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**Ownership Externalities and Nozick's Distributive Justice:
Economics at the Service of Philosophy**

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Abstract

In his 1974 work Anarchy, State, and Utopia, Robert Nozick argues that justice in both the acquisition and transfer of properties entitles their owners to receive whatever is their due from ownership of such properties. Distributive justice must be based on just deserts. In other words, societal output ought to be divided according to what people bring to the market and what they contribute. Nozick's position finds resonance in the marginal productivity theory of factor payments of neoclassical economics in which factors are supposed to be paid according to the value of their marginal product. This paper argues that Robert Nozick's entitlement theory of distributive justice need to be modified by the notion of ownership externalities from the discipline of economics. This paper presentation is an illustration of how economics can be put at the service of philosophy.

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I. Introduction

Distribution according to entitlement is the third criterion examined by Konow (2003). The best exponent of this approach is Robert Nozick (1974, 150-53) who argues that justice in both the acquisition and transfer of properties entitles their proprietors to receive whatever is their due from ownership of such holdings. Societal output ought to be divided according to what people bring to the marketplace and what they contribute.

Nozick's position finds resonance in neoclassical economic analysis. For example, consider an economy with two factors of production, labor and capital. How should output be divided between these two factors and on what basis? In the marginal productivity theory of factor payments, inputs are paid according to the value of their marginal product. Thus, the wage of a worker is determined by the marginal product of labor multiplied by the market price of the output produced. Likewise, capital is paid at a rate equal to its marginal product multiplied by the market price of the output. There is great appeal in such a distributive criterion because factors are paid only according to what they produce and contribute to the economy. Most people find this intuitively fair. Even more important, however, this method of factor payments simplifies the problem of rank ordering Konow's (2003) three criteria of distributive justice because in a perfectly competitive economy with no externalities or market failures, paying factors of production according to their marginal productivity is a necessary condition if the economy is to reach allocative efficiency. Thus, the criterion of entitlement is subsumed under that of efficiency.

The criticisms of both Nozick's entitlement theory of justice and the marginal productivity theory of factor payments are extensive, and I will not rehearse them as they are not essential for the thesis of this paper. All I want to do is to demonstrate that by using Nozick's own two preconditions of justice, entitlement as a norm and the marginal productivity theory of factor payments cannot be applied without extensive corrective action. Justice in acquisition and justice in the transfer of private properties are violated because market participants do not pay many of the social costs that are incurred in market operations. There is a gap between the private and social costs of participating in the marketplace. Unless these social costs are paid, entitlement as a measure of distributive justice fails because some people are getting more than is due to them at the expense of others who bear the cost of sustaining market operations. Extra-market interventions are needed to ensure that people shoulder the true social costs of the benefits they reap from the marketplace. It is only after we have rectified such a market failure that we can truly say that people get what is rightfully theirs. Recall that the marginal productivity theory of factor payments works only in the absence of externalities.

The entitlement principle fails Nozick's two preconditions of justice (acquisition and transfer) because of severe ownership externalities in the marketplace. These unintended consequences prevent the economy from equalizing private and social costs/benefits, a necessary condition if economic agents are truly to give one another their respective just deserts (entitlement).

II. Ownership Externalities

In his example of the apple orchards and the apiaries, Meade (1952) provides an excellent exposition on two types of ownership externalities. Beekeepers reap enormous benefits from nearby apple orchards as bees feed on the nectar of apple blossoms and produce honey in the process. Thus, an increase in the output of apples produces a collateral increase in honey production without the beekeepers having to do anything. Orchard owners, however, are unable to share in the extra revenues of beekeepers resulting from the augmented honey production because they (the apple growers) are unable to exclude the bees of non-paying apiaries from their orchards. Hence, the social benefit of the apple orchards exceeds the private gains of their owners. It would have been optimum for the entire community to increase apple production given the latter's positive externality. Likewise, the private cost of beekeeping is less than its social cost because this sector does not have to internalize the cost of running apple orchards. Beekeepers are in effect getting a free ride at the expense of the apple growers. Put in another way, there is an underproduction of apple blossoms and an overproduction of honey than what is called for under allocative efficiency in which private costs and benefits truly reflect social costs and benefits. Beekeepers get to keep the windfall rents from the additional honey while not having to expend anything for the upkeep of the apple orchards. Meade calls it the case of unpaid factors.

In a second example, "the creation of atmosphere," Meade presents the case of timber growers and wheat farmers. Trees positively affect atmospheric conditions by inducing more rainfall. This is a boon for wheat growers. Thus, the planting of more trees provides beneficial spillover effects for the wheat industry. Farmers do not have to pay the timber industry for such gains. As a result, just as in the case of the beekeepers and the apple growers, there is an overproduction of wheat and an underproduction of timber because the true social costs and benefits are not internalized in the private cost-and-benefit calculations of the farmers and the timber growers.

Meade's "creation of atmosphere" is similar to Marshall's (1961 [1890] I, 284, 314, 320) discussion of external economies in which individual firms benefit from the "general development of the industry." For example, industry growth may lead to a decline in the cost of inputs, a better exchange of ideas through trade journals and professional associations, an increase in the numbers and quality of ancillary firms providing auxiliary services to the entire industry, a larger pool of workers with industry-specific skills, and an improvement in the physical infrastructure, such as roads, railways, power generation, and port facilities. These are all offshoots of an advancing industry that provide real benefits to individual firms at no cost to the latter. These are external economies, improvements in the general conditions of the industry

enjoyed by the firms.

The main difference between Meade's two examples is that in the case of the "unpaid factors," there is only a fixed amount of beneficial spillover effects (apple nectar) to go around. Thus, an increase in the number of beekeepers leads to a decline in the gains enjoyed by every apiary in the area. In other words, the situation is subject to rival consumption. In contrast, the increase in rainfall precipitated by the grove of trees is a benefit that is enjoyed equally by all the farmers. The propitious atmosphere created is not subject to rival consumption.

More important, however, are the similarities between the two cases presented by Meade. Bator (1958, 364) refers to the case of unpaid apple nectar as an ownership externality in which "[n]onappropriation, divorce of scarcity from effective ownership, is the binding consideration" (emphasis original). It is fundamentally a problem of enforcement because there is simply no feasible technical means of excluding bees from apiaries that do not pay the orchards or of distinguishing which bees are from which apiaries.¹ The limitation here is that of the inability to keep a proper accounting of the spillover effects. Hence, Bator calls it an "ownership externality." To my mind, Meade's second case of the "creation of atmosphere" is also a similar instance of unpaid factors because timber growers are not compensated by farmers for the latter's increased wheat output. Both examples are rightly cases of unpaid factors and ownership externalities. The distinctive feature in Meade's and Marshall's discussions is that there is a market failure because of the market's inability to internalize the true social benefit or cost and, as a result, the economy is not at its optimum product mix. I will use Marshall's, Meade's, and Bator's insights to make my case for the rest of the paper.

By its nature, the market is fraught with ownership externalities stemming from (1) the gains from trade, (2) the market as a public good, and (3) the market as a network externality. Each of these is akin to Meade's "creation of atmosphere" or to Marshall's external economies whose propitious benefits are appropriated by market participants without having to pay the factors responsible for such gains. Each is a case of manifold unpaid factors.

III. Gains from trade

There are at least four sources of gains from trade, namely: the venting of surplus, consumption gains, production gains, and dynamic gains. Trade augments the demand for goods and services produced within a nation. In the case in which there is insufficient local demand to fully employ a nation's resources, trade is beneficial since idle domestic resources are put to use in supplying overseas markets. This is a gain from trade that was discussed as early as Adam Smith's Wealth of Nations. One could, thus, aptly call trade a "vent for surplus" (Myint 1958). If the overseas demand is sizable, trade may even bring the economy to full employment on the production possibilities frontier.

A second gain from trade comes from an increase in the consumption opportunity set of consumers. Now, they are able to buy imports at a much cheaper price than would have been the case had these goods been produced domestically. At the same time, their exports are sold at a

relatively higher price abroad than would have been the case had they been sold only in the home market. In both instances, there is an increase in the real incomes of consumers.

A third benefit from trade is the production gain that stems from the nation moving toward its comparative advantage. The nation can shift its resources away from the manufacture of goods that it could import cheaply to the production of goods that it can sell abroad at a higher price.

A fourth source of gain comes from the outward shift of the production possibilities frontier in the next rounds of economic exchange. This gain results from the expected technological changes and innovations that flow from the nation's specialization in what it does best (its comparative advantage), from possible economies of scale, and from its access to overseas technology through trade links. These benefits can also be called Schumpeterian gains to underscore the role of trade in nurturing the "gales of creative destruction" that are distinctive of the capitalist economy.

Achieving these four types of gains require, at a minimum, collaboration between nations willing to trade with each other. Consumers and producers in these trading nations enjoy the aforesaid benefits both in the short run and in the long term. The key question that should then be asked is how these gains ought to be distributed among market participants. Who should appropriate the rents in moving from autarky to international trade? Should we simply allow exporters and consumers to keep all the increases in their real and nominal incomes? And, if so, why?

The four gains from trade discussed above would not have come about without the efforts of economic agents responsible for setting up the necessary infrastructure for successful cross-border exchange. Participating in the global marketplace is only a straightforward exercise when it comes to academic exercises such as drawing graphs. In actual practice, there are many preconditions that must be satisfied for the market to function smoothly. This preparatory work requires the expenditure of real resources over a long period of time. Moreover, perfect mobility is an assumption that is true only in the textbook model of a perfectly competitive market. Economic changes inflict costs on certain segments of the population who find their welfare relatively (or even absolutely) diminished as a result of the shift from autarkic to international prices.ⁱⁱ Thus, gains from trade come at the expense of people who have to bear the cost of the ensuing relative price adjustments.

These two groups of market participants can be aptly described as having been directly or indirectly responsible for what Meade calls the "creation of atmosphere" or Marshall's external economies that paved the way for others' gains, especially exporters and consumers. Thus, we have to examine seriously whether or not these beneficiaries rightly deserve to appropriate all the windfall for themselves. These gains from trade would not have been possible in the first place without the efforts of the economic agents who had been responsible for the necessary "creation of atmosphere" conducive to international trade. These correspond to Meade's "unpaid factors" because in actual markets there is no practical way to keep tabs on who is contributing

what to the creation of the necessary infrastructure for cross-border exchange. Moreover, actual markets are not designed to enforce the Hicks-Kaldor compensation scheme in which winners compensate losers (Hicks 1940; Kaldor 1939; Samuelson 1950; Scitovsky 1941). Thus, I submit that when it comes to distributive justice in international trade, Nozick's notion of justice based on entitlement from property ownership cannot be applied without first ensuring that these unseen and "unpaid factors" responsible for making trade possible are paid according to their contribution. We would be violating Nozick's two preconditions of justice in acquisition and transfer if we do not attend to these ownership externalities.

A final note before we leave this section. The preceding discussion on gains from trade can be used to describe the economic position of individual market participants. Just like entire nations, individual economic actors also have their production possibilities frontier, have endowments that may be unemployed or underemployed, and can produce consumer and producer surpluses for themselves by trading with others. Becker's (1965) and Lancaster's (1966) household production model is particularly apt for this framework. Thus, this section's exposition on the gains from international trade can be generalized as the gains from any market exchange—domestic or international, large-scale or small-scale.

IV. The market as a public good

A quick way of understanding and appreciating the nature of the market as a public good is to describe market operations as part of collective tacit knowledge. The market does not arise spontaneously nor does it emerge out of a vacuum. There is a communal "entrepreneurial" effort that spans several generations responsible for making the market what it is today. It is an integral part of a community's social capital. Market participants use bounded, rather than instrumental rationality in their daily economic decisions. Recall that instrumental rationality entails a maximization exercise of using available information to calculate the optimum means to reach given ends. This is an unrealistic and tedious process, beyond the computational capacities of homo oeconomicus. Thus, Simon (1976) proposes that economic agents do not run a maximization exercise for every decision they make but simply follow rules of thumb whose outcomes will rarely be optimal. These conventions define what is permissible and what is not within the marketplace. They save time and communicate what market participants may or may not expect of each other. In other words, people "satisfice" rather than maximize. This is bounded rationality. The formal and informal rules constituting bounded rationality are built up over time from custom, law, and usage. These are refined and strengthened further as people subscribe to them in the self-reinforcing dynamic of both path dependence and network externalities. Thus, market operations accumulate an enormous wealth of collective tacit knowledge over time in a communal process of learning by doing. Such collective knowledge is the product of a very costly process of mistakes made and lessons learned and remembered.

This collective tacit knowledge is also aptly called "embedded knowledge." After all, just like tacit knowledge for individuals, collective tacit knowledge also deals with intangibles. It is not codifiable in its entirety and, therefore, is not completely transferrable. And, just as personal tacit knowledge is embedded in and inseparable from the individual, collective tacit

knowledge is also embedded in a society's institutions, in its culture, in its informal rules of thumb, and in its customs, law, usage. Lam describes the instantiation of collective tacit knowledge well:

Embedded knowledge is the collective form of tacit knowledge residing in organizational routines and shared norms. It is . . . based on shared beliefs and understanding within an organization which makes effective communication possible. It is rooted in an organization's 'communities of practice', . . . [denoting] the socially constructed and interactive nature of learning. Embedded knowledge is relation-specific, contextual and dispersed. It is organic and dynamic: an emergent form of knowledge capable of supporting complex patterns of interaction in the absence of written rules. (Lam 2000, 493)

Since tacit knowledge is not codifiable and can only be acquired through a process of learning by doing. Economic agents wanting to access it have to be part of the collective that embodies such communal tacit knowledge. The only way to access and benefit from the community's store of accumulated, intangible, economic know-how is to be part of the marketplace.

The market cannot charge a nominal user's fee for access to this accumulated wealth of collective tacit knowledge. It cannot exclude people from the market's institutions painstakingly built up over time. For example, anyone coming off the street to purchase a cup of coffee is in effect availing of and benefitting from the infrastructure that makes it possible to complete such a simple transaction that enables one to enjoy, with minimal effort and at a modest cost, coffee beans grown halfway across the world. There was no need to meet and bargain with an entire range of people, from the small-scale farmers who planted and harvested the beans; to the middlemen who consolidated the coffee beans from remote and widely dispersed farms; to the processors who roasted the beans; to the wholesalers who repackaged, warehoused, transported, and distributed the coffee beans for commercial use; and finally, to the local store that ground the coffee beans and brewed them. Consumers simply walk to the local coffee shop, enjoy a cup of freshly brewed coffee, and, most importantly, are spared from having to perform all the aforesaid functions by themselves, thanks to the market and its division of labor. Indeed, behind such a simple economic exchange as buying a cup of coffee is hidden a multitude of antecedent transactions with attendant legal, commercial, and financial paperwork. The market takes care of all these requisite protocols and enables consumers to satisfy their preferences with ease and convenience. And, the marketplace does not, and cannot charge a nominal user's fee for these services. We often take market's services for granted and come to expect them as a normal part of everyday living because the market is so successful in providing them quietly and seamlessly that the entire process is practically invisible to all but the most avid student of economics. And, to top it all, the marketplace produces and widely dispenses the enormous gains reaped from the division of labor and economies of scale it facilitates. Note, for example, how despite the long aforesaid chain of transactions to produce a freshly brewed cup of coffee, even the ordinary person off the street can purchase it at minimal cost.

Or, take Nozick's (1974, 160-74) argument against unwarranted interference in market exchanges. If people are willing to pay to watch Wilt Chamberlain play basketball, and in the process make him a very wealthy person, Nozick contends that it would be wrong for society to take part of Chamberlain's earnings and redistribute it to the poor. To do so would be no different than forced labor in which those who are capable and productive in the community are, in effect, compelled to work on behalf of others. I dispute Nozick's claim on the basis of ownership externalities. No matter how private the transactions between Wilt Chamberlain and his fans may appear, it is nonetheless still the market's existing infrastructure and established conventions, not to mention a stable social order, that facilitate the consummation of such economic exchanges. Thus, taxing Wilt Chamberlain's earnings can be viewed as a "user's fee" to cover the maintenance and the other costs incurred in setting up the preconditions that make private economic transactions possible to begin with.

The market's utility goes beyond its most widely recognized function of allocating scarce resources to their most valued uses. Shipman (1999) provides a lengthy and meticulous study of the many other roles of the market: as a route to full employment; as an engine of growth; as an information processor; as a necessary complement to alternative forms of transactions.ⁱⁱⁱ To appreciate the significance of the market, it is good to examine the counterfactual scenario. Without the market, consumers and producers are left on their own to look for buyers and sellers of the goods and services they require in a barter that requires a coincidence of needs. The hungry cobbler has to look for that unshod farmer willing and needing to exchange food for a pair of shoes. The market spares people the inconvenience and limitations of a pure barter economy; and it does not charge a user's fee for the service.

This is the nature of the market as a public good. No one who has purchasing power or a valued asset can be excluded from benefitting from market operations. No one can be charged a nominal fee before being able to buy or sell. There is ease of entry and exit in the marketplace. Besides non-exclusion, non-rival consumption is the other feature of a public good. Availing of the services of the market to find mutually beneficial exchanges is not merely non-rival, it is, in fact, a network externality in which the greater the number of market participants in search of trading opportunities, the better it is for everyone.

Like any public good, this means that the market will not get paid for the utility that it provides unless there are extra-market mechanisms. The irony here is that even the market itself requires extra-market intervention in order to raise the revenues to cover the cost of maintaining the requisite institutions that make it (the market) work smoothly. Market participants do not have to pay for the consumer surplus, producer surplus, and dynamic gains that flow from market operations. For example, firms in industrialized countries are able to borrow at much better terms from international financial markets than are their counterparts in emerging nations whose political economies are unstable, at best. Not having to pay an extra risk premium is a boon to firms in stable markets, a benefit that comes with the market as a public good and for which they are not charged a user's fee. Economic agents do not have to pay for the gains they enjoy from network externalities and capitalism's "gales of creative destruction." They do not have to pay in order to access the wisdom and convenience afforded by rules of thumb patiently

accumulated and honed over time; they do not have to pay whenever they learn better ways of conducting or organizing their economic affairs through the demonstration effect of others' best practices revealed in the marketplace. Most of all, market participants do not have to pay for the information gleaned from price adjustments that enable them to make better and timely decisions and reap rents in the process.

If the market does not get paid for the valuable services it provides, then who pays for the requisite cost of sustaining the formal and informal institutions and the preconditions that enable the market to function smoothly? Bator (1958, 364) notes that an ownership externality is not dependent on whether the unpaid factors are in the private or public domain. The kind of ownership is irrelevant. What is key is the inability to get factors paid properly and in full. Nonetheless, for purposes of analysis, one could still make a distinction between a public ownership externality (in which the unpaid factor is in the public domain) and a private ownership externality (in which the unpaid factors are in the private realm).

The increasing returns as the market grows bigger and the four gains from trade are public ownership externalities. Government uses tax revenues to maintain the necessary legal infrastructure of the marketplace (e.g., law and order, property rights, mechanisms for enforcement, and courts). Of course, both the marketplace and the four gains are undergirded by microeconomic foundations that are fraught with private ownership externalities. These include the people who are adversely affected by pecuniary externalities. The requisite adjustments in economic agents' decisions and behavior in response to price signals is another cost incurred in sustaining market operations. This is paid for by the people who have to bear the market's adverse unintended consequences but are left unrecompensed according to the Hicks-Kaldor compensation criterion (Hicks 1940; Kaldor 1939; Samuelson 1950; Scitovsky 1941). Recall, for example, the displaced manufacturing workers who have to retrain or move to another geographic location. These are unshared market burdens. And, we also have the factors of production that are inadequately remunerated for all their contributions to making the market work the way it does, such as earlier generations who have handed down the custom, law, and usage that now form the bounded rationality and the informal rules of thumb running the marketplace. Another more recent example of such unpaid or insufficiently paid factors are those individuals responsible for coming up with the idea and then setting up the basic infrastructure and technologies for the Internet as we know it today.

It is difficult to keep track of the social value of people's contributions. Consequently, market operations are permeated with ownership externalities. There are manifold unpaid factors and uncompensated market burdens, and since the economy constitutes a single whole of interrelated parts, there will be other factors that are correspondingly getting more than their actual social contribution. We cannot assume that these all cancel out in the end, with economic agents' unpaid social costs being balanced out by their unearned private gains. These private benefits and social costs are most likely borne by different people, and in varying degrees of gains and losses.

Unearned market gains are the corollary of unpaid factors and uncompensated market

burdens. In other words, left on its own, the market rarely distributes output and pays factor inputs according to people's marginal social contribution. More likely, unfettered market operations disburse payments according to sociohistorical location and the characteristic chance and contingency of the marketplace. This results in an uneven disposition of costs and benefits across market participants. There is need for extra-market interventions if we are to bring marginal private costs-benefits closer to marginal social costs-benefits.

Endnotes

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- i. Bator (1958, 353-54) enumerates five different modes of market failure: failure of existence, failure by signal, failure by incentive, failure by structure, and failure by enforcement.
 - ii. Recall, for example, the Stolper-Samuelson theorem in which trade leads to an increase in the returns of the more abundant factor relative to the scarce factor input.
 - iii. Alternatives to market exchange include relational, informed, and administered transactions. Nonetheless, these are not truly alternatives in the proper sense of the term because they can produce benefits only when they work alongside the market. In other words, they are limited to a particular range of exchanges and cannot completely replace the market. Moreover, despite Coase's (1937) "Nature of the Firm," which shows how firms can do a better job than the market for certain transactions, these firms nevertheless still have to work with and through the market if they are to produce any gains at all. For a more in-depth discussion of these "alternatives" to market exchange, see Shipman (1999, 196-312).