

# LIBERTY, PROPERTY RIGHTS, AND INNOVATION IN EASTERN EUROPE

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## The Problem of Comparison

Implicit in the analysis of social systems is the proposition that socialism and capitalism are possible and sustainable institutional arrangements. Marx's prophecy about the inevitability of socialism is based on an untenable philosophy of history. Mises's concept of the impossibility of pure socialism argues for the impossibility of pure capitalism as well. Scientific analysis of comparative systems is neither about the inevitability nor about the impossibility of pure socialism (or pure capitalism). It is more useful to classify social systems as being socialist or capitalist on the basis of their *dominant* institutional arrangements. The real issue is the analysis of the comparative efficiency of alternative institutions.

I hasten to say that it is both narrow and misleading to base a comparison of social systems on the objective of technical efficiency alone. Suppose we come up with a model of technical efficiency that coincides with a benevolent rule of the scientific elite. Are we going to concede that a modern version of the Platonic state would be compatible with capitalism (Albert 1987)? The value of a system is simply not verifiable by econometric techniques and mathematical proofs. The critical factors for evaluating a social system must be the

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effects of its institutions on liberty, human creativity, and new opportunities.

The limits of neoclassical economics in explaining the economic performance of alternative institutional structures are traceable to several factors. First, neoclassical economic analysis describes the output of an economy as a function of the quantity and costs of a set of resources, given the state of technical knowledge. However, there is more to the output than the neoclassical production function. The total costs are the costs required to transform inputs into outputs (the costs of production) and the costs required to carry out exchange (the costs of transactions). The latter are both significant and not invariant with respect to the organizational structures (North and Wallis 1988). Second, neoclassical emphasis is on the effects of private property rights in resources. The choice set and constraints are assumed to be given, while the effects of alternative institutions and positive transaction costs are largely ignored. Finally, neoclassical economics has appreciated the importance of innovation. However, its view of the firm as the unit of analysis and the narrowness of its maximization paradigm have made technical innovation an external phenomenon. Once innovation is made, the given set of choices is adjusted to embrace it. That is, neoclassical analysis deals with innovation after it is introduced in the system.

The property rights literature has applied economic analysis fruitfully to many diverse problems. Viewing the firm as a set of contracts among the factors of production has not only improved our comprehension of economic processes in general, but has also improved our understanding of the generation and diffusion of innovation. One set of institutions may be superior to another set not because it happens to be technically more efficient in terms of the standard maximization paradigm, but because it encourages the flow of innovation with the expansion of the opportunity set.<sup>1</sup> A disruption of the prevailing equilibrium is seen as a trade-off between technical efficiency and the size of the opportunity set. That is, a reduction in the former may be compensated by an expansion in the latter.

The purpose of this paper is to outline a framework to explore the interplay between alternative institutions and innovation at the level of the firm. Institutions are defined here as the legal, administrative, and customary arrangements (rules) that structure repeated human interactions.

<sup>1</sup>Remarks by James M. Buchanan at the Liberty Fund Conference on Socialism, Interlaken, 1985.

Technology, broadly defined, embodies the prevailing knowledge. The innovator translates knowledge into new choices. The growth of knowledge creates new technological possibilities, while innovation translates them into new wants, attitudes, and behavioral norms. Since the rate of growth as well as direction of new knowledge is unpredictable, the rate of innovation is also unpredictable and its outcome uncertain. The issue of economic progress boils down to the problem of finding a set of institutions that will maximize the flow of innovation.<sup>2</sup> By injecting a novelty into the flow of economic life, the innovator offers the community a *new* choice. The *voluntary* acceptance or rejection of the innovation reflects its evaluation by the community.

The remainder of this paper will discuss the relationship between several different types of property rights and the flow of innovations.

### The Freedom to Innovate

In addition to being a risktaker, the innovator has no previous data to fall back on. He must be able to perceive a link between the use of knowledge and desired outcome. Because innovators do not constitute an identifiable class of people within a society, a reduction in the number of people who have the right (which is not to be confused with the ability) to innovate is likely to eliminate some potential entrepreneurs and impede the flow of innovation.

Three important factors determine the pool of people who are free to innovate: the right to choose a type of firm, the right to acquire resources, and the right to use them. An important question is how different property rights affect those three factors.

In a capitalist firm, the owners and their hired managers have the right to acquire resources and to use them to pursue any lawful activity, including innovation. The owners can choose from a variety of organizational structures, from small proprietorships to large corporations, and from cooperatives to not-for-profit firms. A private property, free-market economy places no restrictions on the freedom to innovate.

The right of ownership has been attenuated in capitalist countries, thus interfering with the owner's right to exclusive use of an asset or its transferability. However, the scope and direction of attenuation of ownership rights vary from one country to another. Codetermination laws in West Germany prescribe a very definite method for organizing production in large business firms. License requirements

<sup>2</sup>See Schumpeter (1959).

for entry into many occupations are quite common in Western Europe. The regulation of pharmaceutical products in the United States offers an example of the consequences of restrictions on the right to use one's assets. As Karl Brunner (1987, pp. 41–42) noted,

The tragically crippled and deformed babies resulting from the use of thalidomide by pregnant women influenced . . . regulatory policies. The measures implemented raised the costs of development for new products by a large factor. . . . Innovation declined by a sharp margin and the appearance of new drugs sharply contracted. . . . A policy addressed to minimize the probability of bad pharma products maximized at the same time the probability of NOT having useful drugs.

It would be difficult to argue that regulatory policies have no benefits. But they also impose some heavy social costs. Restrictions on the method of organizing production raise the cost of doing business. License requirements reduce the number of people who have the right to acquire resources. Protectionism and monopoly privileges limit one's right to use resources. In general, the attenuation of private property rights to resources restricts the freedom to innovate.

In the Soviet Union, entry into decisionmaking is through membership in the ruling elite. It is a self-perpetuating group from which one departs through death or political disgrace and joins primarily through personal connections. The leadership controls the formation of new enterprises and the allocation and use of resources. The absence of private ownership makes income and other benefits from the state (the monopoly employer) virtually indispensable for the economic survival of individuals. Clearly, the penalty-reward system in the Soviet Union creates incentives for individuals to work toward their leaders' economic and political goals. Economic activity in the Soviet Union thus conforms to the ruling group's perception about political and economic requirements for perpetuating Soviet power.

The Soviet manager (and other employees) does not have the right to acquire productive assets. He has only a limited right to choose how to use resources that have been allocated to the firm. A remarkable book by Vladimir Dudincev, *Not by Bread Alone* (1957), has not aged with the passage of time. It describes the problems of carrying out innovation in an environment in which the potential innovator does not have the right to acquire and use resources. The prevailing property rights in the Soviet Union limit quite sharply the number of people who have the right to acquire resources as well as the number of those who have the right to determine their uses. Moreover, a member of the ruling group who perceives an opportunity for

a technological innovation must sell the idea first to his colleagues, and then to his superiors.

In Yugoslavia, all people have the right to own business firms in agriculture, retail trade, construction, transportation, catering, and handicrafts. Manufacturing is not included in the list. Restrictions on the size and type of capital assets, the number of workers in a private firm (the maximum is 10), and the lack of bank credit for privately owned enterprises reduce the importance of the private sector in Yugoslavia. In 1985, the percentage of output produced by the private sector was 72 percent in agriculture, 51 percent in handicrafts, 14 percent in construction, 12 percent in catering, 6 percent in transportation, and less than a fraction of 1 percent in retail trade.

Given the prevailing property rights in Yugoslavia, the pool of those who have the right to acquire and use resources in state-owned firms is restricted to the *working collective*. The term working collective is important here. Individual employees can neither acquire productive assets nor determine their uses. Only the working collective as a whole can do so, through its Workers' Council (WC). An employee who perceives an opportunity to innovate must sell his idea to the firm's WC, a group of people who, typically, have diverse attitudes toward risk, limited business experience, inadequate understanding of production techniques and market processes, and different time horizons. This process impedes the flow of innovation. Jaroslav Vanek (1970) and Branko Horvat (1964), among other scholars, have confused participatory democracy within the firm with decisionmaking. The right of all workers to participate in running the firm rules out the right of any individual in the firm to make key decisions. To paraphrase Buchanan, they are all slaves without masters (Buchanan 1987, p. 9).

Until Yugoslavia's adoption of the Constitution of 1974, the firm's director was perhaps the only person who could acquire and use resources to implement new ideas. He had to seek Workers' Council approval for all major, especially nonroutine, investment decisions. However, the director was the only person in the firm capable of formulating investment alternatives and explaining their consequences. Predictably, the managers quickly turned into true captains of the economy, becoming influential and rich. The Party bureaucracy therefore developed a case against the managers, making it one of "technocrats versus the people." The Constitution of 1974 led to organizational and regulatory activities that curbed the influence of market forces through an ingenious method of giving business firms more participatory rights and fewer decisionmaking powers. As a result, the number of people in Yugoslavia who have the right to

acquire resources and determine their uses has been substantially reduced (Pejovich 1984).

## The Reality of Trade-Offs

The firm's opportunity set defines trade-offs by identifying the associated costs of all choices. In addition to standard goods and services, the choice set includes all of the firm's other dimensions that have value. The firm's owner or manager can move along the production frontier, trading one bundle of goods for another bundle of goods. The choice set has two important characteristics: The risk associated with each alternative in the set is known, and all outcomes have precedents.

The immediate effect of a technological innovation is to expand the firm's choice set, to introduce a novelty into the system that has not been experienced before. The resulting uncertainty about the response of economic agents means that innovation has unintended consequences and an unpredictable outcome. The final effect of innovation on both the position and the slope of the new choice set is then uncertain.

An important trade-off then is between innovation and "routine" activities in the choice set. The flow of innovation depends critically on the innovator's right to appropriate the benefits. What are the effects of alternative property rights on the appropriability of benefits?

A successful innovation yields benefits in excess of what the bundle of resources used by the innovator was earning before. Positive gains are created within the system through the emergence of new exchange opportunities and institutional forms that enough people seem to exploit. In a capitalist economy the innovator can appropriate the expected future benefits from his investment in either one lump sum or as a stream of payments. The manager of a firm captures the benefits of innovation in the market for managers, where his current performance determines his future income. The capitalization of the future benefits of a successful innovation into their present market value is *specific and unique* to the right of ownership.

A successful technological innovation provides the innovator with a temporary monopoly position, primarily by creating a gap between average and best technology. The technology gap is an intrafirm, as well as an interfirm, phenomenon. A former chairman of the board of Texas Instruments wrote: "Texas Instruments' most successful research and development efforts are at least ten times better than the company average research and development" (Haggerty 1979, p. 13). In fact, if all firms were able to quickly adapt to new technol-

ogy, incentives to develop new products and processes would be seriously impaired. The gap between average and best practice endures because it is often costly for firms to learn and evaluate new technology (e.g., the aircraft industry). Some firms make wrong bets about best practice (e.g., Montgomery Ward after World War II). Frequently, the method of organizing production might either slow down or accelerate the firm's rate of adoption of new technology (e.g., American Airlines in the 1980s). In general, imitation of a successful innovation requires expenditures of both resources and time. Thus, the expected length of the imitation lag affects the entrepreneur's choice between routine investments and innovation (Nelson 1981, pp. 1044–45).

The threat of a hostile takeover has a clear and definite effect on the corporate manager. It raises his cost of choosing routine (safe) investments. To alleviate the threat, the manager must continuously search for new investment opportunities and accept the risk and uncertainty associated with them. Given efficient markets for corporate control, the survival behavior of corporate managers is to enhance innovating activity.<sup>3</sup>

Codetermination (labor participates in the governance of business firms) is a major postwar social experiment in West Germany. The codetermination act of 1976 applies to all business firms in Germany that have more than 2,000 employees. Six members of the board of directors are representatives of the shareholders and six are representatives of the employees. The chairman of the board is appointed by the shareholders and has a deciding vote. The law has changed the prevailing relationship among the owners, managers, workers, and labor unions. Those changes, in turn, affect the location of decisionmaking powers, the appropriability of rewards, and the relationship between risk taking and bearing of costs.

Codetermination attenuates the right of ownership because it grants the workers a voice in the management of resources owned by the shareholders. The workers' time horizon is, however, limited to their expected employment by the firm. Unlike the shareholders, who have an unlimited time horizon (because of the capitalization process), the workers can capture the benefits only for as long as they stay with the firm. Moreover, the benefits are not available to them in a lump sum of money but only as a stream of periodic payments. Workers have clear incentives to prefer business decisions that promise larger annual earnings over a limited time period to those policies that maximize the firm's worth. The workers have incentives to push

<sup>3</sup>See, for example, Jensen and Ruback (1983).

for routine investments. Giuseppe Benelli (1984) has shown that in national and international cross-sectional studies the variations in returns on shares in industries that have been affected by codetermination have been the lowest compared with other industries within and outside West Germany. The evidence is that the attenuation of private property rights in West Germany has raised the cost of innovation.

The Yugoslav system of self-management precludes the capitalization of the future benefits of successful innovations into their present market value. The absence of the right to capture the future value of current investment decisions increases the importance of time horizon in Yugoslavia and raises the rate of interest implicit in relative prices of capital. It follows that the Yugoslav collective has incentives to seek primarily those innovations that increase the near-term cash flow. If the expected life of the innovation exceeds the collective time horizon, incentives to approve a novelty are diminished. Also, the absence of financial markets rules out efficient markets for managers. The Yugoslav combination of state ownership of resources and the right of the collective to capture a fraction of the firm's cash flow reduces the incentives to innovate.

State ownership of productive assets means that the allocation and use of resources serve political ends in the Soviet Union. On the surface, the Soviet manager is free and, in fact, encouraged to propose a technological innovation to his bureaucratic superiors. However, there is a world of difference between the right to make suggestions and the right to do things. At the level of nomenklatura, incentives to innovate are lacking for at least two reasons. First, decisions to innovate are not individual decisions. They are made and reviewed by a layer of committees. Second, an individual who believes in a specific innovation finds the cost of pushing it through the bureaucracy rather high. If the innovation is a success, he will share the benefits with his superiors. If the innovation is a failure, his superiors will blame him.

Given institutional structures in the Soviet Union, it would appear that Soviet planners have few incentives to innovate while Soviet managers have no right to innovate. However, Furubotn and Pejovich (1974) and Pejovich (1983) suggested that the Soviet manager has strong, but not easily detectable, incentives to innovate.

The output performance of the Soviet firm contributes to the Soviet manager's tenure, promotions, and economic well-being. Since input allocations are frequently delivered late, or not at all, or with the wrong specifications, the Soviet manager considers an (unreported) inventory of inputs to be a source of security. His problem of survival



in the Soviet environment is to find a way to accumulate reserves of inputs in the system, although the firm cannot hold cash balances subject to holding preference and the availability of resources to the enterprise is based on the official allocation of inputs. Given his perception of the cost to the state of acquiring information about the firm's true production capabilities, the Soviet manager is able to create for himself a set of opportunity choices. The origin of this set lies in the difference between the true and approved production functions. The firm's output quota, allocation of inputs, and other variables are based on the approved production function. The manager's trade-off is between additional income (bonuses and promotions associated with producing more than the firm's output quota) and security (associated with adding more inputs to the firm's unreported reserves). The manager's ability to create and preserve the range of choices determines his success or failure in the Soviet system. However, every time the manager surpasses his production quota—and it is important for him to do so—the state revises the firm's production function. As time goes by, the approved and true production functions tend to converge. The Soviet manager could preserve the difference between the two production functions by *raising* the firm's total product schedule and *concealing* the shift from the state. The Soviet manager, therefore, has strong incentives to innovate, provided that he can choose the rate at which the effects of innovation are revealed. Clearly, this requirement eliminates some types of innovation and reduces the flow of others. Yet, the Soviet manager must have been a successful innovator; after 60 years of playing the game, he is still able to overfulfill production quotas.

### The Ability to Innovate

Freedom to acquire and use resources is not the same thing as having the power to actually get them. In a private-property, free-market economy, capital markets match the quantity of financial assets demanded with the quantity supplied at prices that reflect contractual agreements on various issues, including risks. The ability to acquire an asset in financial markets depends on the borrower having enough resources to pay for it, and the lender having a bundle of rights in the asset that he is willing to transfer at a price the borrower is willing to pay.

The ability of a capitalist firm to innovate is more likely to be limited by its organizational structure and size than by financial markets. The larger the firm and the more people that have to say "yes" as innovation unfolds, the more costly it is to carry out the

innovation. A major issue facing the management of a successful firm in a capitalist economy is how to preserve flexibility, creativity, and adaptability as the company gets bigger and its initial vigor yields to the process of maturing. For example, Texas Instruments has grown into a large firm through a series of successful innovations. By the late 1960s, Pat Haggerty, an architect of the company's growth, became quite concerned with the management's ability to sustain the company's rate of innovation. He wrote: "We were worrying a great deal about how to institutionalize the process so that we could be confident that as we grew, we could retain the innovative drive that was requisite if Texas Instruments was going to be able to continue to renew itself" (Haggerty 1979, pp. 9–10). Importantly, the right of ownership and the freedom of exchange provide an institutional framework within which new firms can innovate while maturing firms have an opportunity for rebirth.

Opponents of free-market competition in the West are continually faced with the problem of developing a set of institutions that could alter free-market outcomes with minimal effect on economic efficiency. An important consequence of all those redistribution attempts has been a degree of attenuation of private property rights in assets with predictable (restrictive) effects on the flow of innovation. For example, codetermination in West Germany has raised the cost of running a firm by bureaucratizing its organizational structure. Election procedures for both the directors and managers are long (about 50 weeks) and cost millions of marks. The discussions in the board room are not free exchanges of thoughts, ideas, and judgments. The shareholders' and workers' representatives on the board represent two discrete interest groups. Labor representatives on the board represent those members of the firm who have no claim on the capitalized value of assets. A major consequence of labor participation in the management of business firms has to be a higher cost of equity capital to offset lower return to the holders of stocks and bonds. A major effect of codetermination is an increase in the cost of capital for labor participatory firms and, consequently, a reduction in their ability to innovate (Pejovich 1982).

Foreign loans have dried up. Prevailing property rights in Yugoslavia reduce the ability of firms to seek funds from other firms and individuals. Thus, the Yugoslav firm has only two important sources of investable funds: retained earnings and bank credit. The former is not a likely source of funds for innovation for two reasons. First, there are too many "routine" claims against retained earnings. Second, the prevailing property rights in Yugoslavia raise the cost of retained earnings relative to bank credit as a source of capital for

risky investment. A loss of retained earnings is borne by the collective, while at least a part of bank debt could be passed on to the next generation of workers. However, as a Yugoslav firm turns to the banking system for investment funds, behavioral incentives of the prevailing property rights reduce the amount of financing from its retained earnings. It was shown elsewhere that each additional dollar the firm borrows from the banking system increases its total investment by less than a dollar. Also, an increase in the amount of bank loans for investment tends to induce the firm to hold a larger percentage of its retained earnings in cash balances (Pejovich 1976, pp. 247–49). The ability of the Yugoslav firm to innovate thus depends on the banking system.

Commercial banks in Yugoslavia are “owned” and operated by enterprises that are also their chief borrowers. The representatives of business firms that “own” the bank control the credit committee. The committee has incentives to make loans that maximize the bank’s near-term cash flow. It also has incentives to grant loans whose interest payments over the committee members’ time horizon are ensured. Firms have incentives to amortize loans over a long period of time, hoping to capture the benefits from investment while shifting the cost of interest and principal to future workers. A risky venture, especially one that promises returns over a longer period of time, is not a likely winner in the competition for funds.

The ability to innovate in the Soviet Union is limited to those innovators whose projects are approved by economic planners. Managers do not have to create demand to outperform rivals. It is generally easier to do things the old way. An important objective of Gorbachev’s reforms is to deal with this problem by opening up the economy to technological innovation. To accomplish that objective, Gorbachev wants to relate the Soviet manager’s rewards to the profitability of his firm. To make new incentives operational, the Party leadership must give the Soviet manager enough power to carry out profitable projects. Specifically, the prevailing property rights in capital goods would have to change.

The Soviet manager can use only capital goods allocated to his firm to meet and surpass output targets. Since the firm pays no charge for capital assets in its possession, and the manager considers them a free reserve. Either through successful underreporting of their firms’ production functions or through political connections, many managers have an excess of capital relative to their output targets and true production functions. Relating the manager’s rewards to the firm’s profitability (defined as the ratio of profits to the book value of the capital stock), Gorbachev’s reform would change the rules of the

game. Accumulated reserves of capital assets would become *costly* to hold. The manager would need some definite property rights with respect to the use of his inventory of capital assets.

The emphasis on profitability must give the manager some property rights in controlling the quality and quantity of new investment.

## The Integration of Innovation into the Economy

A novelty does not necessarily make people better off. Innovation has to be voluntarily accepted by the community and integrated into the economy, and the right amount of resources must be allocated for its production. Once again, the question is: How and why do different property rights affect the integration of innovation into the economy?

In a private-property, free-market economy, individuals evaluate a novelty in competitive markets. The freedom of contracting incorporates their individual judgments about the novelty into relative prices, which, in turn, tell us whether or not the innovation has enriched the social opportunity set. Thus, Hans Albert (1987, p. 69) writes:

The power of the consumer . . . does not consist in giving orders for the solution of problems in the sphere of production, but in testing the solutions adopted by the entrepreneurs and in influencing the future activities in the sphere of production indirectly by accepting or refuting these solutions.

Nelson (1981) and Nelson and Winter (1982) have identified two vehicles (competition and quest for knowledge) by which a successful innovation is integrated into the system. The competition argument is as follows. In a private-property economy, monopoly profits attract attention. New firms then enter the industry and join the old ones in competing with the innovating firm. The flow of resources from lower- to higher-valued uses continues until monopoly profits are eaten up. At that point, the community gets the right amount of that which is new. Atomistic competition dominates the spread of innovation where the firms are relatively small or the source of innovation lies outside the industry.

The quest for knowledge argument suggests that the diffusion of innovation also occurs through the growth of firms that can shield, at least temporarily, a new technology from their rivals. The spread of innovation comes through the growth of capital and the market share of the innovating firm. This mechanism for the diffusion of new technology encourages the innovating firm, as well as its rivals, to invest in new knowledge (R&D). It rewards successful firms with

temporary monopoly power (e.g., the Model T, Polaroid, Beatles, etc.), which is eventually eroded by competitors' investments in R&D.

The integration of innovation in Yugoslavia has three limitations, all of which are attributable to the prevailing property rights structures. First, a successful innovation by a Yugoslav firm creates a larger residual for the collective. The absence of financial markets reduces the speed at which this information reaches other firms. Thus, the cost of information about a successful innovation is high. Second, competition in innovating is limited to existing firms. As information about monopoly gains becomes available, only old firms enter into competition with the innovating firm. The entry of new firms in the Yugoslav economy is costly and slow. Third, business firms in Yugoslavia have a strong bias against adding to their labor force. The residual-maximizing behavior of the imitating firms might call for hiring additional workers. However, new workers in Yugoslavia are more than factors of production; they are policymakers as well. This means that the firm's current labor force has incentives to trade off some pecuniary income that could be obtained from hiring new workers for the security of its common interests.

The absence of private property rights, competitive markets, and relative prices makes it very difficult to discern the process by which innovation is integrated into the Soviet economy. Two factors could be singled out as possible vehicles for the adjustment in resource allocation to a successful innovation. The first factor could be called the "neo-feudal courts." The Soviet system concentrates power in the hands of a very limited number of people at the top of the Party structure. Those people are effectively beyond the rules and laws applying to all other citizens. They promote their "cronies" by putting them into important positions in the Party and government. In effect, they organize their own courts. Members of the court formed around each top leader form their own support groups at regional and local levels of the Soviet power structure. "Information, exchange and decision making usually follow channels inside those courts, circumventing the official institutional organization of the public life, creating inexplicable decision networks" (Kowalski 1987, p. 187). A crucial implication of the existence of this neo-feudal structure in the Soviet Union is that the Soviet manager's interest lies not in the nature of allocative decisions but in *who* has made them. The Soviet manager, as well as other members of the nomenklatura, seek allocative "adjustment" in economic plans through neo-feudal groupings rather than regular channels. The argument points to possible

responses of the economy to a technological innovation that are, in relative terms, less bureaucratic.

The second factor that might play an important role in the adjustment of resource allocation to a technological innovation in the Soviet Union is corruption. It is a predictable consequence of the shortages of consumer goods, intermediate products, and raw materials. I conjecture that, in the Soviet environment, corruption is a powerful and perhaps necessary instrument for correcting planners' mistakes.

## Conclusion

Socialism is supposed to be a workers' movement, but it is not. Codetermination in Germany draws main support from scholars, bureaucrats, and union leaders; redistributive measures in the United States are formulated in think tanks and carried out by bureaucrats; Yugoslav workers have voted with their feet (against self-management) in favor of being exploited by West European capitalists; East European peasants (who have a choice) are staying on their private farms; and Hungarians are proud of their "privatization" schemes.

The purpose of this paper was to redirect the analysis of social systems away from emphasis on technical efficiency and toward qualitative issues such as the effects of different social systems on liberty, human creativity, and, most specifically, innovation. Theoretical and empirical evidence seems to support two conclusions. First, alternative property rights do influence the flow of innovation. Second, the right of ownership and the freedom of contract are more conducive to innovating activity than other institutional arrangements.

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## LIBERTY, PROPERTY, AND INNOVATION

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