generate a more efficient market economy and, in particular, provide for a more efficient allocation of investment funds. The difficulty, however, is that although Yugoslav leaders want the results of freedom, their socialist doctrines prevent them from introducing the prerequisite of freedom, namely, private property rights. Moreover, as a socialist state, they find it difficult to abandon deliberate planning of investment.

The Yugoslav reforms are bound to fail in their attempts at decentralization; because spontaneous market order can only be generated via a competitive process, which requires private property rights, i.e. effective appropriability. Moreover, without private property rights in nonhuman capital, both the freedom of investors and entrepreneurs, as well as the freedom of workers will be attenuated.

In fact, our empirical results, while they must be interpreted carefully, tend to support these conclusions. We found that the reforms increased the spread in personal income-per-worker between capital-rich and capital-poor firms. Finally, we attributed this to an institutional arrangement which encourages workers in capital-rich firms to have relatively longer desired lengths of employment and reinvest relatively more than workers in capital-poor firms.

NOTES

1. We judge resource misallocation solely in terms of whether resources flow to those uses valued most highly by individual consumers. Our criterion therefore rests on individual freedom. Accordingly, any impairment of individual freedom to buy and sell factors prevents the spontaneous market order from emerging and reduces the value of output to consumers.
2. "Capital-rich" firms (industries) are those having higher than average capital-per-worker ratios relative to the industry (industry-wide) average, and conversely for "capital-poor" firms (industries).
3. For an excellent discussion of the institutional features of private enterprise, see Henry N. Sanborn, *What, How, For Whom: the Decisions of Economic Organization* (Baltimore: Cotter-Barnard Co., 1972), chap. 10. On "property rights", see pp. 247–248.
4. Roland N. McKean discusses these ideas at length in his "Property Rights Within Government, And Devices to Increase Governmental Efficiency", *The Southern Economic Journal* Vol. 39, no. 2 (October, 1972), pp. 177 – 186.
5. Armen Alchian has discussed these aspects of private enterprise in detail. See, e.g., *Some Economics of Property*, RAND Corporation, p-2316 (Santa Monica: The Rand Corporation, 1961), especially chap. 3; "Prices, Markets, Incentives", paper presented at CESES IV Seminario Internazionale, Rapallo, Italy, September 1967; and *Pricing and Society*, Occasional Paper No. 17 (Westminster: The Institute of Economic Affairs, September, 1967), especially pp. 11–16.
6. See Alchian, *Pricing and Society*, pp. 12–13.
7. The "rule of law" states that laws should be in the nature of universal rules of just conduct equally applicable to all. For an excellent discussion of the importance of the rule of law in a free society, see Friedrich A. Hayek, *The Constitution of Liberty* (Chicago: Henry Regnery Co., 1960), chaps. 10 and 14.
8. Ludwig von Mises, "Economic Calculation In Socialism", in *Comparative Economic Systems: Models and Cases*, 3rd ed., ed. Morris Bornstein (Homewood, Ill.: Richard D. Irwin, Inc., 1974), pp. 120–126. Reprinted from *Socialism: An Economic and Sociological Analysis*, translated from the German by Jacques Kahane (London: Jonathan Cape Limited, 1936, 2nd ed.: New Haven, Conn.: Yale University Press, 1951), pp. 119–122, 137–142. This volume is an expanded translation of *Die Gemeinwirtschaft*, originally published in 1922.

   Mises's original article, "Die Wirtschaftsrechnung in sozialistischen Gemeinwesen", which touched off the so-called "socialist calculation debate", appeared in *Archiv für Sozialwissenschaften und Sozialpolitik*, Vol. XLVII, No. 1 (April 1920). A translation of this, together with several other important articles from the debate, appears in *Collectivist Economic Planning*, ed. F. A. Hayek (London: George Routledge & Sons, 1935).
9. The following line-of-argument is based on Mises's "Economic Calculation In Socialism", in Bornstein, pp. 120–126.
10. Mises, "Economic Calculation", in Bornstein, p.125.
11. See Friedrich A. Hayek, "Socialist Calculation: The Competitive 'Solution'", in Bornstein, pp. 140–159. Reprinted from *Economica*, New Series, Vol. 7, no. 26 (May, 1940), pp. 125–149. Also see Hayek's "The Use of Knowledge in Society", in *Individualism and Economic Order* (*I&EO*) (Chicago: Henry Regnery Co., 1972), chap. 4.
12. Hayek, "Socialist Calculation II: The State of the Debate (1935)", in *Collectivist Economic Planning*, p. 176.
13. See Hayek, "The Use of Knowledge", in *I&EO*, pp. 83–86. Also see, Sanborn, *What, How, For Whom*, pp. 227–235 and p. 257 for an excellent discussion of entrepreneurial knowledge of alternatives.
14. Hayek, "The Use of Knowledge in Society", in *I&EO*, p. 86. According to Hayek, the price and profit system is a mechanism for conveying information about changes in demand and supply conditions. The value of this system is that it gets individuals to conserve resources for higher valued uses, even if they are unaware of the reasons for the initial price change. Hayek, "The Use of Knowledge", pp. 86–87.

   Let us apply Hayek's ideas to investment behavior. Suppose there is a shift in relative demands so that consumers want more X and less Y. In the loanable funds market there will now be a planned excess demand for investment funds for use in the X industry. Entrepreneurial alertness will then lead to a bidding up of the interest rate on funds for use in X (relative to Y). Consequently, a new short-run equilibrium will emerge in which the return on investment in X will exceed the return in Y. This differential return will then signal and induce investors to transfer monies from Y to X. Over the long-run, as more investors perceive the changed conditions, even more funds will be redirected from Y to X until the differential return vanishes. Consequently, even though the capital stock remains constant, its value to consumers increases, since resources flow to higher valued uses.

For the above sequence to occur, it is only necessary that a few entrepreneurs perceive the relative demand change, and that they be free and motivated to act on their knowledge. A price differential will then emerge which will induce capitalists to shift funds from Y to X. At the end of the process, the great majority of individuals participating in the reallocation will not know the original cause of the price differential.

This process, of course, is simply an illustration of the so-called "second fundamental law of demand". That is, "in the long run, more resources, human and nonhuman, and more customers will shift in response to a given difference in wages, investment returns, or product prices and qualities than in the short run". Sanborn, *What, How, For Whom,* p. 226. Also see Armen Alchian and William R. Allen, *Exchange and Production: Competition, Coordination, and Control* (Belmont, Calif.: Wadsworth Publishing Co., 1977), pp. 62–64 and p. 373.

15. This idea, of course, is one of Hayek's great insights and is best expressed by his statement that: "The mere fact that there is one price for any commodity . . . brings about the solution which (it is just conceptually possible) might have been arrived at by one single mind possessing all the information which is in fact dispersed among all the people involved in the process". Hayek, "The Use of Knowledge", in *I&EO*, p. 86. For an application of this idea to entrepreneurial investment decision-making, see Sanborn, p. 257.
16. For Hayek's definition of the economic problem of society, see "The Use of Knowledge", in *I&EO*, pp. 77–78 and pp. 83–84.
17. Hayek, "Socialist Calculation II", pp. 172–180. Also see Hayek, "Socialist Calculation: The Competitive 'Solution'", in Bornstein, pp. 154–156.

    G. Warren Nutter's criticism of market socialism closely resembles Hayek's. In particular, Nutter observes that: "Markets without divisible and transferable property rights are a sheer illusion. There can be no competitive behavior, real or simulated, without dispersed power and responsibility". Nutter, "Markets Without Property: A Grand Illusion", in *Money, the Market and the State,* ed. Nicholas Beadles and Aubrey Drewry (Athens: University of Georgia Press, 1968), p. 144.
18. See Deborah D. Milenkovitch, *Plan and Market in Yugoslav Economic Thought* (New Haven: Yale University Press, 1971), pp. 101–102, n. 34. For a description of Lange's model of market socialism, see Oskar Lange, "On The Economic Theory of Socialism", in Bornstein, pp. 127–135. Originally published in *Review of Economic Studies,* Vol. 4, no. 1 (October, 1936), pp. 60–66.
19. For a detailed listing of the constraints on Yugoslav enterprise behavior during the so-called "administrative period" (1947–1952), see the "Basic Law on State Economic Undertakings", *Sluzbeni List FNRJ (S.L.)*, No. 62/1946. Also see Drago Gorupić and Ivan Paj, *Workers' Self-Management in Yugoslav Undertakings* (Zagreb: Ekonomski Institut Zagreb, 1970), pp. 35–44.
20. See Milenkovitch, *Plan and Market,* pp. 62–68 and pp. 77–80. It is interesting to note that Kardelj was advocating, on the basis of Marxist-Leninist principles, the adoption of workers' councils as early as July 1949. Milenkovitch, pp. 65–66.
21. See Milenkovitch, p. 77. For Kidric's original contribution, see "Teze o ekonomici prelaznog perioda u nasoj zemlji", *Komunist,* Vol. 4, no. 6 (November, 1950), pp. 1–20.
22. Although Kidric advocated market socialism during the transition to communism, he believed that ultimately markets would have to be abolished. Moreover, he made specific proposals for state intervention during the transition period. In brief, he proposed the following constraints on enterprise autonomy. (1) Enterprises should be required to achieve a minimum utilization of capacity, consistent with the planned value of output. (2) The state would continue to plan the rate of capital accumulation and allocate investment funds; and (3) enterprises should be subject to planned prices and tax rates based on the federally determined "rate of accumulation and funds". This was the ratio of planned investment plus social welfare expenditures to the planned wages fund. Milenkovitch, pp. 80–89.
23. Milenkovitch, pp. 77–79.
24. *Ibid.*, p. 78.
25. "The Basic Law on the Management of State Economic Enterprises and Higher Economic Associations by Work Collectives", *S.L.,* no. 43, 26 June, 1950.
26. *Ibid.*, No. 58, 29 December, 1951.
27. See Milenkovitch, p. 82 and p. 68.
28. *S.L.*, No. 52, 1953.
29. Svetozar Pejovich, "Liberman's Reforms And Property Rights In the Soviet Union", *Journal of Law and Economics,* vol. 12 (April, 1969), pp. 158–162.
30. "Net income" is the difference between the firm's total revenue and its non-labor costs of production. Under the net income system workers receive a personal income that depends on net income, rather than a fixed wage rate.
31. See, for example, Dusan Bilandzić, *Management of Yugoslav Economy (1945–1966)* (Beograd: Yugoslav Trade Unions, 1967); Joel B. Dirlam and James L. Plummer, *An Introduction to the Yugoslav Economy* (Columbus, Ohio: Charles E. Merrill Publishing Company, 1973); Gorupić and Paj, *Workers' Self-Management;* and International Labour Office, *Workers Management in Yugoslavia* (Geneva: International Labour Office, 1962).
32. For a more detailed description of the organizational structure of the council, see "The Basic Law on the Management of State Economic Enterprises and Higher Economic Associations by Work Collectives", *Constitution of the Socialist Federal Republic of Yugoslavia of 7 April 1963, S.L.,* No. 14, 10 April 1963, art. 92; International Labour Office, chapters 4–5; the Gorupić-Paj study, 1970; and Howard M. Wachtel, "Workers' Management and Wage Differentials in Yugoslavia" (Ph.D. dissertation, University of Michigan, 1970), chap. 3.
33. The council is responsible for adopting annual pro-

duction and financial plans. These plans, however, are not legally binding; they merely serve as guidelines for implementing the council's policy decisions. The "Law on the Planned Management of the National Economy", *S.L.*, made enterprises autonomous in drafting their annual plans. For a detailed account of production planning in Yugoslavia, see Albert Waterston, *Planning in Yugoslavia* (Baltimore: The Johns Hopkins Press, 1962).

34. See Branko Horvat, "Yugoslav Economic Policy in the Post-War Period: Problems, Ideas, Institutional Developments", *American Economic Review*, Vol. 61, Part 2 (June, 1971), p. 111.
35. *S.L.*, No. 53, 12 December, 1957.
36. *Ibid.*, art. 345.
37. This commission is appointed by the communal council of producers and the local trade union organization. If an agreement cannot be reached, the district council of arbitration settles the matter. "Law on Labour Relations", arts. 346 and 350.
38. "The Law on Assets of Economic Organizations", *S.L.*, No. 54, 28 December, 1957. Article 15 of this law divided enterprise assets into four categories: the "fund of fixed assets", the "fund of working assets", the "reserve fund", and the "collective consumption fund". It also stipulated that the "allocation of the net income to the funds shall be implemented by the workers' council". Article 30 of the same law ruled that each fund must be used for its assigned purpose.
   In 1961, fixed and working assets were combined to form the "business fund"; often referred to as the "investment fund".
39. "Law on Assets of Economic Organizations", *S.L.*, no. 17, 16 April, 1961.
40. "Law on Labour Relations", 1957, section 5.
41. "Law on Assets of Economic Organizations", 1961.
42. See International Labour Office, pp. 126–132.
43. See International Labour Office, chap. 10. For specific examples of the distribution process in enterprises, see "Working Collectives Dispose of the Clear Income of Their Enterprises without Outside Interference", *Information Bulletin About Yugoslavia (I.B.A.Y.)* vol. 4, no. 28, January 1959, p. 4; "New Wage Scale Regulations in Enterprises", *I.B.A.Y.*, vol. 4, no. 29, February, 1959, pp. 1–2.
44. "Law on Labour Relations", 1957, arts. 186–187.
45. Rikard Stajner, *Distribution of Income in Enterprises* (Beograd: Yugoslav Trade Unions, 1961), pp. 10–11.
46. The following discussion is based largely on: "The Basic Law on the Management of State Economic Enterprises", 1950; "The Basic Law of Enterprises", *S.L.*, no. 17, 17 April, 1965, art. 49; International Labour Office, pp. 84–93; Gorupić and Paj, pp. 116–118; and Bilandzic, pp. 119–120.
47. See Bilandzić, p. 120; and International Labour Office, pp. 89–90.
48. The International Labour Office's study points out that the director's behavior was carefully monitored by the organs of workers' management as early as 1960. International Labour Office, p. 166.
49. Gorupić and Paj, p. 117, n. 27; and International Labour Office, pp. 85–108.
50. International Labour Office, p. 85.
51. The following discussion is based largely on: Husein Kratina, "The Legal Status of the Enterprise Director within the Self-Management System", *Yugoslav Survey*, vol. 9, November 1968, pp. 55–56, 60; *Yugoslav Survey*, vol. 5, April–June 1964, pp. 2478–2480; Horvat, pp. 100–101, and International Labour Office, chap. VI.
52. See Aleksander Bajt, "Income Distribution under Workers' Self-Management in Yugoslavia", in A Ross, ed., *Industrial Relations and Economic Development* (London: Macmillan and Co., 1966), p. 263.
53. International Labour Office, p. 108; and Kratina, p. 57.
54. See Kratina, p. 57.
55. For an example of the director's functions as specified by the statute of a large Zagreb firm, see Gorupić and Paj, pp. 124–125, n. 36.
56. The joint selection commission is composed of an equal number of representatives from the council and the local communal government. If the council declines the proposed candidates, the commission must hold a second competition. If the candidates are again rejected, a new commission must be appointed. In the event that the new commission's candidates are rejected, the composition of the commission must be changed so that an agreement can be reached. Kratina, p. 55 and *Yugoslav Survey*, vol. 5, April–June, 1964, p. 2479.
57. A request for the director's dismissal can be made by the council or the collective. In either case, at least one-third of the members must support the dismissal motion. The communal authorities may also propose the director's dismissal. If the commission accepts the dismissal request, and the council decides to carry out the dismissal, the director still has the right to appeal. *Yugoslav Survey*, vol. 5, April–June, 1964, p. 2480. In general, the director can be dismissed if he fails to implement the council's policy decisions and/or if he fails to promote the material success of the enterprise. "Basic Law of Enterprises", 1957, art. 57.
58. One of the difficulties faced by the Yugoslav system of self-management has been to define the rights of the director *vis-à-vis* the workers' collective. This is made more problematic by the fact that the director is considered a member of the "collective". *Ekonomska Politika*, a Yugoslav periodical, recognized the essence of this problem: ". . . we have a social system in which neither private persons nor the state are the owners of the business enterprise. This is a general social possession . . . somehow there should be devised a workable solution to the dilemma posed by the fact that the director . . . is a member of the enterprise [workers' collective], and that the enterprise [council as representative of the workers] makes the important decisions". 29 April, 1968, p. 519, in Dirlam and Plummer, p. 28.
59. V. Trickovic, "Scientific Management", *Ekonomska Misao*, no. 1, 1969, pp. 75–76, in Dirlam and Plummer, p. 28.
60. *Borba*, 7 January 1970, p. 4, in Dirlam and Plummer, p. 28.
61. For a detailed discussion of the property rights issue in Yugoslavia, see Milenkovitch, pp. 92–98, and chap. 10.
62. "Decree on the Management of Fixed Assets of Economic Organizations", *S.L.*, no. 52, 1953.
63. "Social property" refers to all the assets of an enterprise regardless of their origin. Yugoslav law, how-

ever, makes a distinction between the enterprise's "own assets" and those acquired on the basis of credit. The former are obtained from allocations out of net income and from State grants — these monies become part of the enterprise's funds, while the monies from loans do not. "Law on Assets of Economic Organizations", 1957, art. 4 and art. 7 paras. 2–3.

64. "Law on Assets", 1957, arts. 8–9. Under Yugoslav law the state retains the right to liquidate faltering enterprises. See Milenkovitch, pp. 94–98.
65. "Decree on the Management of Fixed Assets", 1953, and art. 10 of the 1957 "Law on Assets". Also see Pejovich, "The Firm, Monetary Policy and Property Rights in a Planned Economy", *Western Economic Journal*, vol. 7 (September, 1969), p. 194.
66. "Book value" refers to the original cost of the assets. Yugoslavia periodically revalues fixed assets to adjust for inflated replacement costs.
67. It is important to note that the so-called "right to sell" social assets is a peculiarly limited one because of the restrictions on the use of money received. See Steven Kukoleca, "Problems of Business Policy in a Yugoslav Enterprise", *Florida Slavic Papers*, vol. 2 (1968), p. 24.
68. See Pejovich, "The Firm, Monetary Policy and Property Rights", p. 194.
69. To illustrate, suppose relative demands change due to a change in consumer preferences, so that capital should move from A to B. If the value of the non-human productive capacity in A is prevented from decreasing by law, then monies flowing into that industry will be tied to replacement costs, and cannot be shifted to the higher valued use in B. Nonhuman resources will, in effect, be prevented from shifting to B, where consumers want them.

    Note, workers in A could transfer ("sell") capital to B, but any profit from doing so must be reinvested in A. Therefore, workers in A would have little incentive to search for higher valued uses of capital, and there would still be too much invested in A relative to what consumers prefer.

    Alternatively, the government could direct investment to those industries which are profitable, as determined by consumer dollar votes — but who is to capture the profits? If government officials cannot capture present values, why should they have much of an incentive to satisfy consumer preferences?

    Finally, one other possible way of circumventing the restriction on the right of use is for conglomerates to develop. They could maintain the total book value of their assets, while channeling depreciation funds into what appear to be the most profitable investments. Once again, however, the absence of capturable present values will impede the efficient flow of nonhuman capital resources. And, if consumer demands turn completely from the conglomerates' products, the same problems we referred to above reappear.
70. See Horvat, "Yugoslav Economic Policy", p. 105. With respect to the entry of new firms, it should be mentioned that citizen groups can establish a new firm. Once established, however, it must be handed over to the workers who elect the management organs. Furthermore, the original founders lose all claims to their investment once workers pay off their obligations. Horvat, p. 104. For a detailed account of the conditions of entry in Yugoslavia, see Stephen Sacks, *Entry of New Competitors in Yugoslav Market Socialism* (Berkeley: Institute of International Studies, 1973).
71. "Decree on the Distribution of Total Revenue of Economic Organizations", *S.L.*, no. 16, 17 April, 1957, sections II–III. Gorupić and Paj point out that the net income system did not become legally binding until 1961. *Workers Self-Management*, p. 162.

    Recall that net income (*cist prihod*) is the difference between total revenue and total non-labour costs.
72. Under the "profit system", wages consisted of two components: (1) a tax-free (guaranteed) fixed component — the "accounting wage" — that was paid out monthly in accordance with the enterprise pay scale; and (2) a taxable, variable component — the "variable wage" — that was paid out one or more times a year depending on the enterprise's profit. (Profit — *dobit* — was defined as the difference between total revenue and total costs *including fixed wages.*) Both components were tightly controlled by the State: average monthly accounting wages were set for each skill category, and the share of profit*f* that could be earmarked for increasing accounting wages was fixed in advance. Consequently, workers' councils had virtually no control over distribution policy, and workers' income depended mainly on their fixed wages. Gorupić and Paj, pp. 142–148.

    The council did have the right to establish basic pay rates for individual jobs in its pay scale. However, the pay scale had to be approved by the communal authorities and the trade union officials. Gorupić and Paj, p. 146.
73. See Eirik G. Furubotn and Svetozar Pejovich, "Property Rights and the Behavior of the Firm in a Socialist State: The Example of Yugoslavia", *Zeitschrift für Nationalökonomie*, vol. 30 (December, 1970), p. 433.
74. For a more extensive treatment of the reforms, see the present author's doctoral dissertation, "Implications Of Property Rights For Yugoslav Firm Behavior: An Empirical Investigation, 1957–1968" (University of Virginia, 1976), chap. 3.
75. Kreso Dzeba and Milan Beslać, *Privredna Reforma — Sto i Zasto se Mijenja* (Zagreb, 1965), p. 104.
76. In some instances this tax was a specific amount rather than *ad valorem*, and was over 25%. See Dirlam and Plummer, pp. 189–190.
77. The minimum personal incomes fund was established by Federal law in 1959; it was to be "80 percent of the workers' wages as per the pay scale". "Working Collectives dispose of Income without Interference", p. 4. For a schedule of enterprise income tax rates see Svetozar Pejovich, *The Market-Planned Economy of Yugoslavia* (Minneapolis: University of Minnesota Press, 1966), p. 97, Table 15. Note that after 3 December 1957, the amount by which enterprise income was allowed to exceed minimum personal incomes without being subject to tax changed from 25 to 20%.
78. The personal income tax was first introduced in December 1957 as a progressive tax, but was later replaced by a flat 11% tax rate (31 December 1958). On 25 November 1959, the rate was increased to 13%.

The local commune was entitled to at least 10% of personal income tax revenue. See "Law on Contribution to the Budgets from the Personal Incomes of Workers", *S.L.*, no. 52, 1957, art. 8; "Law on Changes and Supplements to the Law on Contributions to the Budgets from Workers' Personal Incomes", *S.L.*, no. 52, 1958, arts. 1, 6; "Law on Changes in the Law on the Contribution to Budgets from Workers' Personal Incomes", *S.L.*, no. 47, 1959, art. 4; International Labour Office, p. 219; and "Working Collectives Dispose of the Clear Income of Their Enterprises Without Outside Interference", *I.B.A.Y.*, vol. 4 (January, 1959), p. 4.

79. On the 1957–61 tax structure see the following sources: "Decree on the Distribution of the Total Revenue of Economic Organizations of 1957", chap. 3; "Law on Labour Relations of 1957", art. 126; "Law on Assets of Economic Organizations of 1957"; "Law on Contribution to the Budgets from the Personal Incomes of Workers", *S.L.* no. 52, 1957; "Working Collectives Dispose of the Clear Income of Their Enterprises Without Outside Interference", *I.B.A.Y.*, p. 4; International Labour Office, Chapter X; United Nations, Economic Commission for Europe, "Economic Planning and Management in Yugoslavia", *Economic Bulletin for Europe*, vol. 10 (Geneva, 1958), pp. 43–62; Marijan Hanzeković, *Privredni Sistem Jugoslavije* (Zagreb: Narodne Novine, 1968), pp. 191–192, and Gorupić and Paj, pp. 148–153.
80. "Law on Contribution from the Income of Economic Organizations", *S.L.*, no. 8, 2 March, 1961.
81. Džeba and Beslać, p. 104.
82. The following taxes were levied on allocations to gross personal incomes. (a) A social security tax consisting of a basic rate of 22% and a supplemental rate of 2%; (b) a personal income tax of 15%; (c) a housing tax of 4%; and (d) a transportation tax of 1%. A. Polajner, *The Enterprise and National Income Distrbution* (Beograd: Yugoslav Trade Unions, 1963), pp. 45–47.

   Since all these taxes are paid directly by the enterprise out of its gross personal incomes fund, they have the effect of arbitrarily increasing the cost of labor, and will therefore affect the council's trade-off between human and non-human inputs.
83. "Law on the Contribution to the Budgets from Workers' Personal Incomes", *S.L.*, no. 17, 3 May, 1961, art. 13, paras. 1, 7. Enterprises, however, could be fully or partially exempted from this tax by the communal authorities.
84. "Law on the Contribution to the Social Investment Funds", *S.L.*, no. 8, 2 March, 1961. The revenue from this tax was divided equally between the communal and republic investment funds. In 1962 the tax rate was increased to 30% and the republic's share increased to 20%. Polajner, p. 48. This tax was abolished 1 January 1964 by the "Law on the Cessation of the Importance of the Law on the Contribution to the Social Investment Funds". *S.L.*, no. 31, 22 July, 1964, art. 1. The social investment funds were then transferred to the credit funds of banks. Horvat, p. 140.
85. "Law on the Formation of Total Revenue and Income of Economic Organizations", *S.L.*, no. 35, 28 July, 1965.
86. "Basic Law on the Turnover Tax", *S.L.*, no. 14, 1965; "Law on Interest Rates on the Funds in the Economy", *S.L.*, no. 35, 1965, art. 1. In 1965 the system of differential turnover taxes was abolished; in its place was substituted a single-tier sales tax applied to retail trade at a rate of 20%. Ljubomir Madzar, "Functional Income Distribution in Yugoslavia", paper read at CESES Seminar, Venice, Italy, 1973, p. 31.

   The tax rate on the book value of the business fund was lowered to 3.5% in 1966; it became applicable in 1967. *Zbirka Saveznih Propisa (Collection of Federal Regulations)*, no. 79, 1969, p. 399. The effective rate, however, has always been below the legal rate. Bajt, for example, estimated that in 1963 the average capital tax rate was 2.5%, while the legal rate was 6%. Moreover, according to Horvat the effective capital tax rate in 1966 was 1.3%. Finally, Dirlam and Plummer point out that the capital tax was abolished in 1971. Bajt, "Income Distribution under Workers' Self-Management in Yugoslavia", p. 254, n. 7; Horvat, p. 139; and Dirlam and Plummer, p. 193.
87. Furubotn and Pejovich, "The Formation and Distribution of Net Product and the Behavior of the Yugoslav Firm", *Jahrbuch der Wirtschaft Osteuropas*, vol. 3 (1972), p. 275, Table II.
88. Bilandzić, p. 116.
89. Cf. Furubotn and Pejovich, "Tax Policy and Investment Decisions of the Yugoslav Firm", p. 336. In their article, Furubotn and Pejovich do not distinguish among the business fund, the collective consumption fund, and the reserve fund; they simply refer to the "Internal Funds". This is somewhat misleading since their 8% estimated tax on allocations to Internal Funds actually applied only to allocations to the collective consumption fund. See Bilandzić, p. 102.
90. "Law on Labour Relations", 1957, arts. 126, 184.
91. The highest organ of government in the commune is the People's Committee. This committee is composed of two chambers: (1) The People's Chamber, elected by the direct vote of all citizens, and (2) The Producers' Council, elected by local enterprises. See International Labour Office, pp. 20–27.
92. "Workers' Management", *Yugoslav Survey*, vol. 1, no. 1, April, 1960, p. 19.
93. International Labour Office, p. 239; and Kiro Gligrov, "The Communal Economy", *International Social Science Journal*, vol. 13, no. 3, 1961, p. 413.
94. "Law on Labour Relations", 1957, arts. 358–359.
95. *Ibid.*, art. 360.
96. *Ibid.*, art. 192.
97. "Preparation of Pay Scales in the 'Novkabel, Factory", *I.B.A.Y.*, vol. 4, March, 1959, p. 4.
98. "New Instruments of Internal Distribution of Enterprises' Income", *I.B.A.Y.*, vol. 4, January, 1959, p. 3.
99. *Ibid.*
100. Stajner, p. 11.
101. International Labour Office, p. 218.
102. "Law on Assets", 1957, art. 14; and International Labour Office, pp. 234–235.
103. International Labour Office, pp. 281–285.
104. United Nations, "Economic Planning in Yugoslavia", p. 51.
105. See George W. Hoffman and Fred W. Neal, *Yugos-*

lavia and the New Communism (New York: Twentieth Century Fund, 1969), pp. 244–245; and Milenkovitch, p. 115.

106. The purpose of social control, according to Stajner, is to make workers more conscious of their obligation to the community. In particular, workers should be aware that investments in their firms' capital stock will be socially as well as personally beneficial. Stajner, p. 11. Of course, the lack of private ownership is sure to weaken individual investment incentives; hence, the need for social controls.
107. Bilandzić, p. 89.
108. A. Bajt, "Economic Reform in Yugoslavia: The Role of the Consumer", paper presented at the International Summer Seminar on Economic Reforms in Eastern Europe: The Role of the Consumer, Venice, Italy, 1971, p. 4.
109. Madzar, "Functional Income Distribution in Yugoslavia", p. 27.
110. Horvat, p. 115.
111. *S.L.*, no. 8, 2 March, 1961.
112. *S.L.*, no. 8, 1961.
113. The refined texts being in *S.L.*, no. 17, 3 May, 1961.
114. Articles 13 and 18.
115. It should be noted that the 1961 "Law on Labour Relations" made the workers' council responsible for adopting, separately, *"Pravilnik o Raspodeli Licnih Dohodaka"* ("Rules on the Distribution of Personal Incomes"). In these Rules the council had "to establish in advance the bases and criteria for determining workers' share in the distribution of monies for personal incomes". Article 187.
116. Mika Spiljak has noted that under the net income system of distribution, a worker's remuneration is based not only on his individual productivity, but also on the success of his work unit and the enterprise as a whole. Mika Spiljak, *The Distribution of the Income of Enterprises and the System of Remuneration in Yugoslavia* (Beograd: Publisticko-Izdavacki Zavod Jugoslavija, 1961), pp. 29–30. This remuneration system, of course, introduces the free-rider problem along with imputation difficulties. Workers know that their incomes depend not only on their own (and their co-workers') efficiency, but also on a whole host of other factors. Work incentives may therefore be impaired relative to situations in which these difficulties are less intense.
117. The 1962 Report of the Federal Executive Council stated that in 1961 enterprises would no longer be required to have their "criteria and scales for the determination of workers' personal incomes approved by the competent people's committee". "Socio-Economic Relations and Self-Government in 1962", *Yugoslav Survey*, vol. 4, April-June, 1963, p. 1825.
118. Spiljak, pp. 21, 44–45.
119. See Bilandzić, pp. 95–96, 126; Horvat, pp. 112, 115; Bajt, "Economic Reforms in Yugoslavia: The Role of the Consumer", p. 5; A. Polajner, p. 32; and Hoffman and Neal, p. 257.
120. *S.L.*, no. 16, 18 April, 1962.
121. Horvat, p. 83.
122. "Law on the Formation of Commissions for the Implementation of Regulations on the Distribution of Net Incomes of Economic Organizations and Institutions", *S.L.*, no. 15, 11 April, 1962.
123. *S.L.*, no. 16, 18 April, 1962.
124. *Ibid.*, art. 2.
125. See Dorn, *Diss.*, pp. 50–51.
126. Another incentive for employing labor intensive methods of production before 1965 was provided by the favorable tax treatment of allocations to personal incomes *vis-à-vis* the funds. See Furubotn and Pejovich, "Tax Policy", pp. 340–341.
127. "Instruction on the Implementation of the Principles for the Distribution of Net Income", 1962, arts. 18–24. Also see Bajt, "Income Distribution under Workers' Self-Management in Yugoslavia", pp. 258–259.
128. *S.L.*, no. 19, 15 May, 1963.
129. *Ibid.*
130. *S.L.*, no. 27, 10 July, 1963. For a detailed description of the uniform indicators, see Hanzeković, p. 194, and Teodor Tomić, *Unutrasnja Raspodela u Privrednim Organizacijama* (Zagreb: Informator, 1965), pp. 27–43.
131. Bajt, "Income Distribution under Workers' Self-Management in Yugoslavia", p. 258, and "Decision-Making in the Field of Income Distribution", p. 11.
132. Madzar, p. 11.
133. *Ibid.*, pp. 8–9.
134. "Law on the Abolition of the Validity of the Law on the Formation of Commissions for the Implementation of the Regulations on the Distribution of Net Income of Economic Organizations and Institutions", *S.L.*, no. 15, 5 April, 1965.
135. For example, on July 24, 1965, the Federal Assembly adopted the "Recommendation on the Distribution of Income and of Personal Incomes in Working Organizations". *S.L.*, no. 35, 28 July, 1965. This Recommendation was not legally binding; it simply recommended that enterprises determine their "Rules on the Distribution of Income" and "Rules on the Distribution of Personal Incomes" in accordance with the socialist principle of distribution "according to work", meaning that personal incomes should increase only if labor productivity increases.
136. Hanzeković, p. 195.
137. For example, see Furubotn, "Towards A Dynamic Model of the Yugoslav Firm", *Canadian Journal of Economics,* vol. 4 (May, 1971), p. 183.
138. This section summarizes some of the implications from chap. 3 of my dissertation. The reader is referred to that chapter for a rigorous derivation and formal testing of the implications which we shall present here.
139. See above n. 2 for a definition of capital-rich and capital-poor firms and industries.
140. The following discussion (pp. 27–28) draws heavily on the work of Furubotn and Pejovich. Of special importance are: S. Pejovich, "The Firm, Monetary Policy and Property Rights in A Planned Economy", pp. 193–199; Furubotn and Pejovich, "Property Rights and the Behavior of the Firm in A Socialist State", pp. 443–454; Furubotn and Pejovich, "Tax Policy", pp. 335–348; and E. Furubotn, "A Dynamic Model of the Yugoslav Firm", pp. 182–197.
141. For simplicity we represent private investment by saving deposits in state banks. Yugoslav citizens may also own land, apartments, and small businesses, which may earn higher rates of return than paid on savings accounts. Such investments, however, are carefully monitored by the State.

142. For any given t and i, r^* can be calculated from: $r^* = i\,(1 + i)^t/[(1 + i)^t - 1\}$, which gives the annuity whose present value is 1. As Pejovich points out, the workers can be thought of as buying an annuity when they invest in their firm. And since their annuity from depositing one dollar in a savings account is $a_{\bar{n}}^{-1} = i\,(1 +)^n/[1 + i]^n - 1]$, when n = the number of periods, it follows that investment in socially owned assets must yield an equivalent return (r^*) before the council will consider investing in their firm's capital stock. See Pejovich, "The Firm, Monetary Policy and Property Rights", p. 195, n. 7.

We assume that investments in socially and privately owned assets do not differ with respect to risk and liquidity, though privately owned assets are, in fact, definitely more liquid.

143. Howard M. Wachtel, "Workers' Management and Wage Differentials in Yugoslavia", p. 45.
144. These reasons are discussed in Milenkovitch, pp. 262–265.
145. See above, n. 86.
146. However, for qualifications and alternative hypotheses, including other explanations or factors that might push firms or industries to be capital-intensive or to adopt new technologies calling for heavy investments, see Dorn, *Diss.*, pp. 143–153.
147. See Dorn, *Diss.*, pp. 116–120.
148. See Dorn, *Diss.*, p. 119 and pp. 121–122.
149. For the specific regression model used to test this hypothesis, and the empirical results, see Dorn, *Diss.*, p. 121 and pp. 123–126.
150. The "right of use" became more valuable because of the reduction in the capital tax and other taxes, and because of the removal of controls on the distribution of net income as explained above.
151. These two years were chosen by necessity: 1964 was the first year industry quit rates were available, and 1966 was the last year of the Korać data series, which gave us information on the independent variables used in the regression analysis. However, 1964 can be used to represent "limited net income" firms, and 1966 can represent "net income-seeking" firms. It is unfortunate that data was not available for the earlier years, for this would have permitted us to check pre-1961 against post-1961 behavior. The Korać data is taken from Miladin Korać, *Analiza ekonomskog polozaja privrednih grupacija na bazi zakona vrednosti, 1962–1966* (Zagreb: Ekonomski Institut — Zagreb, 1968).
152. See Dorn, *Diss.*, pp. 129–134.
153. See Dorn, *Diss.*, p. 128.
154. See Dorn, *Diss.*, pp. 137–145.
155. Interfirm and interindustry personal income-per-worker differentials are explained, in part, by differences in capital-per-worker. Thus, increasing interfirm and interindustry personal income-per-worker differentials may reflect, in part, increasing differentials in personal income-per-worker between capital-rich and capital-poor firms and industries.

It is important to note that interfirm personal income-per-worker differentials refer to the variability of the average personal income-per-worker of individual firms around the industry average, not to the variability of individual incomes around the average within an enterprise.

156. Wachtel, "Workers' Management and Interindustry Wage Differentials in Yugoslavia", *Journal of Political Economy*, vol. 80 (May/June, 1972), p. 548.
157. See Dorn, *Diss.*, p. 125, Table 4.11, and p. 126, Table 4.12.
158. Thomas A. Marschak, "Centralized versus Decentralized Resource Allocation: The Yugoslav Labora tory", *Quarterly Journal of Economics*, vol. 82 (1968), p. 580.

Marschak uses the term "rich enterprises" to mean those with higher-than-average net income-per-worker, and that have above average capital-per-worker, and conversely for "poor enterprises".

159. See Dorn, *Diss.*, pp. 135–137.
160. Madzar, p. 22.
161. Cf. Benjamin Ward, who predicted such behavior based on the assumption that workers will seek to maximize net income-per-worker, which is equivalent to maximizing personal income-per-worker with his zero investment assumption. "The Firm in Illyria: Market Syndicalism", *American Economic Review*, vol. 48 (September, 1958), pp. 566–589. Also see Evsey D. Domar, "The Soviet Collective Farm as a Producer Cooperative", *American Economic Review*, vol. 56 (September, 1966), pp. 734–757.

Our results indirectly lend support to the Wardian misallocative implications. That is, our findings suggest that Yugoslav firms seek to increase if not maximize net income-per-worker, once they can influence and capture portions of extra income. However, this should not be taken to mean that workers seek to maximize their current personal income. Rather, they seek to "maximize" personal income over their expected tenure with the firm. See Furubotn and Pejovich, "Property Rights and the Behavior of the Firm in a Socialist State;" and Furubotn, "Toward a Dynamic Model of the Yugoslav Firm".

162. Madzar, p. 25.
163. Dinko Dubravcić, "Labour as an Entrepreneurial Input: An Essay on the Theory of the Producer Cooperative Economy", *Economica*, vol. 37 (August, 1970), pp. 305–306.
164. *Ibid.*, p. 306, n. 1.
165. *Ibid.*
166. Aleksander Bajt, "Property in Capital and in the Means of Production in Socialist Economies", *Journal of Law and Economics*, vol. 11 (April, 1968), pp. 1–4. Bajt's original contribution to the 1967–1968 ownership controversy was entitled "Drustvena svojina — kolektivna i individualna", *Gledista*, 9, no. 4, (April, 1968), pp. 531–544.
167. It should be noted that free entry will not bring about a dampening of interfirm personal income-per-worker differentials as some individuals suggest. Without private capital markets, there is no reason to believe that the entry of new firms will significantly alter the differentials in net income-per-worker among capital-rich and capital-poor firms; because entry will not significantly affect the distribution of capital among firms already in the industry.

Stephen Sacks recently pointed out that ". . . during the decade 1959–1968 there was sufficient entry of new enterprises to maintain stable industrial structure, despite the occurrence of mergers and bankruptcies". In the light of our own and Wachtel's data, which show increasing interfirm and interindustry personal income-per-worker differentials over this period, one might infer that without private capital markets, free entry will not mitigate differences in net income-per-worker and personal income-per-worker among capital-rich and capital-poor firms. Stephen Sacks, *Entry of New Competitors in Yugoslav Market Socialism,* p. 3.

168. Mirko Dautović, "Economic Integration", *Yugoslav Survey,* vol. 9, May, 1968, p. 82.

169. *Ibid.,* p. 77.

170. *Ibid.,* p. 79.

171. In Dautović, p. 82.

172. Eva Berković, "Differentiation of Personal Incomes", *Yugoslav Survey,* vol. 10, February, 1969, p. 89.

173. *Ibid.*