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# Non-welfarism in the Early Debates over the Coase Theorem

## The Case of Environmental Economics*

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### 9.1 Introduction

The modern theory of externalities developed simultaneously with welfare economics and has typically embodied its welfarist orientation.[1] In fact, it is the traditional welfarist approach to the subject that has generated resistance to the economic approach to external effects, such as pollution, among non-economists. The primacy of efficiency, the individualism underlying welfarist approaches, and the lack of attention to larger "social" goals or other non-individualistic or utility-grounded first principles have all been identified as culprits.

While economists typically eschewed non-welfarist arguments in the post-WWII period, there is at least one prominent instance in which such arguments were very much in play, both directly and as underpinnings for welfare-related arguments: the debate over the Coase theorem. This debate saw the Coase theorem regularly challenged on both welfarist (whether the result is efficient, with efficiency being variously defined) and non-welfarist grounds. This then raises the question of what it was about the Coase theorem that led economists into the latter territory. The present paper revisits the early debates over the Coase theorem, where non-welfarist

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[1] There are exceptions, of course. See, e.g., Kapp (1950).



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arguments featured prominently, in order to bring out the nature of those arguments and attempt to understand the rationale(s) for their deployment.

We must acknowledge from the outset that it can be difficult, at least at times, to disentangle welfarist and non-welfarist arguments. The starting point for the analysis here is Sen's (1979, p. 464) definition of "welfarism" as "the principle that the goodness of a state of affairs depends ultimately on the set of individual utilities in that state." As Kaplow and Shavell (2003) have emphasized, goals such as "fairness" can have both welfarist and non-welfarist components – the former if "fairness" affects individual utilities and thus social welfare, and the latter if "fairness" is considered an end in itself, or an independent evaluative principle, apart from any influence on individual utilities. In the discussion that follows, our attention is confined to aspects of the Coase theorem debate that appear to explicitly raise non-welfarist concerns.

## 9.2 Background

The result that we now know as the Coase theorem (Coase 1960; Stigler 1966) was developed as a critique of Pigovian welfare theory and, in particular, of the Pigovian view that efficiency in the presence of externalities could not be assured apart from the governmental imposition of tax, subsidy, or regulatory remedies. That is, externalities were perceived as impediments to efficiency, and Pigovian remedies were conceived as means by which efficiency could be assured.[2]

One piece of Coase's challenge to the Pigovian position involved a demonstration that the externality-generated inefficiency was the result of an absence of property rights over the relevant resources. Once such rights were established, Coase argued, efficiency would follow if the costs of transacting were zero. Using his now well-known illustration of a farmer and cattle raiser, Coase (1960, pp. 2–8) showed that it would be in the interests of the parties to negotiate a resolution of the externality problem, and that the outcome would be both efficient, in the sense of

[2] On the larger themes of "The Problem of Social Cost" and of Coase's use of the negotiation result within it, see, e.g., Medema (1996) and Bertrand (2010). Coase's commentary was targeted both at Pigou (1920) and at the "Pigovian tradition" that ostensibly emerged from Pigou's analysis. Coase (1960, p. 40) did allow that the Pigovian tradition was primarily an oral one, and Medema (2020) argues that the subject of externalities largely disappeared from economics between the 1920s and the late 1950s. On Pigou's welfarism, see Yamazaki, Chapter 4, this volume.

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maximizing the value of output, and independent of whom rights were initially assigned.

Lying at the heart of Coase's analysis here is his view that externalities are reciprocal in nature (1960, p. 2). If *A* imposes harm (or costs) on *B*, the imposition of a rule that reduces the harm on *B* has the effect of imposing costs on *A*. For example, while it is true that the chemicals a factory dumps into a river as byproduct of its production process cause harm to the downstream farmer who uses the river water for irrigation, forcing him to substitute a higher-cost source of water supply, it is equally the case that a prohibition on such dumping makes the factory's production process more costly. The Pigovian approach, Coase argued, focused only on the former path of causation and so ignored the possibility that the least-cost method of dealing with the issue may, in fact, be to allow the dumping to continue.[3] Once one recognizes the reciprocal nature of the problem, Coase said, "The real question that has to be decided is: should *A* be allowed to harm *B* or should *B* be allowed to harm *A*? The problem is to avoid the more serious harm" (1960, p. 2). For Coase, then, it was wrongheaded to even speak in terms of causation in these contexts, given the reciprocal nature of harm.[4] And, in failing to recognize this essential reciprocity, the economist was at risk of mis-applying the efficiency criterion.

This reciprocity is brought out neatly in Coase's analysis of the process by which negotiation between affected parties will bring about an efficient and invariant resolution of externality problems in a world of zero transaction costs. Suppose that the aforementioned chemical plant saves 100 dollars by dumping its waste into the river rather than filtering the discharge, and that the alternative water supply costs the farmer 200 dollars. Efficiency then dictates that the plant should abate, as this generates a net savings of 100 dollars. If the owners of the plant are made liable for damage, they will abate the pollution, since the 100-dollar cost of abatement is lower than the 200-dollar damage payment associated with dumping waste into the river. If the plant owners are given the right to pollute, however, the same result obtains. The farmer, faced with the prospect of paying 200 dollars for the alternative water supply, will be willing to offer the owners of

[3] That is, if the cost to the farmer of using the alternative water supply source is lower than the cost to the factory of installing pollution abatement technology, the value of output will be higher (or costs of remedying the pollution damage will be lower) if the factory is allowed to continue its dumping practices.

[4] In the hands of some later law and economics commentators, causation then became an empirical question, the answer to which is grounded in efficiency. See, e.g., Landes and Posner (1983).

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the chemical plant up to 200 dollars to filter its discharge. As the plant owners would be willing to undertake this abatement for any price greater than 100 dollars, a deal will be struck. Thus, Coase argued, bargains among affected agents will efficiently resolve externality problems, and the outcome will be identical regardless of which party is assigned the rights over the relevant resources.

The upshot of Coase's negotiation analysis is that the Pigovian contention that tax or regulatory instruments are necessary to efficiently resolve externality problems in a neoclassical framework was in error. If coordination is costless, private action can generate efficiency just as well as can state action. Moreover, if one wishes to counter that exchange is a costly process, one must allow that state action, too, has its costs. And, in fact, it is possible that the least-cost way of dealing with the externality is to do nothing at all about the problem, as the costs of remedies may exceed the harm done by the external effect itself. The appropriate means for dealing with divergences between private and social costs, then, comes down to an evaluation of which among these imperfect remedies will maximize the value of output.

It is fair to say that Coase's analysis in "The Problem of Social Cost," as elsewhere in his policy-related writings, was conducted on typical welfarist principles – wealth maximization or the Kaldor-Hicks criterion – the very principles that were standard fare in the discussion of externalities over the nearly five decades prior to the publication of Coase's article.[5] It is usually not noticed, however, that, when winding up his discussion in "The Problem of Social Cost," Coase emphasized that his approach in the article was "confined, as is usual in this part of economics, to comparisons of the value of production, as measured by the market." "But," he continued,

> it is, of course, desirable that the choice between different social arrangements for the solution of economic problems should be carried out in broader terms than this and that the total effect of these arrangements in all spheres of life should be taken into account. As Frank H. Knight has so often emphasized, problems of welfare economics must ultimately dissolve into a study of aesthetics and morals. (1960, p. 43)

Coase's own view of the role that these factors should play is unclear, as he did not elaborate on this line of argument in "The Problem of Social Cost" or elsewhere in his writings. Little did he know, however, that

[5] Helm (2005, p. 210n.10) notes the welfarist thrust of Coase's analysis as against Sen's non-welfarism. On Sen's non-welfarism, see also the essays by Binder (Chapter 12) and Gilardone (Chapter 13), this volume.

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considerations of "aesthetics and morals" would become a major point of emphasis in the reactions to his analysis over the next few decades.

## 9.3 The Environmental Turn

The earliest responses to Coase's analysis in "The Problem of Social Cost" were largely affirming, though this affirmation centered on the negotiation result rather than the larger message of the paper – his call for a comparative institutional approach to economic policy issues. And, as is now well known, George Stigler (1966, p. 113) considered this result sufficiently important to label it the "Coase theorem."[6] While the relevance or applicability of the negotiation result to the real world of costly transacting was questioned with regularity, there was little objection to its correctness as a proposition in economic theory.

In formulating the Coase theorem as he did, Stigler seems to have been intentionally drawing a parallel to the First Fundamental Theorem of Welfare Economics, which asserts the optimality of competitive equilibrium under certain conditions – one of which is the absence of external effects. The Coase theorem, then, suggests that externalities are *not* inevitably an impediment to optimality. Given the slight literature on the theory of externalities extant, Stigler's rendering is sensible. The focus of the limited discussion of externalities in the period since Pigou penned *The Economics of Welfare* (1920) had been on ascertaining the effect of externalities on competitive equilibrium and the reasons for the resulting inefficiencies (Medema 2019).[7] And, indeed, this was the basic frame through which Coase's result was viewed for the first decade following its publication. With a couple of prominent exceptions (Wellisz 1964; Mishan 1967b), it was generally accepted that negotiation could, under the assumed conditions, result in the maximization of the value output, though commentators typically stressed that this was not relevant to the problem under consideration in the paper at hand owing to the prevalence of transaction costs.

In the 1970s, however, the tide began to turn, and to turn sharply. The Coase theorem was assailed seemingly from every side and on a variety of

[6] Stigler's specific formulation of the "Coase theorem" was this: "[U]nder perfect competition private and social costs will be equal" (1966, p. 113). On Stigler and the Coase theorem, see Medema (2011), Bertrand (2018), and Marciano (2018).

[7] Pigou had focused on externalities as real phenomena rather than impediments to optimality. It was not until the late 1950s that we saw the phenomenological approach begin to reemerge. See Papandreou (1994) and Medema (2020).

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grounds, theoretical and otherwise. The argument here is that it is the "otherwise" that provided much of the impetus for the controversy, including the theoretical part of it. Specifically, the Coase theorem's logic and implications – both real and perceived – for policy struck a chord, and on at least two fronts.

First, the Coase theorem and its implications for externality policy intersected, externally, with an increased societal concern about the effects of large-scale pollution and, internally, with the related genesis of the field of environmental economics (Medema 2014). In the process, the traditional externality-related concern with the efficiency of market outcomes became enmeshed with, and at times gave way to, non-welfarist considerations driven by attitudes toward pollution and what should be done about it. Second, the Coase theorem became a, and perhaps *the*, bedrock principle of the emerging economic analysis of law (e.g., Calabresi 1970; Posner 1973). Here, its implications intersected with traditional behavioral norms and perceptions of justice, offending the sensibilities of both legal scholars and economists. Given the subject matter of this paper and the fact that the great majority of these concerns were raised by lawyers rather than economists, we will not treat this literature directly. But as there are common threads of argument across these two fronts, we will at times make note of the legal-economic commentary.[8]

The association of externalities with pollution is a long one. Though, as noted above, the externality literature prior to the late 1950s is extremely thin, such discussions as we do see regularly invoke pollution – typically a factory dumping waste into a stream – to illustrate the problem. Even so, the focus of the analysis, post-Pigou, was not on devising mechanisms to restrain the polluter's activity, or on remedies generally. Instead, it was on devising an explanation for why the presence of these external effects led to deviations from efficiency (Medema 2020). And for these harmful effects, of course, the deviation was in a particular direction – too much of the harmful activity, relative to what is optimal.

When economists began to take up the analysis of environmental problems in the latter half of the 1950s, they did so via the theory of externalities handed down from Pigou and, as the field developed over the next two decades, the Pigovian approach became entrenched as the dominant paradigm. The focus was on Pigovian tax and regulatory remedies (with some attention to subsidies), all justified based upon the standard welfare

[8] For an interesting set of discussions on the legal side, see the "Symposium on Efficiency as a Legal Concern," published in the *Hofstra Law Review* (1980), and Fiss (1986).

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prescriptions of orthodox economics – that pollution led to divergences from the marginal conditions for an optimum, divergences that could be effectively eliminated via Pigovian instruments.

Despite this Pigovian emphasis, the Coase theorem was slowly becoming a staple of the externalities literature. As we move through the 1960s, we find Coase's result discussed more and more in theoretical treatments of the subject, as well as in applied discussions of externalities and the policies available for dealing with them. Even so, there was no groundswell of support in the literature for negotiated solutions to externality problems. Instead, as noted above, we find Coase's result mentioned, but quickly pushed to one side in favor of Pigovian remedies on the grounds that transaction costs preclude the operation of the theorem's mechanics.

The explosion of literature on the economics of the environment in the 1970s, however, brought a radical change to the nature and tone of the discussion. Suddenly, the Coase theorem was perceived as a threat to the proper analysis of and policy formation with respect to externalities and, in particular, the problem of large-scale pollution. Though Coase (1960, p. 18) himself had specifically noted that the negotiation result could not be expected to apply to such situations, a substantial body of theorem criticism emerged suggesting that many economists took seriously the notion that the Coase theorem offered a means for dealing with pollution externalities.

If the goal of externality policy is to generate efficient outcomes – and this had been the theme in the literature for some four decades – economic theory provided no reason to prefer Pigovian instruments to Coase theorem solutions. Each assured efficient outcomes under idealized conditions but could promise no more than that. To get at the hostility to the theorem, then, we must look to other considerations. Two such considerations emerge from the environmental economics literature of the 1970s: a concern with fairness, or equity, in the allocation of the costs associated with reducing pollution damage and a view of the environment as an end in itself.

### 9.3.1 Equity, Fairness, and the Rejection of Reciprocity

In what is typically regarded as the first major statement of a neoclassical economic approach to the environment, Allen Kneese, writing in *The Economics of Regional Water Quality Management* (1964), put Coase's negotiation result front and center in the environmental discussion.[9]

[9] Kneese's discussion of Coase's result was not the first in an environmental context (see Milliman 1962), but it was by far the most extensive and influential to that point.

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Kneese devoted several pages to Coase's result and accepted the theoretical validity of both the efficiency and invariance claims. Having gone this far, however, he suggested that, in the case of a firm whose pollution damages fishing stocks, "on equity grounds it might be considered justifiable to compensate the fisherman for his loss of fish," as opposed to having the fisherman pay the polluter to induce a reduction in or the elimination of pollution emissions (1964, p. 44). Kneese's concern that equity matters in the determination of who is made to bear the costs related to environmental harms would echo time and again in the discussions of the Coase theorem within the environmental economics literature. The underlying message here, implicit in Kneese's argument but a recurrent theme in the environmental Coase theorem literature through the 1970s, was that there are "injurers" and "victims," and it would be unfair to require "victims" to bribe polluters to reduce their emissions. Because their actions visit injury on other agents, polluters should be forced to bear the costs of the harm and of reductions in it.

The strongest voice on this front was LSE welfare economist E. J. Mishan, who wrote extensively on welfare economics in general and externalities in particular during the 1960s and 1970s.[10] His views, expressed across a range of books and articles – including his 1971 *Journal of Economic Literature* (*JE:*) survey of externality theory (1971b) and *The Costs of Economic Growth* (1967a), written for a broader public – received wide exposure. Though his initial reaction to Coase's negotiation result was largely affirming (Mishan 1965), his attitude toward it changed as externality theory increasingly became synonymous with pollution control in the late 1960s and early 1970s. Mishan's concern for ethical issues on this front comes through forcefully already in *The Costs of Economic Growth*, but the connection to the Coase theorem was driven home in his 1971 *JEL* survey, where, in the course of analyzing the Coase theorem's invariance claim, he took pains to emphasize that while the claims of competing resource users in situations of externality "are indeed Pareto symmetric," they "may not be ethically symmetric" – that there is something ethically wrong with an assignment of rights under which the victim pays (Mishan 1971b, p. 24).[11] As Baumol (1972, p. 309) put it, under this line of reasoning, "the murder victim too, is then always an accessory to the crime."

10 See, e.g., Mishan (1965; 1967a; 1967b; 1971a; 1971b).

11 See also Mishan (1967a, pp. 65–66), Head (1974, pp. 5–6), and Boll-De Cock (1976, p. 31). It should be noted that this was not the only fairness-related concern raised in the literature. There was also concern that pollution costs fall disproportionately on the poor, and so should be mitigated by more wealthy polluters who are better able to bear

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While Mishan was concerned about the potential distributional consequences of Coasean bargains – in other words, that the poor may be harmed for the benefit of the wealthy through pollution – he placed greater emphasis on "the inequity per se of a law that countenances the inflicting of a wide range of damages on others without effective means of redress." Absent a set of sanctions against those who would "trespass on the citizen's amenity," he believed that "existing institutions lend themselves inadvertently to a process of blackmail in so far as they place the burden of reaching agreement on the person or group whose interests have been damaged" (1967b, p. 278). In light of this, Mishan argues for "amenity rights," which force the injurer, as traditionally defined, to compensate the victim for harm (1967a, pp. 71–73).

The message that emerges here is that holding "victims" liable is simply *wrong*, or, as Mishan put it in 1967, contrary to "social justice" (1967a, p. 68). These arguments represent a clear-cut rejection of the reciprocal view of externalities laid out by Coase in "The Problem of Social Cost."[12] Indeed, given this reciprocity – which we find emphasized not just in Coase, but in, for example, Hohfeld (1913) and Commons (1924) – the very rhetoric of "polluter"/"injurer" and "victim" speaks to the non-welfarist underpinnings implicit in economists' discussions of these issues. One prominent illustration of this, and of the problematic nature of such assertions, can be found in Mishan's argument for the priority of rights of non-smokers, made on the grounds that "the freedom to breath fresh air does not, of itself, reduce the welfare of others." In like manner, he said, "the freedom desired by members of the public to live in clean and quiet surroundings," as against having noisy vehicles or polluting factories operating nearby "does not, of itself, reduce the welfare of others" (1971b, p. 25). But these statements are patently false; freedom for the non-smoker reduces the welfare of the smoker and the freedom of the residents

these (e.g., Mishan 1967a, pp. 60–61), though Common (1988), in contrast, later argued that this conventional story of wealthy polluters and poor victims may well not be true in certain instances. Problems associated with the long-term nature of certain forms of environmental degradation, too, were raised in this context, with the argument being that the interests of future generations are not likely to be sufficiently taken into account in Coasean negotiations carried out by members of the present generation and that governmental solutions were more likely to be framed with these intergenerational issues in mind (Mishan 1971b, pp. 24–26).

[12] Interestingly, others, including some not favorably disposed to the Coase theorem as a mechanism for dealing with externality problems, suggested that alerting economists to the reciprocal nature of externalities was one of the major contributions of Coase's article. This is a theme that Samuels, for one, emphasized repeatedly. See, e.g., Samuels (1974).

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to enjoy amenity reduces the welfare of owners of the automobiles and of the plant, as well as the plant's employees and the customers, both of which groups are impacted by the higher costs of production associated with costly pollution abatement activities.[13]

The centrality of these fairness considerations in the literature and the seriousness with which they were taken by scholars in the field is further evidenced in the fact that they were given prominent play in the *textbook* literature of the period.[14] Lloyd Reynolds (1973, p. 214), for example, instances a situation where "A chemical plant dumps wastes into a river which kill the fish in a lake located downstream, thereby depriving would-be fishermen on the lake of a pleasant recreation." Reynolds pointed out that the fishermen could band together and bribe the plant to reduce emissions sufficiently to make the lake safe for the fish. "But on second thought," he continued, "this doesn't seem very fair. Why shouldn't the company pay the fishermen for the damage inflicted on them, instead of the other way round?" It was not simply about efficiency, then, and even when it was about efficiency there was concern for how that efficiency was to be achieved.

It is worth noting that not all of those who raised the issue of fairness came down on this side of the fence. Tony Chisholm, Cliff Walsh, and Geoffrey Brennan (1974), for example, struck a rather different tone, contesting the standard dichotomy between wicked polluters and virtuous victims. Like Coase, they argued that the problem is inherently reciprocal: "The truth of the matter is that *all* consumers contribute to pollution by the very act of consumption; firms pollute, not because they derive fiendish delight from doing so, *but because the individual consumers of their products pay them to do so*" (p. 4). The argument, of course, is that if consumers, too, are a cause of the pollution, it becomes reasonable to consider the option of making them bear some amount of the cost. This, however, was very much a minority view.

### 9.3.2 The Environment as an End

The second major emphasis in the non-welfarist attacks on the Coase theorem was the view that environmental preservation is an end in itself

[13] For defense of the Coase theorem and the notion of reciprocity in the smoking context, see Tollison and Wagner (1988, ch. 5).

[14] Why textbook authors devoted significant space to a topic, the Coase theorem, the theoretical validity of which was still very much the subject of dispute in the profession at large, is another story. See Medema (2014; 2015) for further discussion of this issue.

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and that the Coase theorem works as a threat to the achievement of this end. This emphasis manifested itself in a strong "pro-abatement" tone that was found in so much of the environmental economics literature during this period – a view that pollution levels must be reduced "to levels that are considered to be tolerable" (Baumol 1972, p. 307).

The perception of potentially cataclysmic effects from pollution was a driving force behind the writings of two of the theorem's staunchest critics during this period. Warren Samuels, writing in 1972, argued that other criticisms of the Coase theorem were "dwarf[ed]" by

> the fact that such externalities as water and air pollution may threaten the very basis and operation of civilization both in individual industrialized nations and on the planet as a whole. We may be dealing not with the subtle marginal conditions of a maximizing equilibrium, but the even more subtle total conditions of survival, a bounded consumption set, as it were, for the entire species. The threatened wreckage is far more than welfare economics. (1972[1981, p. 67])

H. H. Liebhafsky (1973, p. 676) struck a similar chord in his essay for the *Natural Resources Journal*'s Coase theorem symposium:

> We are all tenants for life of the environment and our possession is rightful. The environment is an essential part of the inheritance, and uncontrolled pollution constitutes a destruction or improper deterioration of that inheritance. Those who may from time to time be in a position to make use of governmental power to preserve the inheritance stand as trustees.

The question of the Coase theorem's applicability is front and center here, underpinned by the belief that leaving things to the market will almost certainly result in significant environmental degradation owing to the failure of the Coase theorem to work its magic in the real world (e.g., Samuels 1974, p. 22).

As Randall pointed out, those who saw the Coase theorem as relevant for dealing with environmental issues made one of two arguments. The first, grounded in the notion of allocative neutrality, was that there is no reason to move away from a system where polluters are not liable, since a change in the assignment of liability would have no allocative impact in any event (Randall 1974, p. 38). Randall referred to the doctrine of allocative neutrality as "the clincher" to the Coasean approach and argued that "its demise," owing to the various critiques of the theorem, was "disastrous to the laissez-faire people" (p. 53). As both Samuels (1974) and Randall (1975) noted, it makes the policy significance of the Coase theorem the exact opposite of what those disposed to market solutions assert – property rights assignments, in reality, affect both allocation (including pollution

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levels) *and* distribution, as well as "the whole range of macroeconomic variables" (Randall (1975), p. 739).[15]

The second argument made by Coase theorem supporters, most forcefully stated by Demsetz (1964; 1968), was that transaction costs are simply another form of cost, like production costs, and that exchange which exhausts all gains from trade, net of transaction costs, is Pareto optimal. The conclusion drawn from this was that externalities are efficiently internalized through the market if transaction costs are the only factor precluding further exchange. As such, it was argued, government intervention to internalize the externality is unnecessary and even efficiency-diminishing. Randall (1972a, pp. 176–177) summarized this position as follows: "[W]hen a market for an external economy does not exist it should not exist, since the benefits from such a market clearly cannot exceed the costs of its operation. The absence of an observable market is itself a market solution."

It goes almost without saying that both of these "Coasean" positions would be anathema to those who believed that pollution should be reduced from its existing levels. As Mishan put the case in his *Journal of Economic Literature* essay, "Rationalizing the *status quo* in this way brings the economist perilously close to defending it" (1971b, p. 17), and the status quo was viewed by many as wholly objectionable. The clear sentiment that emerges from the writings of the theorem's strongest critics is that the market should not be the sole arbiter of rights over resources such as air and water.

The objection here is not to the use of Coase-theorem-type legal rules of liability or property-rights solutions per se – that is to non-Pigovian (tax/regulatory) remedies – but to the notion that failing to directly restrict the activities of polluters will lead to unacceptable levels of environmental degradation.[16] Randall (1974, p. 54) even went so far as to ask whether one can adopt the Coasean invariance position "without appearing blatantly anti-environment" (Randall 1972b, p. 47; 1971, p. 867) and Dick (1976, p. 194) made the achievement of "higher levels of environmental quality" (Randall) or "environmental gains" (Dick) a goal and advocated polluter liability on that basis, though both were willing to countenance the possibility of market arrangements that allow polluters to purchase the right to pollute.[17] Mishan's case for "amenity rights," referenced above,

[15] See also Randall (1974, p. 53). Dick (1976, p. 194) argued this same point.

[16] In fact, we do not see in the literature critical of the Coase theorem arguments against assigning property rights (e.g., in clean air) to those considered to be victims.

[17] Paul Burrows (1970, p. 48) made a similar point in the context of law, arguing the case for assigning rights based on notions of "legal equity" and leaving it to negotiation to sort out economic considerations.

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similarly was grounded in his view that they would "promote . . . a rise in standards of environment generally" by reducing activity levels or promoting abatement or, if necessary and feasible, the compensation of victims (Mishan 1967a, pp. 71–73). Daniel Bromley (1978, p. 57), for his part, took a still stronger position, going so far as to suggest that it may be best to *rule out* the possibility of market transactions in certain situations, asserting that a rule of inalienability "would seem most appropriate" for externality situations that are "detrimental to human health or to long-run ecological integrity."

In short, there can be no question that the Coasean approach was perceived – by environmental economists and others – as a real threat to the long-accepted status of the Pigovian tradition, an approach that *guaranteed* reductions in pollution emissions from market-generated levels and did so in a way that imposed costs on emitters rather than "victims." Mishan made this explicit, characterizing what he labeled a "consensus" on the Coase theorem (1971b, pp. 16–17) as the launching point for "an iconoclastic movement to edge the master [Pigou] from his niche in the hall of fame" (1974, p. 1288n.1),[18] the blame for which he laid squarely at the feet of Coase and, to a lesser extent, Buchanan and Stubblebine (1962). In adopting such a stance, however, economists put themselves at odds with "politicians, administrators, and the general public," as this latter group, in Randall's view, "seems to have more faith in systems of standards" to achieve the desired level of pollution reduction (1972a, p. 176).[19]

## 9.4 Coase's "Amoralization" of Externalities

Underlying both the "fairness/equity" and "environment as an end" considerations was, in Randall's (1974, p. 53) words, Coase's effective

[18] See also Samuels (1974, pp. 27–28). That said, not everyone saw things in this way. Horner (1975, p. 34) noted that, in the period since Coase raised the possibility of negotiated solutions, "most of the literature has defended policies based on Pigovian taxes and subsidies to correct the inefficiencies caused by externalities." Fisher and Peterson (1976, p. 25), in like manner, tell us that environmental economists "usually recommend Pigovian taxes to internalize the externalities associated with pollution." Horner went on, though, to play into the hands of those disposed to Coasean solutions (with transaction costs, à la Demsetz, Cheung, and the Coase of pages 15 onward in "The Problem of Social Cost") in saying that Pigovian policies "eliminate the need to consider the transactions costs preventing negotiations and the ambiguity of property rights associated with natural resources such as air and water" (1975, p. 34), thus tacitly admitting that the exclusive focus on Pigovian remedies forecloses the investigation of whether market solutions might entail lower costs than the Pigovian ones.

[19] See also Randall (1974, pp. 40–41).

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"amoralization of the externality issue," grounded in his emphasis on the reciprocal nature of harm and the suggestion the problem is to avoid the more serious (in value of output terms) harm. Yet, we noted in Section 9.2 that Coase had argued in "The Problem of Social Cost" that it is "desirable" that policy decisions over issues such as these "be carried out in broader terms" than just efficiency, including "aesthetics and morals" (1960, p. 43). Given this, Randall's charge against Coase himself is likely too strong, though it may have validity against others – for example, within the property rights tradition – who built upon Coase's work.[20]

Whether or not one agrees with Randall's contention that Coase amoralized the externality issue,[21] it is difficult to disagree with his assessment that ethical concerns raised by the Coase theorem, particularly in the environmental and legal contexts, played a significant role in the hostility expressed toward it. Stigler no doubt added fuel to the fire when, rather than carrying through Coase's emphasis on the reciprocal nature of the problem, said, in his introduction of the "Coase theorem," that "When a factory spews smoke on a thousand homes, *the ideal solution* is to arrange a compensation system whereby the homeowners pay the factory to install smoke reduction devices up to the point where the marginal cost of smoke reduction equals the sum of the marginal gains to the homeowners" (1966, p. 113, emphasis added). Demsetz's emphasis on efficiency net of transaction costs likely only exacerbated the problem.[22]

[20] Of all of the commentators on the equity issue during this period, only Weld (1973, p. 596) appears to have noticed (albeit rather dismissively) this aspect of Coase's discussion.

[21] Apart from Coase's above-cited comment about larger criteria informing policy decisions, one could argue, for example, that wealth maximization is simply an alternative moral structure.

[22] One of the interesting features of the literature during the 1970s is that one finds no claims that the Coase theorem offers a way forward for dealing with large-scale pollution problems. Yet, as Alan Randall, Emery Castle, and Robert McCormick have pointed out in correspondence with this author, the Coase theorem was very much "in the air" during the 1970s, discussed in department hallways and seminar rooms, in addition to the scholarly literature. And among those talking about externality issues, there was a not insubstantial cadre suggesting that the theorem showed that tax and regulatory remedies, such as the Clean Air Act, were not necessary for an efficient resolution of environmental problems – that Coasean mechanisms would effectively internalize – or had already – the relevant costs. Thus, while the environmental economics literature would suggest that the critics were reacting against an invisible straw man, attention to the larger background against which this emerging literature played out reveals a different picture and gives credence to the claims made by scholars such as Mishan and Randall that the theorem had a degree of support among economists generally as a framework through which one could do environmental policy analysis.

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But was "amoralization" the problem? It could certainly be argued that the Pigovian approach was no more inherently moral than the Coasean. After all, the thrust of the Pigovian discussion was efficiency. It just so happened that, on the road to efficiency, the Pigovian approach provided ways of dealing with pollution and other harmful acts that resonated with social norms (including traditional legal notions of causation)[23] and with the interests of those who considered environmental preservation an end worth pursuing. The Coasean approach, on the other hand, raised the prospect of putting efficiency on a collision course with these larger concerns, as Randall brought out starkly:

> In essence, Coase seemed to be saying that in cases where two parties have conflicting interests there are no moral precepts to guide the resolution of the conflict. Viscous criminals being bribed to desist and of little children being regarded as "hitting" automobiles in pedestrian crossings, with Coasians failing to be morally offended, were evoked . . .[24] Mishan scored early points with the issue of income distribution. Surely decent people could see a moral problem in poor citizens bribing an affluent producer of effluents, while Coasians looked on benignly. (1974, p. 53)

John Weld went even further, defending the traditional approach to causation and liability by arguing that polluter liability and similar restrictions exist for a reason – they reflect social norms, an "evolved consensus," embodied in the common law, that you should "use your land as not to injure another" (1973, pp. 598–599). These norms, then, take precedence over efficiency and override the indifference suggested by the Coase theorem's invariance claim.

While supporters of the Coasean approach extolled its avoidance of fuzzy concepts such as fairness, Randall (1978, p. 12) held to a very different view, that "The amorality of [this] scholarship is not viewed by critics as a welcome escape from normative methodological traps, but as symptom of failure to understand the fundamental nature of institutions." Sounding a note from the old institutionalist tradition, Randall argued that "Institutions express a society's value system and give it effect in the form of working rules" and, in doing so, "tend to shape the individual's habits of thought and action and his expectations." This, said Randall, presents a problem in that institutional stability requires that these institutions be

[23] On causation, see, e.g., Cooter (1987, p. 546).

[24] Randall here was making reference to a paper by John Weld entitled, "The Social Cost of the Coase Theorem," presented at the Symposium on Environmental Economics and the Law, held at the University of California, Riverside in February 1972. Weld's paper is referenced in several articles from the 1970s but never appeared in print.

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"broadly consistent with the ethical values of the society." The presence or absence of such consistency has powerful effects:

> Man responds positively to institutions he sees as ethically right and openly or surreptitiously undermines those he sees as wrong. When institutions are in harmony with a broad social consensus about what is right and wrong, the day-to-day transactions of individuals and groups will proceed smoothly; when that is not the case, defiance and perhaps social upheaval and insurrection will result. (p. 12)

While assessments such as those made by Randall and Weld focused on Coase and the Coaseans as the primary source of the inattention to broader social and ethical concerns, Mishan, for all of his criticism of the Coase theorem, laid the blame more broadly – at the feet of economists and the economic method generally. In his view, economists' fixation on the Coase theorem was but one example of what he saw as their excessive preoccupation with efficiency at the expense of equity:

> It is not, of course, hard to understand the somewhat exaggerated weight attached by economists to the allocative aspects of an economic problem as distinct, say from those concerned with equity. For the former aspects lend themselves nicely to formal theorizing and, with patience and a little finesse, impressive measures of social losses and gains can be foisted on credulous civil servants and a gullible public.
>
> Yet, the priority given to allocative aspects in real economics problems cannot, I think, be justified; certainly not by recourse to welfare economics. The more "affluent" a society becomes, the less important is allocative merit narrowly conceived. And in a society in the throes of accelerating technological change (one in which, of necessity, pertinent knowledge of the human, social, and ecological consequences of what we are doing is generally slight and partly erroneous) complacency on the part of any economist, guided in his professional discussions by considerations alone of allocative merit or economic growth potential, is both to be envied and deplored. (1971b, p. 26)

Samuels (1974, p. 12) offered a similar challenge, questioning why the efficiency criterion should be given privileged status over any other. Yet, in spite of these ethically grounded critiques of the Coase theorem, economists, environmental or otherwise, continued to frame their discussions of externalities largely in terms of efficiency – whether for ideological reasons or out of professional habit.[25] Even so, the fact that the Pigovian subsidy remedy, like requiring victims to bribe polluters to reduce emissions, was and continues to be so roundly panned in the literature – also on fairness grounds – suggests that ethical issues have loomed fairly large in the calculus of environmental economists.

[25] On this see Bromley (1990).

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## 9.5 Dueling Non-welfarisms: The Primacy of the Market

Though the thrust of this paper has been on the role of non-welfarist considerations in the attacks made on the Coase theorem, it is by no means clear that non-welfarism was confined to one side of the debate. On the environmental side, there was, as we have seen, the felt need to reduce environmental damage irrespective of the implications for economic welfare as traditionally defined and to avoid victim liability. But there is also an argument to be made – and the theorem critics frequently made it – that Coase and those who defended the Coase theorem and its potential relevance did so in part, at least, because of an a priori preference for the market as an allocative device.

The Coase theorem was (and is) a proposition in economic logic with no direct normative (or "ought") implications. It does not say that markets are superior to government or should be used in place of it. Indeed, in a world of zero transaction costs, markets and direct state action function equally well in efficiency terms; Coasean and Pigovian remedies are identical in their allocative effects. Yet, that is anything but the picture painted by the critics, who objected to what they perceived as the theorem's normative thrust. Samuels (1974), for example, pointed to what he saw as "the laissez faire, non-interventionist tenor of the usual Coasian discussions" (p. 13), as evidence that the Coase theorem was little more than a "part of the apologetics and theology of the market" (p. 27).[26] As such, he said, "the Coasian analysis is but an attempt to lend the credo of science to normative justification of the market and its fantasies of markets everywhere, and to have everything seen in that light" (p. 11).

Randall described the Coasean position in similar terms: "If there is one normative statement which sums up their position, it is this: The opportunity for trades, of all types, should be maximized," and private trading is "the solution to any and all perceived economic and/or institutional problems" (1978, p. 7). The role of government here, then, is reduced to "allocative impotence" (Randall 1974, p. 37).[27] We even find this point of view reflected in the textbook literature, with David Pearce, for example, associating the Coasean position with

[26] In a similar vein, Bensusan-Butt (1974, p. 181) contends that market-based approaches to environmental questions are "very cold comfort for the aesthetes," for "[t]hey know they have no chance in the market."

[27] Randall suggested that Coase and Demsetz seemed to be of the mind that "the role of central planning [read: government intervention] should be minimized" (1974, p. 35). Samuels (1974) made a similar argument.

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"[a]dvocates of a free market" and "those who are concerned to minimize government activity" (1976, p. 84).[28]

The implication of the Coasean analysis, Randall argued, is that "any externalities which are observed to exist unmodified should not be modified"(Randall 1972a, p. 177n.3) – a notion that Samuels (1974, p. 5) rejected on the grounds that it assumes "the propriety of allocations made through market adjustments" and which Randall (1972a, p. 177n.3) labeled a "fallacy" because it ignores the possibility that other corrective actions (e.g., Pigovian instruments) may be less costly than the market solution.[29] Todd Lowry's perspective is perhaps more telling against the welfare implications of Coase theorem's view of the world: "in the context of a relationship composed of only two parties, each of whom is guided only by self-interest, *we may not define any action as antisocial behavior since a social reference has been excluded by our definition*" (1976, p. 5, emphasis added).

We see in the strong critiques of the theorem leveled by Randall, Samuels, and Mishan the suggestion – essentially confirmed by Mishan in the above quotation (see also Mishan [1971a]) – that these critics put a great deal of stock in the idea that economists were very attracted to the Coase theorem owing to their predisposition toward decentralized market solutions, and in the potential for the continuation, and even increase, of that attachment (Randall 1972a, p. 176; 1974, pp. 37–38). Indeed, Randall felt that no small amount of the support for the Coase theorem and its perceived implications for policy lay in its "combination of neoclassical orthodoxy with [the Coaseans'] fascinating and somewhat heretical habit of visualizing potential trades in situations where trading is illicit or, at least, not customary" (1978, p. 7). One gets the sense from reading these works that there was a perceived need to "demolish" the theorem (to use Randall's term) in order to put an end to fantasies about market solutions and, perhaps more importantly, any prospective attempts to make status-quo-favorable efficiency judgments that would deflect attention from the goal of achieving a reduction in environmental pollution, which Mishan (1971b, p. 26) labeled "the most urgent economic problem of our fragile civilization."

One of the oddities of these "primacy of the market" critiques lies in the fact that Pigovian taxes, which had significant support among those hostile

[28] Matthew Edel (1973, p. 98) sounded similar concerns in his environmental economics textbook.
[29] See also Randall (1974, pp. 45–46; 1975, p. 735) and Samuels (1974, pp. 4–5).

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to the Coase theorem, were viewed by environmental economists at that time as a *market* instrument for resolving externality problems. The tax put a price on, for example, pollution emissions and allowed market forces to take matters from there. What distinguished these taxes from Coase theorem solutions was that they essentially guaranteed a reduction in pollution emissions and imposed the costs of these reductions on the polluters. In short, Pigovian instruments satisfied the non-welfarist considerations preferred by the theorem critics and, one could argue, environmental economists generally.[30]

While the in-depth treatments of the Coase theorem that we do find in the literature from this period are almost wholly critical of the theorem and the policy conclusions that some drew from it, we find nothing like the same level of critical attention focused on Pigovian remedies. Dick's (1974) treatment of the Coase theorem and of Pigovian remedies in his monograph on environmental economics is illustrative of the attitude found in the environmental economics literature. He provides a lengthy critique of the Coase theorem, surveying and affirming every argument that has been raised against it in the literature. But when he comes to an analysis of Pigovian instruments, his presentation consists of a defense of it against various theoretical attacks and an acknowledgment that there may be some information problems with determining the optimal Pigovian tax. The transaction costs that loomed so large in his critique of Coase's result are nowhere in evidence in his analysis of the efficacy of State action.

## 9.6 Conclusion

Non-welfarist arguments loomed large in debates over the Coase theorem in the 1970s, particularly within the literature of environmental economics. The invocation of such arguments is unusual in and of itself, but even more so – and perhaps singularly unique – given what the Coase theorem tells us. The Coase theorem is a proposition in economic logic, a statement with no direct implications for how to go about dealing with externality issues. It

[30] Dan Bromley and Alan Randall have both suggested to this author in correspondence related to this paper that what one might call the "pro-environment" view present in much of the environmental economics literature during this period may be the result of self-selection: that the individuals most likely to be attracted to this emerging field were those who had an interest in doing something about the environmental conditions of the day. The title of Donald Thompson's textbook, *The Economics of Environmental Protection* (1973) is suggestive of this viewpoint.

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says, simply, that under assumed set of conditions *A*, result *B* will follow.[31] In this respect, it is no different than the Fundamental Theorems of Welfare Economics. But this is not how it was interpreted by many who encountered it. Instead, it was seen as a potential prescription for externality, including environmental, policy.

Understood as a policy prescription, the Coase theorem was thought by some to legitimate a system that could make "victims" liable for harm and allow imperfect market processes to determine the level of environmental damage. Such outcomes ran afoul of certain values that could only be brought into play via non-welfarist arguments. Curiously, though, these arguments were not used to build a case for a particular assignment of rights or liability in a Coase theorem world – that is, to suggest that polluters should not be given the right to pollute or that they should be made liable for damages. Instead, they were used to criticize the theorem itself. As Randall pointed out in 1974, "many of those who have worked so hard to pierce the Coasian balloon have invested that effort mainly because they found the policy implications of the Coase Theorem rather offensive" (1974, p. 35).

There can be no question that some of those predisposed to markets found in the theorem a justification for private or market-based solutions to externality problems and even a reason for believing that the status quo can be deemed efficient – both of these obviating the need for direct State action via Pigovian instruments that would (further) reduce pollution. But if one is to pretend that the Coase theorem is actually applicable to environmental problems, the argument cuts both ways. One of the many ironies found in the Coase theorem debate is that the theorem, by ensuring efficiency, leaves the door wide open for non-welfarist criteria – indeed, almost demands them as a method of choosing among alternative measures for dealing with external effects in a world of zero transaction costs. There is no need to worry about sacrificing efficiency when indulging one's non-welfarist values.[32]

[31] Assume that there are two driving routes to the office. Taking route 1, where one can average 60 mph if roads are clear, involves driving 30 miles. Taking route 2, where one can average 30 mph if roads are clear, involves driving 15 miles. If roads are clear, I will arrive at the office in 30 minutes' time regardless of which road I drive. This proposition says nothing about *which* route I *should* drive, whether I should instead take the train (which also takes 30 minutes) or whether I should go to the office at all. The Coase theorem is a proposition of this variety.

[32] As was first pointed out by Ralph Parish in 1972, because, in a zero transaction costs world, the assignment of liability does not matter from an efficiency perspective, "the question of liability for pollution damage could be decided *entirely* on the grounds of equity" (1972, p. 34, emphasis added).

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The implications of this argument are striking: it makes the Coase theorem at least as strong a weapon in the hands of those concerned with victim liability and environmental damage as in the hands of those concerned with efficiency or the virtues of markets. But rather than employing this line of argument, these authors instead attempted to discredit the theorem. One is left to wonder whether the fear that the theorem's efficiency and invariance claims could be used to justify granting polluters the right to pollute in unrestricted fashion may have blinded many environmental economists to this insight. In commenting on the raging debate over the theorem in 1974, Randall said that: "At almost every stage in the debate which sprang up around 'The Problem of Social Cost,' it is unclear whether theory fathered policy viewpoints or vice-versa" (1974, p. 36). Our analysis of the non-welfarist attacks on the Coase theorem suggests that "vice-versa" is at least part of the answer to the question.

## References

Baumol, William J. 1972. "On Taxation and the Control of Externalities." *American Economic Review* 62–3, 307–322.

Bensusan-Butt, D. M. 1974. "Political Economy for Aesthetes." *Australian Economic Papers* 13–23, 178–187.

Bertrand, Elodie. 2010. "The Three Uses of the 'Coase Theorem' in Coase's Works." *European Journal of the History of Economic Thought* 17–4, 975–1000.

2018. "George Stigler: The First Apostle of the Coase Theorem." In *Understanding the Enigmatic George Stigler: Extending Price Theory in Economics and Beyond*, edited by Craig Freedman. London: Palgrave Macmillan, 445–475.

Boll-De Kock, Suzan. 1976. "A Critical View on Liability Rules in Theory and Practice: The Belgian Case." *Recherches Économiques de Louvain / Louvain Economic Review* 42–1, 23–36.

Bromley, Daniel W. 1978. "Property Rules, Liability Rules, and Environmental Economics." *Journal of Economic Issues* 12–1, 43–60.

1990. "The Ideology of Efficiency: Searching for a Theory of Policy Analysis." *Journal of Environmental Economics and Management* 19–1, 86–107.

Buchanan, James M. and Wm. Craig Stubblebine. 1962. "Externality." *Economica* 29–116, 371–384.

Burrows, Paul. 1970. "On External Costs and the Visible Arm of the Law." *Oxford Economic Papers* 22–1, 39–56.

Calabresi, Guido. 1970. *The Cost of Accidents: A Legal and Economic Analysis*. New Haven, CT: Yale University Press.

Chisholm, Tony, Cliff Walsh, and Geoffrey Brennan. 1974. "Pollution and Resource Allocation." *Australian Journal of Agricultural Economics* 18–1, 1–21.

Coase, Ronald H. 1960. "The Problem of Social Cost." *Journal of Law and Economics* 3–1, 1–44.

Common, Michael. 1988. *Environmental and Resource Economics*. London: Longman.

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Commons, John R. 1924. *Legal Foundations of Capitalism*. New York: Macmillan.
Cooter, Robert D. 1987. "Torts as the Union of Liberty and Efficiency: An Essay on Causation." *Chicago-Kent Law Review* 63, 523–551.
Demsetz, Harold. 1964. "The Exchange and Enforcement of Property Rights." *Journal of Law and Economics* 7–1, 11–26.
1968. "The Cost of Transacting." *Quarterly Journal of Economics* 82–1, 33–53.
Dick, Daniel T. 1974. *Pollution, Congestion and Nuisance*. Lexington, MA: Lexington Books.
1976. "The Voluntary Approach to Externality Problems: A Survey of the Critics." *Journal of Environmental Economics and Management* 2–3, 185–195.
Edel, Matthew. 1973. *Economics and the Environment*. Englewood Cliffs, NJ: Prentice-Hall.
Fisher, Anthony C. and Frederick M. Peterson. 1976. "The Environment in Economics: A Survey." *Journal of Economic Literature* 14–1, 1–33.
Fiss, Owen M. 1986. "Death of the Law." *Cornell Law Review* 72–1, 1–15.
Head, John G. 1974. "Public Policies and Pollution Problems." *FinanzArchiv / Public Finance Analysis* 33–1, 1–29.
Helm, Dieter. 2005. "Economic Instruments and Environmental Policy." *Economic and Social Review* 36–3, 205–228.
Hohfeld, Wesley. 1913. "Some Fundamental Legal Conceptions as Applied in Judicial Reasoning." *Yale Law Journal* 23–1, 16–59.
Horner, Gerald L. 1975. "Internalizing Agricultural Nitrogen Pollution Externalities: A Case Study." *American Journal of Agricultural Economics* 57–1, 33–39.
Kaplow, Louis and Steven Shavell. 2003. "Fairness versus Welfare: Notes on the Pareto Principle, Preferences, and Distributive Justice." *Journal of Legal Studies* 32–1, 331–362.
Kapp, K. William. 1950. *The Social Costs of Private Enterprise*. Cambridge, MA: Harvard University Press.
Kneese, Allen V. 1964. *The Economics of Regional Water Quality Management*. Baltimore, MD: The Johns Hopkins Press.
Landes, William M. and Richard A. Posner. 1983. "Causation in Tort Law: An Economic Approach." *Journal of Legal Studies* 12–1, 109–134.
Liebhafsky, H. H. 1973. "The Problem of Social Cost: An Alternative Approach." *Natural Resources Journal* 13–4, 615–676.
Lowry, S. Todd. 1976. "Bargain and Contract Theory in Law and Economics." *Journal of Economic Issues* 10–1, 1–22.
Marciano, Alain. 2018. "Why Is 'Stigler's Coase Theorem' Stiglerian? A Methodological Explanation." *Research in the History of Economic Thought and Methodology* 36A, 127–155.
Medema, Steven G. 1996. "Of Pangloss, Pigouvians, and Pragmatism: Ronald Coase on Social Cost Analysis." *Journal of the History of Economic Thought* 18–1, 96–114.
2011. "A Case of Mistaken Identity: George Stigler, 'The Problem of Social Cost,' and the Coase Theorem." *European Journal of Law and Economics* 31–1, 11–38.
2014. "The Curious Treatment of the Coase Theorem in Environmental Economics, 1960–1979." *Review of Environmental Economics and Policy* 8–1, 39–57.

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2015. “How Textbooks Create Knowledge and Meaning: The Case of the ‘Coase Theorem’ in Intermediate Microeconomics, 1960–1979.” Working Paper, University of Colorado Denver.

2020. “‘Exceptional and Unimportant’? Externalities, Competitive Equilibrium, and the Myth of a Pigovian Tradition.” *History of Political Economy* 52–1, 135–170.

Milliman, Jerome W. 1962. “Can People Be Trusted with Natural Resources?” *Land Economics* 38–3, 199–218.

Mishan, E. J. 1965. “Reflections on Recent Developments in the Concept of External Effects.” *Canadian Journal of Economics and Political Science / Revue Canadienne d’Economique et de Science Politique* 31–1, 3–34.

1967a. *The Costs of Economic Growth*. New York: Frederick A. Praeger.

1967b. “Pareto Optimality and the Law.” *Oxford Economic Papers* 19–3, 255–287.

1971a. “Pangloss on Pollution.” *Swedish Journal of Economics* 73–1, 113–120.

1971b. “The Postwar Literature on Externalities: An Interpretative Essay.” *Journal of Economic Literature* 9–1, 1–28.

1974. “What Is the Optimal Level of Pollution?” *Journal of Political Economy* 82–6, 1287–1299.

Papandreou, Andreas A. 1994. *Externality and Institutions*. Oxford: Oxford University Press.

Parish, Ross M. 1972. “Economic Aspects of Pollution Control.” *Australian Economic Papers* 11–18, 32–43.

Pearce, David W. 1976. *Environmental Economics*. London; New York: Longman.

Pigou, A. C. 1920. *The Economics of Welfare*. London: Macmillan.

Posner, Richard A. 1973. *Economic Analysis of Law*. Boston, MA: Little, Brown.

Randall, Alan. 1971. “Market Solutions to Externality Problems: Theory and Practice.” *American Journal of Agricultural Economics* 53–5, 867.

1972a. “Market Solutions to Externality Problems: Theory and Practice.” *American Journal of Agricultural Economics* 54–2, 175–183.

1972b. *On the Theory of Market Solutions to Externality Problems*. Corvallis, OR: Oregon State University Agricultural Experiment Station Special Report 351.

1974. “Coasian Externality Theory in a Policy Context.” *Natural Resources Journal* 14–1, 35–54.

1975. “Property Rights and Social Microeconomics.” *Natural Resources Journal* 15–4, 729–747.

1978. “Property Institutions and Economic Behavior.” *Journal of Economic Issues* 12–1, 1–21.

Reynolds, Lloyd G. 1973. *Microeconomic Analysis and Policy*. Homewood, IL: Richard D. Irwin.

Samuels, Warren J. 1972. “Welfare Economics, Power, and Property.” In *Perspectives of Property*, edited by G. Wunderlich and W. L. Gilson. University Park, PA: Institute for Research on Land and Water Resources, 61–127. Reprinted in Warren J. Samuels and A. Allen Schmid, eds., *Law and Economics: An Institutionalist Perspective*. Boston, MA: Nijhoff, 1981, pp. 9–75.

1974. “The Coase Theorem and the Study of Law and Economics.” *Natural Resources Journal* 14–1, 1–33.

Sen, Amartya. 1979. “Utilitarianism and Welfarism.” *Journal of Philosophy* 76–9, 463–489.

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Stigler, George J. 1966. *The Theory of Price*, 3rd ed. New York: Macmillan.

Thompson, Donald N. 1973. *The Economics of Environmental Protection*. Cambridge, MA: Winthrop Publishers.

Tollison, Robert D. and Richard E. Wagner. 1988. *Smoking and the State: Social Costs, Rent Seeking, and Public Policy*. Lexington, MD: D. C. Heath.

Weld, John. 1973. "Coase, Social Cost and Stability: An Integrative Essay." *Natural Resources Journal* 13–4, 595–613.

Wellisz, Stanislaw. 1964. "On External Diseconomies and the Government-Assisted Invisible Hand." *Economica* 31–124, 345–362.

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