The Democratic Firm: An Argument Based on Ordinary Jurisprudence[†]

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ABSTRACT. This paper presents an argument for the democratic (or 'labor-managed') firm based on ordinary jurisprudence. The standard principle of responsibility in jurisprudence ('Assign legal responsibility in accordance with *de facto* responsibility') implies that the people working in a firm should legally appropriate the assets and liabilities produced in the firm (the positive and negative fruits of their labor). This appropriation is normally violated due to the employment or self-rental contract. However, we present an inalienable rights argument that descends from the Reformation and Enlightenment which argues that the self-rental contract, like the self-sale or voluntary slavery contract, is inherently invalid. The key intuition of the inalienable rights theory is that one cannot in fact voluntarily transfer *de facto* responsibility for one's actions to another person. One can only voluntarily co-operate with another person, but then one is *de facto* jointly responsible for the results. Just as the legal authorities legally reconstruct the criminous employer and employee as a partnership with shared responsibility, so justice demands that every firm be legally reconstructed as a partnership of all who work (working employers and employees) in the enterprise, i.e., as a democratic firm.

KEY WORDS: corporate ownership, democratic firm, inalienable rights, responsibility principle

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Introduction

Who is to be the firm?

Ordinary jurisprudence provides an answer to the fundamental question: 'Who is to be the firm – Capital, the State, or Labor?' It is conceptual analysis that is required, not new principles, in order to answer that basic systemic question. Once the conceptual framework about the structure of property rights in the firm is developed, then the answer follows from the responsibility principle of jurisprudence that people are to be held legally responsible for the results of their intentional deliberate actions.

I will approach the theory of the firm from the viewpoints of a descriptive and a normative *theory of property*. This approach is 'non-economic' in that it is not based on efficiency criteria. The usual 'economic' approach to the firm is to emphasize cost minimization or, more generally, allocative efficiency.[1] "The main hypothesis is that contractual designs, both implicit and explicit, are created to minimize transaction costs between specialized factors of production" (Holmstrom and Tirole, 1989, p. 63). While this economic approach has its domain of applicability, it operates within a framework of norms for the initiation and termination of property rights and of constraints on the transfer of property rights. That framework is deontic or rights-based, not utilitarian or efficiency-based. The rights-based arguments provide 'trumps' (see Dworkin, 1978) or normative 'side-constraints' (see Nozick, 1974) that limit the area where optimizing arguments might be applied.

Several examples of rights-based side-con-

Journal of Business Ethics **21**: 111–124, 1999.
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straints are readily available in economics. For instance in human capital theory, the economic efficiency or inefficiency of selling human capital (e.g., in a self-sale contract) is not actively debated; it is simply ruled out.

> Since slavery was abolished, human earning power is forbidden by law to be capitalized. A man is not even free to sell himself: he must *rent* himself at a wage. (Samuelson, 1976, p. 52)

Political vote-selling by the ultimate voters provides another example.

> Any good second year graduate student in economics could write a short examination paper proving that voluntary transactions in votes would increase the welfare of the sellers as well as the buyers. (Tobin, 1970, p. 269)

Yet instead of following the dictates of efficiency-based reasoning in law and economics, the idea of a market in votes is also ruled out.

I shall argue that the non-economic rights-based constraints are stronger than is ordinarily thought, and accordingly that the domain of efficiency-based arguments is more confined. There are a number of quite plausible economic arguments for the democratic firm. For instance, Margaret Blair (1995) has developed arguments, largely within the methodology of the economic theory of the firm, that human capital should increasingly be treated as a residual factor – a factor with net income and control rights associated with "ownership" of the corporation. I shall argue, however, that ordinary jurisprudence (not to mention democratic principles) applied to the firm rules out non-democratic firms so the efficiency-based arguments for one or another type of firm (e.g., capitalist versus labor-managed firms) are ultimately as irrelevant as an analysis of the relative efficiency of cotton being produced by free or slave labor.

What is it about *human* capital that makes it so different from physical or financial capital that it is forbidden by law to buy and sell human capital? If the reason for that prohibition of certain voluntary market transactions is well understood, might there be other implications? After all, the usual employment contract is essentially the contract for renting or hiring human capital, i.e., for buying the services of human beings.[2] The forbidden contract to buy a person's human capital is essentially a long-term (up to retirement age) version of the still permitted short-term rental contract. This prohibition in the long-term case could hardly be based on efficiency grounds since economists routinely ignore the prohibition against lifetime labor contracts in order to have the complete future markets in all commodities necessary to show the allocative efficiency of competitive equilibrium.

> Now it is time to state the conditions under which private property and free contract will lead to an optimal allocation of resources. . . . The institution of private property and free contract as we know it is modified to permit individuals to sell or mortgage their persons in return for present and/or future benefits. (Christ, 1975, p. 334)

If the rights-based case against buying human capital turns out to also apply to renting human capital, then the case against the non-democratic firm is made without further appeal to efficiency arguments. This paper pursues this 'non-economic' line of thought based on the distinctive features of *human* capital. The line of approach is through descriptive and normative theories of private property. The prohibition against the sale of human capital is approached through the theory of inalienable rights that descends from the Reformation and the Enlightenment and that was pivotal in the development of anti-slavery thought.[3]

The structure of property rights in a firm

The life-cycle of a property right

A positive or descriptive theory of property for a private property market economy should describe how property rights are created or initiated, how they are transferred from party to party, and finally how property rights are terminated.

Property rights are created in firms and households, and property rights are also terminated by firms and households. In between is the market

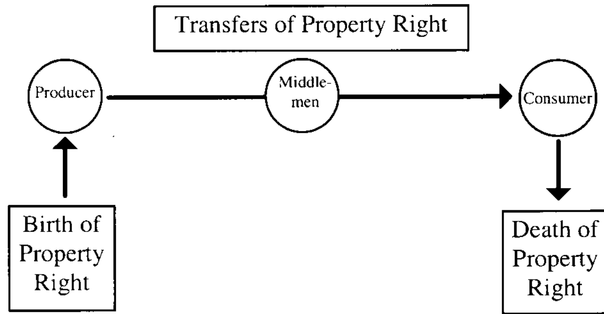

Figure 1. 'Life-cycle' of a property right.

where property rights are transferred. The instrument for transferring property rights is the voluntary contract which is fulfilled by the transfer of the *de facto* possession and control of the property from the old owner to the new owner (usually in exchange for other property going in the opposite direction).

Theory of appropriation

Property rights are transferred by voluntary contract, but what is the legal means by which property rights are initiated and terminated in a private property market economy? It will be helpful to first establish some notation and terminology. From economics we can borrow a simplified description of a productive opportunity Q = f(K, L) where the outputs Q are produced by applying the labor L to the capital services or non-labor inputs K. Many different types of labor and non-labor inputs could be considered but that would only complicate the notation and would not change the underlying logic. The initiation of a property right is the 'appropriation' of the property right. Symmetrically the termination of a property right might be called the 'expropriation' of the property right but that word has now been corrupted to mean the forced transfer or 'taking' of property by the state.[4] The word 'expropriation' can be avoided by referring to the 'expropriation of the assets X' as the 'appropriation of the liabilities –X.'

In the productive opportunity Q = f(K, L), the property rights to Q are initiated and the property rights to K and L are terminated so this could be described as the appropriation of the assets Q as well as the appropriation of the liabilities –K and –L. It will be useful to adopt a simple vector notation with three components representing outputs, non-labor inputs, and labor inputs respectively. Thus the vector of assets and liabilities appropriated in the productive opportunity is (Q, –K, –L) which I will call the 'whole product.' The 'whole product' is simply a property theoretic name for the production vector familiar to economists in the production set treatment of production where the outputs are listed positively and the inputs are listed negatively. When the assets and liabilities in the whole product are evaluated at their respective prices, the result is the residual or pure profit, and the whole product appropriator is called the "residual claimant."

Who is to be the whole product appropriator?

Our original question of 'Who is to be the Firm?' can now be sharpened to 'Who is to be the whole product appropriator?'. How does a private property market economy in fact determine who appropriates the whole product? There is a 'laissez-faire' or market mechanism of appropriation. A non-market assignment of liabilities by the legal authorities takes place in a trial for property damages when the defendant is found guilty and held liable for some property that was destroyed. But what happens when there is no trial? To understand the market mechanism, one must consider who would appropriate the liability –X (i.e., terminate the property right to X) if the property X is used-up, consumed, or otherwise destroyed when the legal authorities do not intervene to hold a trial. In that case, the liabilities –X are borne by the last legal owner of X. Thus one could say that in the absence of any state intervention to reassign liabilities, the liabilities –X for used-up or destroyed property X is 'laissez-faire appropriated' by the last legal owner of X. Furthermore, that same legal party who bore the liabilities would have the defensible legal claim (in the absence of any reassignment of the liabilities) to any new property that

might be created in the process of using up the old property.

Market Mechanism of Appropriation
Let the liabilities for the used up inputs lay where they have fallen (i.e., in the hands of the last owner of the inputs), and then let that party have the claim on any produced outputs.

It should be noted that this mechanism of appropriation only works for produced outputs as opposed, for example, to gifts of nature.

In terms of our example, the last legal owner of the non-labor inputs K and labor inputs L would laissez-faire appropriate the liabilities or 'negative product' (0, –K, –L). In the absence of any state intervention to reassign those liabilities, that same party would have the defensible legal claim on the produced assets or 'positive product' (Q, 0, 0). Putting the two products together, one has the market mechanism for the appropriation of the whole product (Q, –K, –L). The legal party who appropriates the whole product of a productive opportunity will be called the 'firm' (with respect to that opportunity). The market mechanism of appropriation is a descriptive theory; it describes how the whole product is actually appropriated in a private property market economy.

The 'fundamental myth' about property rights

The 'market mechanism of appropriation' might all seem like a fancy way to restate the obvious, but it has quite strong implications. For instance, it shows that in order for a legal party to be the 'firm' (i.e., residual claimant) with respect to a given productive opportunity, it is sufficient for the party to be the last legal owner of all the inputs used up in the production process. Then that party has the defensible legal claim on the outputs that emerge in production so that party would appropriate the whole product. Since it is the fact-pattern of the input contracts (e.g., whether capital hires labor or labor hires capital) that determines who is the last legal owner of the used-up inputs, the identity of the firm ('firmhood') is *contractually* determined. There is no need for the legal party to additionally 'buy' or 'own' the production function or production set. Indeed, there is no such thing as the 'ownership' of a production function or production set in a private property market economy.

The idea that there is a property right (variously called 'ownership of the firm', 'ownership of the production function', 'ownership of the productive opportunity' and so forth) which determines which party legally appropriates the whole product of a productive opportunity is such a pervasive and important idea that it will be called the '*fundamental myth*' about property rights. An understanding of the fundamental myth is important to our argument because the argument tries to 'trump' the efficiency-based economic theories of the firm with a right-based theory about the norms for appropriating assets and liabilities in production (see below for the normative theory). But if it is thought that the whole product is already owned by the 'owner of the firm' then the entire question of appropriation (initiation and termination of property rights) in production is not even formulated or asked. That is indeed the usual case in the economics literature.[5]

The ownership of a corporation and the fundamental myth

What are the origins of the fundamental myth that firmhood is established by an ownership right ('ownership of the firm') rather than by the contractual status of being the last legal owner of all the inputs to production? Perhaps the most common origin is a misinterpretation of the 'ownership of a corporation.' Before turning to that, it might be noted that economists use the notion of 'ownership of the firm' in more general contexts independent of corporations. In an abstract model, entrepreneurs are "bidding for ownership of the firms" (Hirshleifer, 1970, p. 124) and become the "owners of the productive opportunity" (p. 125). A proprietor may sell "the rights to the transformation function" or "his rights to the venture" (Fama and Jensen, 1996, p. 341) to another proprietor. The entrepreneur is the "owner of a production function"

(Haavelmo, 1960, p. 210), and Robinson Crusoe even "owns the firm" (Varian, 1984, p. 225).

The most common or 'standard' origin of the 'ownership of a firm' notion is the (mis)interpretation of the ownership of a corporation that is currently undertaking a production opportunity $Q = f(K, L)$ (by virtue of its contractual position) as being 'ownership' of the productive opportunity. But this interpretation can be easily defeated by changing the contractual position of the corporation without changing its ownership. For instance, if the capital services K were hired out rather than the labor services L being hired in, then the 'firm' in the sense of whole product appropriator would shift but the ownership of the corporation would be in the same hands. The role of the corporation would shift from being the firm (with respect to that opportunity) to being an input supplier to the firm (recall that 'firm' is defined here as 'whole product appropriator,' i.e., residual claimant in production, and is *not* a synonym for 'corporation').

This argument might be better understood by considering a productive opportunity both outside and inside a corporate form. Consider a simplified process where the labor L is applied using the services K of a widget-maker machine in order to produce the widgets Q during each time period. If the machine is owned by an individual, then it is clear that the person could hire in the labor L and produce Q – or could hire out the services K to another party. The pattern of contracts determine whether the individual operates as the firm (with respect to that opportunity) or as an input supplier to the firm. Now suppose that the individual incorporates a company and issues all the stock to himself in return for the machine. This legal repackaging changes nothing in the market logic of the argument that separated capital ownership from residual claimancy. The corporation (rather than the individual) would own the widget-maker machine and, depending on the direction of the hiring contracts, may or may not appropriate the whole product of the productive opportunity using the widget-maker. The process of incorporation does not miraculously transubstantiate the ownership of a capital asset into the ownership of the whole product vectors that might be produced using the capital asset.

In actual markets, there are likely to be large transaction costs to rearranging the input contracts. The incumbent corporate residual claimant has sizable first-mover advantages so that any challenging party would have to incur such high transaction costs to redirect the input contracts that it might be just as cheap or cheaper to simply buy the corporation and thereby take over the residual claimant's position in the existing pattern of input contracts. These transaction cost barriers create the image that the existing corporate residual claimant 'owns' the production opportunity. Transaction cost barriers are only that; they are not property rights. For instance, as transaction costs change it might become more feasible to acquire residual claimancy by rearranging input contracts rather than by purchasing the corporation.[6]

The responsibility principle as a normative theory of property

The principle of imputation in jurisprudence

The market mechanism of appropriation answers the descriptive question of how does the market initiates and terminates property rights. The corresponding normative question is the question of 'Who *should* legally appropriate the whole product?'. To whom should the legal liabilities and assets created in production be assigned?

We will answer the normative question by using the standard responsibility principle from jurisprudence. To see the underlying juridical principle, let us see how the assignments are made in an explicit civil or criminal trial. The standard principle for the assignment of legal or *de jure* responsibility can be easily seen in a civil trial to assign legal liability for damages to someone's property. The standard principle is to assign the legal or *de jure* responsibility for the damages to the party who was in fact responsible (i.e., *de facto* responsible) for the damages. The purpose of the trial is to ascertain if the defendant was in fact responsible for causing the damages (e.g., if the defendant knowingly caused

the damages by his or her intentional actions). There are, of course, many shades and degrees of factual responsibility and there may be mitigating and extenuating circumstances in any given case. But the basic principle is always to assign legal liability to the *de facto* responsible party (if any) and that is the natural principle of responsibility used here.

The principle is clear in a trial for damages but there is no reason for the basic principle to change when property is consumed, used up, or otherwise destroyed in the absence of a trial. Moreover, the same principle would consistently apply to the opposite cases where property is created or produced. That is, the legal responsibility for produced property should be assigned or imputed to the party (if any) who was in fact responsible for producing the property. Thus the basic juridical principle that will be taken as the basis for the normative theory of property appropriation used here is:

Principle of Responsibility:
Assign *de jure* responsibility in accordance with *de facto* responsibility.

This is a clear principle within the domain of intentional human actions, but that domain of deliberate actions is far from universal. The principle gives only limited help in the domain of accidents, and it gives no help whatsoever in the assignation of legal responsibility for the property that is created or destroyed solely by natural forces. As the domain of the responsibility principle recedes, other non-responsibility-based principles of an economic or contractarian nature might be applied to the assignment of property rights. For our purposes here, our attention can be restricted to the results knowingly produced by intentional human actions – where the responsibility principle can be clearly applied. This is because our topic is the human activity of production which is perhaps the epitome of planned, deliberate, and intentional human actions.

Only persons can be *de facto* responsible for anything. Things can bear no responsibility. Responsibility is imputed back through things to their human users. Neoclassical economists are fond of interpreting the causal efficacy of nonlabor inputs in an animistic way as a type of "economic responsibility" (Wieser, 1930, p. 76) but that is only a metaphor. A knife has a certain efficacy in a crime, but it is only the knave who can bear *de facto* responsibility for the crime. The *de facto* responsibility for the intended results of deliberate human actions using various instruments is borne solely by the human users, and it includes the responsibility for using up the services of the instruments.

> The judge . . . who, in his narrowly-defined task, is only concerned with the *legal imputation*, confines himself to the discovery of the legally responsible factor, – that person, in fact, who is threatened with the legal punishment. On him will rightly be laid the whole burden of the consequences, although he could never by himself alone – without instruments and all the other conditions – have committed the crime. The imputation takes for granted physical causality. . . .
>
> If it is the moral imputation that is in question, then certainly no one but the labourer could be named. Land and capital have no merit that they bring forth fruit; they are dead tools in the hand of man; and the man is responsible for the use he makes of them. (Wieser, 1930, pp. 76–79)

Thus even as Wieser introduces metaphorical notions of 'economic responsibility' and 'imputation' in his treatment of marginal productivity theory, he recognizes that for the ordinary non-metaphorical notion of imputation, "no one but the labourer could be named" and that the "imputation takes for granted physical causality."[7]

Application to appropriation of the whole product

It is this principle of responsibility from jurisprudence that is being applied to the normative question of who should legally appropriate the whole product. The (stylized) facts are taken to be that in a given economic enterprise, the people working in the enterprise (managers and workers) cooperate together to use up the inputs in the process of producing the outputs. The people working in the given enterprise will be referred to as 'Labor.' In our simple canonical example, Labor, by performing the intentional human actions L, uses up the nonlabor or capital

inputs K in order to produce the outputs Q. It is no accident. The using-up of the inputs K and the production of the outputs Q are the deliberate and intentional results of the actions L of the managerial and non-managerial workers in the enterprise. Thus the people working in the productive opportunity are jointly *de facto* responsible for producing the vector (Q, –K, 0). I have employed the convention used in economics of reifying the human activity of producing (Q, –K, 0) as the labor L which must then be seen as being both produced and used up in the production process. Thus Labor's production of Q by using up K is represented as the production of L and then as the using up of L and K in the production of Q. In vectorial terms,

Labor's Product = (Q, –K, 0) =
(0, 0, L) + (Q, –K, –L) =
Labor Services + Whole Product.

This set of facts coupled with the principle of responsibility yields the assignment of the legal responsibility for Labor's Product (labor services plus whole product) to Labor. Thus Labor should, by the principle of responsibility, legally appropriate the whole product (in addition to the labor services). In short, the people working in an enterprise should 'be the firm' (in the sense of whole product appropriator or residual claimant). The principle of responsibility implies that production should be legally organized as what are called 'democratic firms' or 'labor-managed firms' where the people working in the firm are the residual claimants.

This is a very striking result. Yet it is surprisingly robust. The principle of responsibility is clear, for example, in criminal and civil trials, and there seems to be no reason why the same principle should not apply when no civil or criminal wrongs have been committed. There is much controversy about the borderline cases of responsibility (e.g., impaired capacity and insanity), but the principle has only been applied in the case of productive work which epitomizes deliberate and intentional human actions.

Brief intellectual history of responsibility theory of appropriation

The normative theory of property appropriation based on the responsibility principle is not new; it represents a reworking and reformulation in a modern and consistent form of what was variously called the 'natural rights theory of property' (e.g., in Schlatter, 1951) or the 'labor theory of property.' The intellectual history of these ideas will be reviewed by considering the main ways in which the classical ideas needed to be changed or reformulated to arrive at the modern theory:[8]

- expanding the site of appropriation from some Lockean 'original state of nature' to any human activity where property is produced or consumed,[9]
- including the negative product (liabilities for the used-up inputs) in the concept of the 'whole product' so that the question of appropriation could be posed in an algebraically symmetric (plus and minus) manner,[10]
- identifying 'responsibility' as the unique characteristic of actions of persons in contrast with the causally efficacious but 'non-responsible' services of things,[11]
- identifying the basic normative principle of the 'labor theory of property' with the natural principle of responsibility ('Assign *de jure* responsibility in accordance with *de facto* responsibility'),[12]
- decisively separating the responsibility theory of appropriation from the hopelessly erroneous 'labor theory of value'[13]
- and integrating the responsibility principle with the theory of inalienable rights based on the inalienability of *de facto* responsibility so that the problem can be located not in the market mechanism of appropriation but in the contract for the sale of human labor (the employment contract for the renting of persons).

I turn now to this last point, the theory of inalienability which accounts for the distinctive treatment of contracts for the alienation of human capital.

De facto *inalienability of human action*

It might be argued that one can 'transfer' the responsibility for the results of one's actions so the employees in an enterprise, having 'transferred their labor,' are not responsible for the positive and negative results of their actions. Only the employer is responsible, according to this argument, so the ownership should be assigned solely to the employer. But this argument confuses *de jure* and *de facto* responsibility. Under the legal institution of the employer-employee relationship, legal or *de jure* responsibility is indeed transferred from the employees to the employer. The normative principle of responsibility states that *de jure* responsibility should be assigned in accordance with *de facto* responsibility so the question is whether or not *de facto* responsibility is transferred from the employees to the employer. If not, then there is a conflict between the principle of responsibility and the employer-employee relationship (the legal institution for the renting of people).

This question can be illuminated by considering the parable of the criminous employee. Suppose that an entrepreneur hires a van for a week from its owner in an impersonal market transaction. The van-owner is not otherwise involved with the entrepreneur. The entrepreneur also hires a worker as his assistant. In addition to employing the van and the worker in normal business, the entrepreneur employs them to rob a bank. The employer and employee are caught and hauled before a judge. The employee claims that his position is quite analogous to that of the van-owner. In both cases, certain services (man-days or van-days) were sold to the entrepreneur, and the later use of those services by the entrepreneur are not the responsibility of the original seller of the services. The entrepreneur telling the employee to do this or that is like the entrepreneur "telling a grocer to sell [him] this brand of tuna rather than that brand of bread" (Alchian and Demsetz, 1972, 1994). In either case, the grocer bears no responsibility for the subsequent use made of the tuna or bread.

The judge would no doubt be unimpressed by this argument. He would 'pierce the veil' of the labor contract to point out the factual difference in the alienability of labor services on the one hand and the services of a van or any thing (such as tuna or bread) on the other hand. The use of the van could in fact be transferred from the owner to the entrepreneur so that the entrepreneur could use the van without the owner being involved. But it is factually impossible for a person to do the same with his or her own actions. At best the worker can only agree to co-operate with the entrepreneur, but then the worker shares the *de facto* responsibility for the results. Having established those facts, the judge would hold them both legally responsible for the robbery.[14] The servant in work becomes the partner in crime.[15]

It is sometimes thought that the worker is responsible *because* an employment contract involving a crime is null and void, but the logical order is the reverse. The employee is legally guilty because he knowingly committed a crime,[16] not because of the bogus contract, and thus the employment contract must be set aside in order to view the worker as a co-venturer and to explicitly apply the responsibility principle.

The parable of the criminous employee illustrates the non-transferability of *de facto* responsibility for human actions. Yet the facts of the matter do not change when the actions are legal. Workers do not become some type of non-responsible instrument when they do not commit crimes. Thus the argument that workers have "transferred" their *de facto* responsibility fails. The previous conclusion that Labor is *de facto* responsible for the whole product is sustained, and thus the responsibility principle implies that the people who work in an enterprise should legally appropriate the positive and negative fruits of their labor.

This inalienable rights theory based on the *de facto* inalienability of human responsibility descends from the Reformation and Enlightenment (See Ellerman, 1992 and 1995). The *de facto* non-transferability of human labor implies that the entire contract for renting human beings (or renting human capital) is inherently null and void like the longer term self-sale contract. It is not a question of 'buy or lease'; neither the concept of renting (hiring) nor buying should be applied

to persons. With the contract for renting persons recognized as being null and void (as the contract for buying persons is currently recognized), Labor would always have to hire capital and the market mechanism would correctly impute the whole product to Labor.[17]

The debate about the nature of the corporation

I have outlined a descriptive and a normative property theoretic treatment of the firm. The descriptive theory leaves unanswered the economic questions addressed in the economic theories of the firm. The normative theory of the firm was approached from the responsibility theory of appropriation. In the same way that the joint work of the criminous employer and employee is legally reconstructed as a 'partnership', so should the joint work of all who work in each productive opportunity be legally reconstructed as a 'partnership' or democratic firm. Moreover it found a fatal flaw in the contract for the renting of human beings which fictitiously pretends that responsibility can be *de facto* transferred from one person to another. That contract is the rental version of the self-sale contract – which is already recognized in contemporary norms as being null and void. Indeed, the inalienable rights theory based on the non-transferability of *de facto* responsibility applies as well to the self-rental contract as to the self-sale contract. The results about the firm and the labor contract fit together in the sense that without the employment contract, Labor would always be hiring capital so the market imputation of the whole product would go to Labor, i.e., the firm would be a democratic or labor-managed firm.

Conceptual entry point

For a strictly logical viewpoint, the arguments presented here find no flaw in the conventional corporation so long as it has no employees (an 'unstaffed' company that just relends or leaves idle its capital) – just as the case against slavery provides no critique of a 'slave plantation' so long as it has no slaves! But as was pointed out by Coase in his classic article on the nature of the firm (1937 or 1988), the "legal relationship normally called that of 'master and servant' or 'employer and employee' " (1988, p. 53) provides the best approximation to the firm in the real world. Thus one may assume that the employment relation is an essential part of the conventional joint stock corporation and that a corporation is not established just to relend or leave idle the shareholders' capital. The abolition of the employment relation could then be conceptually approached as changing the nature of the corporation to redefine the members of the corporation to be the people who work in it. In this manner, the arguments presented here provide a conceptual entry point into the debate about the nature of the corporation.

The shareholders' property rights

The responsibility argument presented here applies to all firms, incorporated or not, and to all corporations, not just to large companies with dispersed publicly traded shares. I focus on the corporation as opposed to unincorporated legal forms simply because it is the prevalent form of business organization. There does not seem to be any serious argument that the absentee shareholders are *de facto* responsible for producing the whole product. That question is not posed. But aren't the shareholders' control rights just a matter of property rights? Wouldn't the democratic firm take away "property rights" from the shareholders? This question requires a distinction between two senses of control: the negative (or exclusionary) control rights to forbid another person's use of one's property and the positive (or discretionary) control rights to direct the other person's activity while using one's property. Only the negative control rights come from property ownership by itself – the right to exclude the other person from use of one's property. The positive or discretionary control rights over the other person's activity requires the ownership of that person's 'time' – namely the employment contract.[18] The ownership of the property that the other person might be using is only a bar-

gaining chip to get the person to agree to the employment contract.

Thus the rights of ownership in, say, land give one the right to make another person a trespasser who is using one's property (if that use did not have the owner's consent) but it does not automatically make the other person a servant or employee. The latter requires the employment contract. Since land can be rented out instead of people being rented in, the landlord is not automatically the 'lord' of the land. This is a recent development. In medieval times, the authority of a king over his subjects was seen as part of his ultimate ownership of the land in the country. "Rulership and Ownership were blent" (Gierke, 1958, p. 88). Marx (incorrectly) thought the same idea carried over to capital in more modern times and thus he misleadingly gave the name "capitalism" to the system of production based on the employment contract.

> It is not because he is a leader of industry that a man is a capitalist; on the contrary, he is a leader of industry because he is a capitalist. The leadership of industry is an attribute of capital, just as in feudal times the functions of general and judge were attributes of landed property. (Marx, 1977, pp. 450–451)

This idea that 'rulership' is part of capital ownership has become a part of the standard understanding of the "ownership of the firm" in the 'capitalist' system.

> The owner of capital resources, or the agent who acts on behalf of the owner or a number of associated owners, controls and determines, *in virtue of such ownership*, the process of production and *the action of the workers* who are engaged in the process. (Barker, 1967, pp. 105–106 emphasis added)

This assumption that the decision-making authority over people using an asset is part and parcel of the ownership of the asset (as if the employment contract were superfluous) also creeps into the modern economics literature.[19] It is precisely the decision-making version of the fundamental myth that the legal responsibility for (i.e., ownership of) the product was part and parcel of the ownership of a capital asset (as if it were superfluous for the capital-owner to buy all the non-capital inputs used in production).

By virtue of their property rights in a conventional corporation, the shareholders have (indirectly through management) the positive discretionary control rights over 'corporate affairs' but it is only by virtue of the employment contract that the activities of the workers become part of 'corporate affairs.' In short, the employment or self-rental contract is necessary to establish the positive control rights over the employees in the conventional firm. It has been argued that these 'property rights' based on the self-rental contract are invalid like the 'property rights' slaveowners would have based on voluntary self-sale contracts. Hence the shareholders' claim to the positive discretionary control rights over corporate employees based on 'property rights' fails because (1) no such rights are part of the ownership of capital assets, and (2) the employment contract to acquire such 'property rights' is naturally invalid. Without the contract to rent other human beings, the owner of capital can rent the capital out or reserve it for own usage. In the conversion of a conventional corporation to a democratic firm, the shareholders' role would be redefined as a rentier role while the residual claimant or membership rights would be reassigned to the people working in the company.

Final points

It is clear that the arguments and points of view presented here are 'heresies' at odds with today's 'orthodoxy.' The differences are not in the details or only at the edges; the differences are major and central. Perhaps the most surprising point is that the differences are mainly on factual questions rather than normative principles. For instance, the normative principle of assigning *de jure* responsibility in accordance with *de facto* responsibility is fundamental to contemporary jurisprudence and is thus not at odds with today's conventional wisdom. Few of the orthodox will respond to these arguments by launching an attack on the responsibility principle. The primary differences are concerned with the facts about conventional institutions (e.g., the struc-

ture of property rights in production) and about human beings. In conclusion, I will mention three institutional facts and two facts about persons that are basic to the arguments given here:

- that the identity of the residual claimant ('firm') in a production opportunity is determined in a market economy by the *contractual* fact-pattern of being the last legal owner of the inputs (and not by some mythical 'ownership of the firm');
- that the ownership of the whole product of a production opportunity is legally *appropriated* (as opposed to being an already owned part of the mythical 'ownership of the firm');
- that the whole product is appropriated by *one* legal party, the residual claimant (as opposed to the 'distributive shares' metaphors which picture each factor as owning part of the product);
- that human actions (as opposed to the services of things) are the only *de facto* responsible factor in production (in contrast to the engineering picture that all inputs are passive or to the poetic picture that all inputs are active) which entails that the people working in a firm are *de facto* responsible for producing the whole product; and
- that the *de facto* responsibility of persons is in fact *non-transferable* from one person to another (in contrast to, say, the responsibility for the use of a tool like a truck or van).

If the above factual theses be admitted, the heretical conclusions will follow closely behind, so to resist these heresies, it is incumbent on the objective social scientist to show wherein these factual theses are false.

Notes

† Research on this paper was funded in part through a contract with the Brookings Institution, through its project on Corporations and Human Capital. Opinions expressed in this article are those of the author, and not those of the Brookings Institution, its officers, directors, or financial supporters.

* The findings, interpretations, and conclusions expressed in this paper are entirely those of the author and should not be attributed in any manner to the World Bank, to its affiliated organizations, or to the members of its Board of Directors or the countries they represent.

[1] For an excellent anthology exclusively on the "economic" analysis of the firm, see Putterman and Kroszner (1996).

[2] "One can even say that wages are the rentals paid for the use of a man's personal services for a day or a week or a year. This may seem a strange use of terms, but on second thought, one recognizes that every agreement to hire labor is really for some limited period of time. By outright purchase, you might avoid ever renting any kind of land. But in our society, labor is one of the few productive factors that cannot legally be bought outright. Labor can only be rented, and the wage rate is really a rental." (Samuelson, 1976, p. 569)

[3] There are parallel arguments based on democratic theory that look at the governance aspects of the firm rather than the structure of property rights. See Dahl (1985) or Ellerman (1992).

[4] "This word [expropriation] primarily denotes a voluntary surrender of rights or claims; the act of divesting oneself of that which was previously claimed as one's own, or renouncing it. In this sense, it is the opposite of 'appropriation'. A meaning has been attached to the term, imported from foreign jurisprudence, which makes it synonymous with the exercise of the power of eminent domain, ..." (Black, 1968, p. 692, entry under "Expropriation")

[5] For example in Putterman and Kroszner anthology (1996) on the "economic" nature of the firm, none of the papers pose the question of appropriation in their treatment of the firm. The question of appropriation in the firm is similarly ignored in the "economics of property rights" (e.g., Furubotn and Pejovich, 1974) and in the so-called "property rights approach" to the firm (e.g., Hart and Moore, 1990; Hart, 1995).

[6] While the lay misinterpretation of ownership of a corporation might be understandable in a world of significant transactions costs, it is less clear why economists should still be wedded to the lay concept in the "standard model" of general equilibrium in an idealized world free of transaction costs. In particular, the fabled attempt by Arrow and Debreu (1954) to show the existence of a competitive equilibrium with positive "pure profits which are distributed to the owners of the firm" (Arrow, 1971, p. 70) is flawed *in theory* because they incorrectly assume there is the ownership of production sets in a private property

market economy. The ownership of a corporation is misinterpreted as the ownership of a production set even in the idealized frictionless model where a challenger corporation could bid slightly higher for the inputs (and get lower but still positive profits) to take over a production opportunity from an incumbent corporation and thus defeat the purported 'competitive equilibrium' with positive pure profits.

[7] Wieser's development of economic notions of "responsibility" and 'imputation' illustrates an important intellectual strategy of the science of economics. How is economics to protect itself against the 'nightmare' of being invaded by jurisprudence and from having some 'economic' question addressed by juridical principles (e.g., as in this paper) outside the professional expertise of economists? Offense might be the best defense, and thus there have been 'economic' theories of law, politics, and much else. These intellectual forays might involve developing 'economic' versions of non-economic concepts (e.g., Wieser's metaphors) and then redefining the important questions as the questions that could be dealt with using economics concepts (e.g., ignoring questions of property appropriation in favor of wage and price determination by marginal productivity theory).

[8] See Ellerman (1992) for a more complete treatment.

[9] Any discussion of the appropriation or initiation of property rights is ordinarily relegated to a rather mythical original state of nature (e.g., in the philosophical literature) or to a situation where property previous held in common is being privatized. For instance, Harold Demsetz (1967) considers how private property in land with fur-bearing animals was established as a result of growth in the fur trade. John Umbeck (1981) considers how gold rights were established in the 1848 California gold rush on land recently ceded from Mexico. Yoram Barzel (1989) considers how the common property rights to minerals under the North Sea were privatized. But in Barzel's book (see particularly Chapter 5 'The formation of rights', 1989) as elsewhere in the economics of property rights literature, there is no recognition that the appropriation of the outputs (and the symmetrical termination of rights to the used up inputs) takes place in normal production. Thus the question of appropriation at the heart of the theory of the firm is not even posed in the 'economics' literature on property rights and the firm. Once the question of appropriation is well-posed, the descriptive answer of the market mechanism of appropriation and the normative answer of the responsibility principle are relatively straightforward.

[10] Classical treatments of the labor theory of property (e.g., see Menger, 1899) tended to assert 'Labour's Claim to the Whole Product' without being clear about the inclusion of the negative product. This view of 'immaculate appropriation' led to much easy criticism of the theory as having neglected the other scarce inputs. The algebraically symmetric description of production (using a vector with the outputs as positive and the inputs as negative) came into common usage in recent decades as production opportunities came to be described with production sets rather than production functions. Applying the old label of 'whole product' to these production vectors allows the modern and consistent reformulation of 'Labour's Claim to the Whole Product.' It is perhaps ironic that the usual treatment of marginal productivity theory also indulges in the notion of 'immaculate' production. A unit of an input cannot produce its "marginal product" *ex nihilo*. Other inputs need to be used up. Marginal productivity theory needs to be reformulated using the vectorial 'marginal whole product of a factor' so that the market value of the marginal whole product of a factor equals the price of the factor when profits are maximized. See Chapter 5 'Are Marginal Products Created *ex Nihilo*?' in Ellerman (1995).

[11] Even as the legally-trained Austrian economist Friedrich von Wieser introduced the metaphorical notions of 'economic responsibility' and 'imputation,' he showed an understanding of the non-metaphorical notions in jurisprudence. But the metaphorical notions of responsibility and imputation have captured the minds of economists and the minds of those who see the world through the economics mind-set. For example, the reader as intellectual anthropologist is urged to try to find a *single* economics text written in, say, the last half century (e.g., Samuelson's primer and its vast progeny) that shows even Wieser's appreciation of the non-metaphorical notions of responsibility and imputation in the text's treatment of marginal productivity theory or the 'labor theory of value.' Thus one has the common picture where all the factors of production – land, labor, and capital – are seen as active agents cooperating together to produce the product. Alternatively, all the factors are seen as being passive inputs that are 'used up' as the output is 'produced' in an engineering description of production. The economics mind-set avoids the 'non-economic' asymmetry of treating the responsible actions of persons as being fundamentally different from the non-responsible services of things.

[12] Since the responsibility principle is fundamental to ordinary 'bourgeois' jurisprudence, this interpretation of labor theory of property removes any bizarre or 'radical' connotations of the theory and makes it understandable to the layperson. Moreover, this interpretation completes the decoupling of the principles of private property from the conventional firm (based on the employment relation) – a decoupling begun by the understanding of the fundamental 'ownership of the firm' myth. It is the democratic firm that is based on the responsibility principle in jurisprudence.
[13] The labor theory of value, particularly in its Marxian form, is surely one of the most spectacular failures in the history of economic thought. Once the labor theory of property is cleanly formulated as a theory of property appropriation, it is seen to have nothing whatever to do with value or prices. There is always a strong temptation to try to attack the labor or responsibility theory of property by associating it with the labor theory of value, Marxism, and all that – an attack that is particularly ironic since the responsibility principle is the basis for the just appropriation of *private* property.
[14] "[B]oth the principal and the agent, the person who hires the hit man and the hit man who carries out the murder, are held liable." (Coleman, 1982, p. 99)
[15] "The general thesis in the hit-man case is straightforward: agents are not held responsible for actions that, if taken under one's own authority, are not criminal, but they *are* held personally responsible for actions that are criminal acts as defined by the law of the land." (Coleman, 1982, p. 99)
[16] "All who participate in a crime with a guilty intent are liable to punishment. A master and servant who so participate in a crime are liable criminally, not because they are master and servant, but because they jointly carried out a criminal venture and are both criminous." (Batt, 1967, p. 612) A hired killer is convicted of murder because he committed murder, not because he engaged in an illegal murder-for-hire contract.
[17] The fundamental theorem of property theory showing how the market mechanism of appropriation works correctly in a private property market economy *sans* the employment contract is outlined in Ellerman, 1992.
[18] An employment contract is not needed if the person using the property is the owner but I am considering the case where the roles of worker and capital supplier are kept separate.
[19] For instance, the "rights of authority at the firm level are defined by the ownership of assets, tangible (machines or money) or intangible (goodwill or reputation)." (Holmstrom and Tirole, 1989, p. 123)

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