FALLACIES IN THE ECONOMIC DOCTRINE OF EXTERNALITIES

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This essay refutes contemporary doctrine toward externalities and offers a different view, one that is much narrower in application, of what we now call the externality problem. Discussion of externalities has continued for almost 100 years. I do not trace the details of this long history but, instead, focus on the two major turning points that shape current doctrine. These are *The Economics of Welfare* (1920) by A. C. Pigou and 'The Problem of Social Cost' (1960) by R. H. Coase. Contemporary doctrine seems to have settled into a state of quiet toleration of the different views offered by these two works, at least as compared to the heated debates during the years that followed immediately on the appearance of Coase's paper. The present essay is intended to disrupt this quietude, for I am convinced that Pigou, Coase, and, more generally, the economics profession view this problem wrongly. The present essay contains three parts, a prefatory note intended to clear away potential confusions, a refutation of Pigou's and Coase's views, and a suggested alternative to these.[1]

I. Prefatory note.

The 18th century debate between mercantilists and Scottish philosophers came to an important juncture in 1776 with publication of Adam Smith's inquiry into *The Wealth of Nations*. Smith's contributions to the emerging new discipline of economics were multifaceted and far reaching, but the contribution most relevant to this debate was his argued claim that a competitive, private ownership economy in which persons acted freely to improve their own interests could, and would, serve public interests. This was a telling rejoinder to the view held by mercantilists, who saw the wellbeing of a nation as dependent on its stocks of gold and other precious metals and who thought that trade with other nations should not be left wholly in the hands of privately acting persons but should be regulated so as to enhance these stocks.

Smith's work set fellow economist-philosophers the task of modeling the resource allocation outcome implied in a society in which individuals act freely on behalf of their personal interests and who have no control over each other's actions; and whose private decisions were informed by market-determined prices. Mainline economists writing during their discipline's neoclassical

[1] Earlier work of mine discusses problems inherent with much of transaction cost economics, in which Coase's view has become embedded. See, especially, essays 7 and 8 in my *From Economic Man to Economic System* (Cambridge: Cambridge University Press, 2008); these two essays constitute a broad critique of the role assigned by economists to transaction cost in theories of the firm and of externalities. The present paper does not discuss the theory of the firm but it present a more comprehensive critique of transaction cost-based externality theory than I offer in essay 7.

period completed this task (along with several others) early in the 20th century. The core of their efforts became known as the perfect competition model, a label that seems to me very misleading. The model really says little about competitive activities, and it has, as a result, misled policies toward competition. Its real contribution is its offering of an analytically coherent view of a highly decentralized, unplanned economy. The model should have been, and in this essay will be, called 'perfect decentralization.' It describes a state of affairs in which private ownership is so decentralized that no person or small group of persons can influence the way a society's resources are allocated.

The model, which has guided much economic thought, sets forth minimal conditions which, if met, were thought by mainstream neoclassical economists to be sufficient to sustain Smith's belief that self-interested actions of private resource owners maximize the real wealth of a nation. [2] These conditions include extreme decentralization of resource ownership, full information of prices and of one's own personal preferences, knowledge of available (and fixed) production technologies, and personal behavior that is rational in its pursuit of self-interest. Not explicitly specified but nonetheless clearly implicit is a presumption that all scarce resources are privately owned and that private ownership is not only understood but also respected. The conclusion drawn from this model was that self-seeking private behavior would result in an *efficient* allocation of resources. Waste not, want not. This view of the consequences of perfect decentralization became dominant among mainline economists toward the end of the 19th century and the beginning of the 20th. Marxism, in the underworld of economics, had by this time already begun to erode enthusiasm for this view, but nonetheless it remained dominant among mainline economists into the first quarter of the 20th century. Then, with publication in 1920 of Pigou's *The Economics of Welfare*, this mainline dominance began to weaken.

There are two ways to critique the neoclassical model, one is to uncover logical flaws in the reasoning that underlies it and the other is to argue that the model, although logically correct, is inadequate in some important, relevant ways to deal with the problem it addresses ('important, relevant ways' because all useful models abstract from reality in one way or another). It is not always clear which method is intended by critics. This is especially true of Pigou's work, but, since Pigou offers not suggestions as to how the neoclassical model should be modified, his criticism seems to be of the 'logical error' variety. Coase seems more clearly to

[2] These sufficient conditions, however, are not also claimed to be necessary. An economy planned centrally or one whose processes are more dynamic than those embodied in the perfect decentralization model, such as Schumpeterian 'creative destruction,' does not satisfy these conditions but, nonetheless, may allocate resources efficiently.

argue that the neoclassical perfect decentralization model needs modification if it is to tackle the problem of resource allocation. His proposed modification, of course, is to require it to recognize that the cost of using the price system is positive.

In regard to what I will write in the second and third parts of this essay, it is important to note that neither critic claims technical or business ineptness by private producers of goods and services; neither claims mistakes by private owners of resources; nor does either claim problems of monopoly. What they do claim is that some resources used to produce goods and services are mispriced in the neoclassical model. In Pigou's case, this might be any resource. In Coase's case, the mispriced resource is the price system itself. Essentially, then, the two critics have aimed their arguments at the model's presumption that prices are known and correct. They have not claimed the general productive superiority of a centrally planned economic system, although, as will be argued below, there is an implicit presumption that the State has advantages when it comes to problems of enforcing private rights and defending against foreign enemies.

II. Externality-based rejections of efficient resource allocation.

Pigou's rejection of the neoclassical conclusion about efficient allocation of resources is based on the apparent ability of private parties to use resources without facing all the consequences that flow from how they use them. Thus, private costs of using scarce resources will sometimes differ from social costs. R. H. Coase (1960) criticized Pigou's work for failing to explain the source of the market's misrepresentation of costs and then went on to give an explanation based on the cost of using the price system (hereafter, transaction cost).

Consider Pigou's method of argument first. He constructs examples of divergences between private and social cost. These examples differ circumstantially but in their natures they are all the same. A favorite example involves the misallocation of traffic between two roads that connect the same terminal points. One road is subject to considerable congestion because it is narrow; the other road is wide and escapes much of this congestion but takes longer to transit because it lacks the directness of route of the narrow road. Pigou claims that the equilibrium number of autos using the narrow road will be inefficient. This is because drivers using this road do not take account of the costs of increased congestion they impose on others who use the road. But what Pigou fails to do is show that these examples are consistent with the presumptive conditions set down in the perfect decentralization model. Frank H. Knight (1924), in a brilliant article on social cost, criticizes Pigou's two-road example.[3] He notes that Pigou allows free access to the two roads. Presumably, then, these roads are publicly provided and managed and, as such, cannot be a basis for criticism of private resource allocation. Knight

[3] The similarity between the present essay's title and that employed by Knight's 1924 article is no accident.

argues that these roads, had they been private, would have been priced (in a competitive setting) so as to achieve an efficient allocation of traffic; price to use the narrow road would have been raised to levels higher than to use the broad road. Pigou's examples do not uncover a logical flaw in the neoclassical model, since virtually all are based on an absence of private ownership. This is not to say that all resources in a real economy are privately owned but that Pigou's work is properly interpreted in terms of the consequences of an absence of private ownership (or, more provocatively, as the presence of mismanaged public or collective ownership) than as inefficiency deduced within the context of the neoclassical model.

Pigou might have, but does not, go on to argue for a more realistic model, one that allows for the existence of some un-owned resources. Instead, he writes of State directed solutions that apply taxes or subsidies that make private and social cost equal, but he does so without recognizing that the source of mispricing for many of his examples, such as that of the two roads, has been the State itself. The State is but a magic wand in Pigou's hands, waved without effort to conjure equality between private and social cost in a situation where the initial inequality is, in fact, a result of State ownership of resources. No matter, Pigou's critique of the neoclassical model commanded attention from economists and held sway over the profession until mid-way through the 20the century when it was challenged by R. H. Coase whose 'The Problem of Social Cost' article appeared in 1960.

Coase noted a defect in Pigou's argument that in its nature was much like that seen by Knight but which was not based on the absence of private ownership. Coase pointed to Pigou's failure to recognize that the cost of using the price system disrupted the ability of a market-based price system to face users of resources with the full consequences of the uses they chose. Free use of the price system was implicitly assumed in the neoclassical model, since it treats prices as known to all who would use them. Coase's complaint about neoclassical economics is empirical error, not logical error. The empirical error being that its model abstracts from an important aspect of the real world. As described above, Pigou gave no explanation for why a separation between private and social cost should exist in an economy that conforms to the conditions of perfect decentralization. Coase also offers no reason; instead, he openly modifies the perfect decentralization model to accommodate the fact that positive costs must be incurred to engage in exchange. The modified model allows him to rationalize the existence of a separation between private and social cost, or so he thinks. Just what this cost consists of remains somewhat vague, but I adopt Coase's general notion. He writes:

> In order to carry out a market transaction it is necessary to discover who
> It is that one wishes to deal with, to inform people that one wishes to deal
> with and to what terms, to conduct negotiations leading up to a bargain, to

> draw up the contract and undertake the inspection needed to make sure that the terms of the contract being observed, and so on. (At p. 15)[4]

Interestingly enough, Coase's emphasis on transaction cost marks a change from what he emphasized a year earlier in his 1959 article on 'The Federal Communication Commission.' The FCC article is viewed by most economists and legal scholars as the point of departure for his 1960 social cost paper, but in at least one important respect the two papers stand in contrast. Coase's FCC paper is much more in the spirit of Knight's 1924 article than it is n that of his 1960 social cost paper. The FCC paper was written for a conference whose task was to examine and evaluate the Federal Communication Commission. The dominant rationale used to justify the existence of the FFC at the time this conference was organized was that the Commission was needed to prevent users of the frequency spectrum from interfering with each other's broadcast signals; such interference was in the nature of what we now call an externality, and the FCC's task and accomplishment was to eliminate or reduce the severity of this interference. This was achieved through limits imposed on the power of broadcast signals, the closeness on spectrum space of assigned broadcast frequencies, and the geographic closeness broadcast stations. Coase's contribution to the conference was a paper that destroyed this rationale. He argued convincingly that which now seems obvious. Private *ownership* of the right to broadcast on a specifically defined frequency would suffice to eliminate interference problems or to significantly reduce their severity, doing so by way of legal methods like those used by landowners to prevent trespassing. The FCC, in a word, was redundant. The basis for Coase's conclusion is that private ownership resolves conflicts in the use of a scarce resource, a conclusion that was not based on the cost of using the price system but which was much the same as that contained in Knight's criticism of Pigou's externality examples. However, to this Coase adds an exception. He notes that the resolution of such conflicts through negotiations between private parties, on occasion, might become so complex that something like the FCC might usefully contribute to their resolution. This exception appears in the FCC paper as just that, an exception. The generally applicable proposition is that market negotiations between broadcasters who are private owners of broadcast rights will effectively resolve interference problems. However, in Coase's social cost article, published a year after his FCC paper, this exception becomes the dominating consideration in his treatment of both Pigou and the neoclassical model; 'complexity' of negotiations (in the FCC paper) easily becomes 'cost of using the price system' in his social cost paper.

True, Coase brilliantly demonstrates that externality-type inefficiencies cannot exist in a world such as is assumed in the perfect decentralization model, one in which markets are freely

[4] My intent and, I suppose Coase's, is to avoid a tautological notion of transaction cost that would make any source of separation between private and social cost a transaction cost; he clearly intended to distinguish transactions across markets from negotiations within a firm.

accessed and used. Since Pigou put no emphasis on transaction cost when attempting to establish error in the deduction of efficiency from the perfect decentralization model, Coase's demonstration constitutes a refutation of Pigou's argument. But, then, Coase goes on to declare that a world without transaction cost is irrelevant to the problem of efficiency. Despite Coase's rejection of a zero transaction cost world, Pigou's supporters made no mistake in focusing their rebuttals on this case. It is this case, and not the positive transaction cost case, that denies the State a role in resource allocation. A positive transaction cost world posed no real difficulties for Pigou's followers, since, as Coase himself argued, positive transaction cost makes it possible for there to be an inequality between private and social cost. After having pointed to Pigou's failure to provide a theory that would allow for externalities in an economy that meets the conditions of the neoclassical perfect decentralization model, Coase provided the theory, or so he thought. Simply add transaction cost to the neoclassical model.

Coase demonstrates the importance of transaction cost by way of two contrasting cases. The first shows that no difference between private and social cost can exist if the cost of transacting is zero, since, in this case, all who would bear costs from someone's actions can bring these costs into that person's calculations by making him or her offers to desist or modify the intended actions; similarly, this person can require revenues from those who would benefit from these actions. Nothing is left unaccounted for as long as legal rights of actions are in place. Coase's argument is correct in this case. His presentation of the second case, involving positive transaction cost, claims that inefficiency may arise because some of the negotiations required to account for all costs and benefits cannot surmount the barrier put in place by transaction cost even if legal rights of action are in place. And here, Coase makes an error that still goes unappreciated by economists.

He begins this demonstration in with an element of ambiguity in regard to ownership rights. Not only is this inconsistent with the perfect decentralization model, which assumes that all scarce resources are owned unambiguously, but it also has little to do with the externality problem. Two parties contend for control of a resource that, apparently, is not yet owned. They take their dispute to a common law court. The court identifies one claimant as the legal owner, but it does not prescribe the use to which the chosen person may put the resource. It might well be that differences between the two contenders in regard to capability and situation allow one to put the resource to a higher value use than the other. Assume the court awards the right of ownership to the party whose capability and situation prevent him from realizing as high a value from the resource as could the rejected party. Realization of the higher value use would nonetheless obtain if the two parties can negotiate after the court has made its decision, since the losing party, by assumption, can and will pay more to purchase the resource than the winning party will obtain by continuing to govern the use to which it is put. No inefficiency here. However, the cost of transacting might be so high as to block such negotiations, in which case it appears, as it did to Coase, that the economic system might then have failed to achieve an efficient allocation of resources. However, the appearance is only a mirage, soon fade away.

Coase has treated the legal system and its courts as if they are parts of the economic system that was modeled by neoclassical economists, but, as already noted, their model assumes that all resources are privately owned and that ownership is fully respected; there is no place in it for the courtroom drama imagined by Coase. Moreover, real social systems in fact design courts so as to insulate them the influence of the marketplace. Offers and acceptances of payments to the court for desired decisions are illegal, and court survival is not made to depend on earned profit from decisions rendered. The neoclassical model of an economy and the conclusions drawn from it are confined to economic institutions, to firms, buyers, sellers and so on. The model draws no conclusions about resource allocation which results from actions taken by non-market institutions like courts and legislatures. In any case, Pigou did not base his examples of inefficiency on ownership *ambiguity* or court mistake.

While adopting the neoclassical perspective of market behavior, which sees ownership and markets as instruments by which resource values are maximized, Coase has relied on court decisions to assess the efficiency of the economic system. The implication he draws, that the economic system has made a mistake in allocating resources, is quite wrong. The court may have made its choice of owner for reasons different from maximization of market value or it simply may have made a mistake because it is not guided in its decisions by a market-based calculus. These reasons may seem good to some and bad to others, but they are irrelevant to the externality problem whose proper domicile is wholly within the economic system. Indeed, although there are good reasons for not creating a different legal system, if the court were to be transformed into a market institution and allowed to survive only by revenues secured from petitioners who buy its services and decisions, control of a resource would go to the person who can put it to its highest value use.

The *economic system* simply takes the court's decision as an exogenously imposed constraint on its operations, much as it takes a decision by the State to tax or redistribute wealth. An efficient economic system is one that makes the most of scarce resources within the constraints handed down to it by courts and legislatures. Efficiency requires the market to block the transaction between the two claimants discussed above if the cost of their transacting exceeds the increase in value expected to be realized from a change in ownership of the resource.

Let us now set aside the court, for its operations are quite separate from those made in the marketplace. An issue nonetheless remains to be discussed. To discuss this issue, let us adopt two assumptions. As does the neoclassical model, let us assume that all ownership rights are established, unambiguous, and respected. But, as the neoclassical does not (explicitly) do, also let us assume that the cost of transacting is positive. Does the introduction of transaction cost lead to a rejection of the conclusion that markets will allocate resources efficiently in a competitive, private ownership economy? Does Pigou's argument hold in this modified neoclassical model?

Transaction cost does prohibit an owner of a resource from knowing all those values that might be realized from use of a resource, especially from use by others. The cost of transacting may prevent some of these opportunities from being brought to the resource owner's attention by way of negotiated offers. However, those values that are not known will be only those that for which the cost of acquiring price information exceeds the expected value of the knowledge that would be obtained from this information. All other prices are known because they are worth knowing. Put differently, there is an efficient amount of ignorance in an economic system if the cost of acquiring information is positive. The amount of ignorance that is efficient increases as does the cost of transacting (viewed as the cost of conveying information). Ignorance may not be bliss, but it may be efficient. One cannot claim that resources are misallocated simply because information is not possessed or negotiation is absent; nor can one claim that resources are misallocated because some markets do not exist. [5]

There is no difference between transaction cost and other costs in this respect. The amount of soot from the production of steel may remain greater than is desired by the owner of a nearby laundry because the cost of transacting between laundry and mill owners is too great to make a transaction worth undertaking *or* because the launderer and steel mill owner believe that the cost of substituting hard coal for soft is greater than the cost borne by the launderer as a result of soot. In both cases, more soot descends on the laundry than if the cost of reducing soot were smaller. If we do not think resources are misallocated in the case in which hard coal is too costly to use, why should we think resources are misallocated in the case in which transaction cost is too costly to bear? Both situations are compatible with efficient resource allocation, and, after all, it is *efficiency* that is sought; neither negotiations nor hard coal are sought in and of themselves. Indeed, one can rewrite the neoclassical model with transaction cost included. This just shifts supply curves upward (or demand curves downward), but it carries no implications of inefficiency at equilibrium values of price and output.

I emphasize that none of what is written above denies the possibility of inefficiency in a competitive, private ownership economy. My message is that this possibility is not a result of positive transaction cost. Our reliance on a transaction cost rationale has caused us to exaggerate the scope of what externality problem might remain.

III. A different view.

[5] Early statements of the importance of this principle in regard to transaction costs are found in Demsetz (1963, 1969).

By now, the reader must suspect me of playing a word game. In part I am, but the game is not my doing. 'Externality' means nothing if it does not suggest something apart from a reckoning. Yet, a non-trivial component of what is written above makes a case that there is no 'apartness' from the market calculus. Something rationally not 'worth' taking into account is not equivalent to error or to inefficiency. That it is not taken into account *is* a reckoning if it follows from an anticipation that it is not worth taking into account. An explicit accounting for everything would be inefficient in a world in which knowledge is not free.

Yet, there remain matters not yet discussed. The problems we associate with climate change and quality of air are not directly touched in the above discussion. These problems, however, have their prime source in enhanced prospects for strategic behavior to payoff and not in transaction cost. The enhancement of these prospects might come from problems of establishing effective ownership rights, as is true for climate change, but these problems would give way to efficient collective solution if all persons willingly reveal the true values they attach to improvements in climate. The public good nature of climate and air quality makes deceit attractive, but in its nature the public good problem reflects characteristics of the good and not costs of transacting. If everyone who would benefit from improved climate could be gathered at no cost, could speak to each other at no cost, could write and enforce contracts at no cost the problem of deceit or of under-revealing true demand would still remain. And the consequence of under-revelation of demand is, at heart, one of wealth distribution, not one of external cost and inefficient allocation of resources; all persons, whether they are those who are taken advantaged of or those who take advantages are better off if resources are used efficiently to alter the climate. *In the absence of monopoly*, no one finds profit in undertaking activities that involuntarily raise the cost of production to others.

Supply and demand as interpreted by the neoclassical model are expressions of true willingness to cooperate in a world that is highly dependent on specialization for its wealth. The neoclassical model faces buyers and sellers with given, non-negotiable equilibrium market prices, determined on markets that cannot be influenced by individual bargaining. The model is not designed to treat strategic action, yet examples such as climate change and atmospheric quality represent problems that arise from the attempt to get others to settle for a smaller share of the surplus made available through cooperative behavior. If time is valuable and negotiating is costly, these attempts may impose costs on those involved in the effort to cooperate, but these are not externality costs of the sort that are to be associated with being external to the market calculus; they are taken into account known costs of cooperative behavior, as are interpersonal dealings between employers and employees. They are encountered in all walks of life, political, market, and household. The essential problem is one of misrepresentation, not one of contact, communication, and contract. The possibility of misrepresenting one's position does not depend for its existence on positive cost of transacting;

it just requires a prospective redistribution of wealth than makes people willing to misrepresent themselves.   A close reading of Pigou and Coase does not reveal concern about strategic behavior. The distribution of traffic between Pigou's two roads is inefficient because no price is charged for using them, not because drivers deceive each other. The failure to realize maximum value from available resources in Coase's court room drama is a problem of legal error, not one of false testimony.

What advantage does the State bring to the resolution of strategic problems? It brings legitimate power to coerce; in these instances, the power to coerce people to pay for a public good. Just as we find that the State's ability to coerce makes it a desirable agent in helping to maintain law and order, so we may find it a desirable agent in helping to finance production of goods and services that are important and are subject to serious strategic bargaining problems. It is possible in some instances to remedy the problem through a proper set of private rights – substitute a toll way for a free way. In other instances, the effective use of coercive power might require direct implementation by the State. People will value the alternatives of coercive State and voluntary-dealings markets differently, depending on the confidence in which they hold the State and on the value they attach to personal freedom, but I see no reason to classify these important problems as externality-caused inefficiencies. This now seems to me to be a classification without content.

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