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CALABRESI, "LAW AND ECONOMICS" AND THE COASE THEOREM

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Calabresi, "law and economics" and the Coase theorem

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Abstract

In this paper, we show that, in 1961 and before he had read "The Problem of Social Cost", Calabresi reached exactly the same conclusions as the one reached by Coase and summarized by Stigler as the "Coase theorem" but he believed that this result was valid only in the theoretical world of the economists. We also analyze how Calabresi's thought evolved, in particular including transaction costs in his reasoning, but nonetheless remained faithful to his conclusions about the practical validity of the Coase theorem. Calabresi's conclusions remained ignored by economists and by most of legal scholars until the early 1970s. It was only when scholars started to emphasize the unrealistic assumptions upon which rest the Coase theorem that they also started to pay attention to Calabresi. His works were quoted and essentially used to emphasize the limits of the Coase theorem. Calabresi and Coase were then put on the same footing; the works of the former presented as more complete and more practical than the works of the later.

Keywords: Calabresi, economic analysis of law, Coase theorem, invariance, problem of social cost.

JEL classification: A12, B2, B31, K0.

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1. Introduction

"The Problem of Social Cost" (1960) and "Some Thoughts on Risk Distribution and the Law of Torts" (1961), the two articles that "can be looked on as the beginning of Law and Economics as an independent, specialized field of intellectual inquiry" (Hirsh and Osborne, 1992, p. 521), were published (almost) fifty years ago[2]. Their authors, respectively Ronald Coase and Guido Calabresi, are usually presented as (two of) the founding fathers of the field, even if Coase's contribution has received more attention than Calabresi's. In fact, Calabresi's paper seems to be "narrower in focus than Coase's" (Barreto, Husted and White, 1984, p. 257). This nonetheless ignores one element that our paper wants to emphasize, namely the proximity between the works of Calabresi and Coase. Certainly Calabresi himself has noted that he was not in disagreement with the Coase of "The Nature of the Firm" (1937) and has also noted that after 1937 Coase has drifted from a socialist to a libertarian position (see, Calabresi, 1991 b), and this lead readers and commentators to think that this implied an evolution away from Calabresi. There nonetheless remains similarities between the works of Coase and those of Calabresi, and this is what we would like to investigate in this paper. More precisely, the purpose of this paper is not to use the the recent reinterpretations of Coase's work (Bertrand, 2006, 2009, 2010; Medema, 1994; 1995; Medema and Samuels, 1997) to show that he was less of a market economist than and therefore closer to Calabresi than it has been assumed. We rather focus on the works of Calabresi, trying to reassess them in order to show that, in "Some Thoughts on Risk Distribution and the Law of Torts", Calabresi demonstrated a result which is almost identical to what is known as the "Coase theorem" (Stigler, 1966, p. 113) and without having read Coase's paper. Thus,

2 The issue of the Journal of Law and Economics which contains Coase's article was published in 1961.

Calabresi discovered the Coase theorem before it had even been invented by George Stigler.

This might be surprising a claim since the Coase theorem was presented by Stigler his "inventor" as a defense of the efficiency of market mechanisms. By contrast, Calabresi is one of the "children" of the Warren Court[3]. This means that he is a "legal liberal"[4], a "reformist" and, although not a "judicial activist"[5], he nonetheless admit that Courts, including Supreme Courts, may in certain circumstances have a political role to play—which, it can already be noted, implies at the same time that he believes that "legal rules matter" and that markets do not spontaneously reach the most efficient solution.

In addition, Calabresi studied law, in the second half of the 1950s, when legal liberalism was at its high and from one of the places where legal liberalism played an important role, the Law School of the Yale University. Just after having graduated, in 1958, Calabresi started to teach as a full professor[6] and started clerking in 1959 for

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3 Earl Warren was the chief justice of the U.S. Supreme court in the 1950s—the so-called Warren Court. It was when, "for the first, and perhaps only, time in history the Supreme Court—under the leadership of Earl Warren—took on a liberal cast" (Friedman, 2002, p. 159). The justices — at least a majority of them — of the Warren Court were legal liberals, convinced that, as jurists and lawyers, they had to be reformers and had a central political role to play in the transformation of the society. The "Warren Court Children" (Geoghegan, 1986, p. 17) "thought lawyers were America's governing class. And the Warren Court was a Court of gods" (Geoghegan, 1986, p. 17). After Warren's death, a special issue of Yale Law Journal was quite significantly dedicated "[t]o this man, who made us all proud to be lawyers" (1975, p. 405).

4 According to Laura Kalman, "legal liberalism" ""trust[s] in the potential of courts, particularly the Supreme Court, to bring about 'those specific social reforms that affect large groups of people such as blacks, or workers, or women, or partisans of a particular persuasion; in other words, policy change with nation wide impact'" (1996, p. 2). Kalman quotes Gerald Rosenberg, The Hollow Hope: Can Courts Bring About Social Change [Chicago: University of Chicago Press, 1991], p. 4). The expression "legal liberalism" was relatively frequently used to describe the lawyers and jurists of the New Deal period.

5 Calabresi to author, interview, December 2009.

6 Calabresi did not only want to be professor but was "anxious" to become "full professor" at

Justice Hugo Black—that is for a judge who not only spent about 50 years in the Supreme Court but also, and more importantly for our paper, was close to Warren[7]. In other words, Calabresi seems to be as remote as one can imagine from the views defended by the Coase theorem. Actually, there exist a (major) difference between Calabresi's formulation and Stigler's: Calabresi believed that the result was acceptable in theory *only* and was not valid in practice. After having read Coase, Calabresi's explanations evolved but his conclusion remained the same: there exists a Coase axiom, did he write, that works only if unrealistic assumptions are made. These statements had an interesting, and paradoxical, consequence: scholars started to put Coase and Calabresi on the same footing, arguing that both of them had invented "the Coase theorem".

The paper is divided in five sections. We first discuss Calabresi's methodological perspective on law and economics, showing that he in fact was rather interested in an economic analysis of law (section 2). This allowed him to rationalize legal decisions and legal cases and also led him to propose an analysis in which he reached Coasean conclusions, without having read Coase (section 3) that he maintained after having read Coase (section 4). The we show how the image that Calabresi and Coase had both discovered the "Coase theorem" was established and tend to generalize (section 5). A

Yale. The same year, he turned down an offer to join the Kennedy administration in Washington and the University of Chicago Law School (see Calabresi, 2003).

7 Member of the Democratic party and elected at the senate as a representative of the State of Alabama from 1926 to 1937, Hugo Black was nominated at the Supreme Court by Franklin Roosevelt in 1937 and stayed until 1986. Black is known for being one of the two justices who spent the longest term in the Supreme Court — the other one being William O. Douglas. Black and Warren regularly met to discuss attribution of opinions and it seems that, most of the time, Black chose the opinions he had to deal with (see Newman, 2001, p.686). Although Calabresi did not entirely agree with Black, the latter influenced his conception of the political role of the Supreme Court: to Calabresi, in certain circumstances, the Court has a political role to play (see his books: 1982, 1985).

final section proposes a conclusion.

2. Calabresi and the first economic analysis of legal rules

Calabresi wrote his first essays in the mid-late-1950s. In 1955, therefore still a graduate student, Calabresi submitted an article to the *Yale Law Journal*. The paper was withdrawn because of the "cold reaction [... of the] outgoing board, which included people of unusual brilliance who today properly dominate the profession" (Calabresi, 1991 a, p. 1482). Revised and submitted again, the paper was eventually published in 1961, leading, as Calabresi noted, "to a happy result for me: instead of being published and forgotten as an anonymous student comment, the manuscript was set aside to reappear four years later, when I was a junior faculty member, as my first article" (Calabresi, 1991 a, p. 1482). This article was "Some Thoughts on Risk Distribution and the Law of Torts", not only a crucial paper for law and economics but also one of the most important papers written by Calabresi, undoubtedly the matrix of his future works. In effect, despite the evolution of Calabresi's thought and the differences that exist between his different works, it is uneasy to separate his first article from later publications such as "The Decision for Accidents: An Approach to Nonfault Allocation of Costs" (1965 a), "Fault, Accidents and the Wonderful World of Blum and Kalven" (1965 b) or "Transaction Costs, Resource Allocation and Liability Rules—A Comment" (1968 a). Calabresi remained consistent throughout the years and his articles, not only in the theses he put forward and in the claims he made but also in the methodology he adopted to reach them.

Let us start with the approach he used. From this perspective, the similar results that Calabresi and Coase may have found, and that we will discuss below, were reached by radically different routes and methods. Thus, Coase has frequently insisted,

especially in late comments and discussions of the origins of his work, that he was trying to solve an economic problem—the possible "divergence between the private and social product of the factory ... [whose...] actions ... have harmful effects on others" (Coase, 1960, p. 1)—by taking into account its legal dimension. Thus, Coase wrote:

> ""The Problem of Social Cost" was an essay in economics. It was aimed at economists. What I wanted to do was to improve our analysis of the working of the economic system. Law came into the article because, in a regime of positive transaction costs, the character of the law becomes one of the main factors determining the performance of the economy" (1993, pp. 250-251).

Coase thus remained "an economist" (see, for instance, Coase in Epstein et al. 1997, p. 1138)[8] and was not interested in analysing the legal aspect of the problem. Legal cases, and legal rules, remained outside of his theoretical framework. Economists should not try to explain their origins but could— and indeed Coase used a lot of them in "The Problem of Social Cost"—used them as instances, to illustrate an economic reasoning: "in "The Problem of Social Cost" I ... referred to legal cases because they afforded examples of real situations as against the imaginary ones normally used by economists in their analysis" (Coase, 1993, p. 251).

Just like Posner did in the early 1970s (see Harnay and Marciano, 2009), Calabresi adopted a reverse perspective compared to Coase. First, and not not surprisingly since he was a legal scholar, Calabresi was not primarily interested in an economic problem. It was rather a very important and topical legal problem—what the two law professors at the Chicago University, Charles O. Gregory and Harry Kalven Jr. (1959, p. 689)

8 He argued: "in 'The Problem of Social Cost' I used the concept of transaction costs to demonstrate the way in which the legal system could affect the working of the economic system, and I did not press beyond this" (Coase 1988, p. 35). And: "[F]or me, 'The Problem of Social Cost' was an essay in economics. It was aimed at economists. What I wanted to do was to improve our analysis of the working of the economic system" (Coase 1993, p. 250).

viewed as "the central policy issue in tort law"[9]—that attracted his attention: the determination of a liability rule and the spreading of losses, or the distribution of risks. Second, and this is also a difference with Coase, Calabresi was not aiming at dealing with the question from an applied but rather from a theoretical perspective. This translated into works in which there were few data, cases and examples as it has been frequently emphasized[10]. As a corollary, Calabresi needed a theory that he found in economics, to analyse the question and to offer an alternative to what was perceived as the standard and dominant view in tort law, as it was expressed in the works of Blum, Gregory and Kalven. Therefore, Calabresi departed from the standard legal perspective of his time by using economic tools and economic analysis to find an answer to the legal question he analysed. He also adopted a different perspective compared to Coase, really using economics with the purpose to improve his understanding of legal issues or, more precisely, as Frank Michelman would note later, "to provide a conceptual apparatus for describing, comprehending, and evaluating systems of accident law" (Michelman, 1971, p. 647). Even if the label was not coined before the early 1970s, Calabresi was obviously already proposing an economic analysis of tort or accident law. Posner will be one of the first to perceive that in the early 1970s (see his review of Calabresi's book, 1970). Blum and Kalven had already understood what was Calabresi's perspective when they noted

9 In fact, the analysis Calabresi developed in 1961 was stimulated by the reflections of Gregory and Kalven.

10 For instance, in his review of *The Costs of Accidents*, Posner emphasized "the untraditional character of Calabresi's concerns" (1970, p. 718) as follows: "In neither The Costs of Accidents nor the series of earlier articles' of which the book is a summation and amplification will the reader find more than passing mention of the rules and concepts that constitute the body of accident law or of the procedures and institutions by which that law is formulated and applied. *Few cases* are discussed and, if I recall correctly, *no statutes*" (Posner, 1970, p. 718; emphasis added). Similarly, Frank Michelman noted that "The Costs of Accidents he Costs of Accidents has a somewhat misleading title. There are *no data* here to interest the National Safety Council or Nader's Raiders. In fact, there are *no data at all*, and thereby hangs one of the interesting questions about this book. Calabresi's stated object is to lay a "theoretical foundation for accident law"" (1971, p. 647; emphasis added).

that he had "crystallized the *economic analysis* of liability" (Blum and Kalven, 1967, p. 240, emphasis added).

In effect, Calabresi assumed that two criteria can be used to choose a liability rule and therefore determine who should bear the burden of the losses economic activities generate. Justice, even if certainly not secondary, comes only in second. Questions about liability and the goal of accident law “are not meant to herald a metaphysical search for ultimate causes” (Calabresi, 1965, p. 725). The latter, or “[g]reat moral issues” (1965, p. 717), are a matter of “collective choice” (Calabresi, 1965, p. 717) and have to be “decided in whatever political way our society chooses to decide moral questions” (Calabresi, 1965, p. 717). Thus, answers put in terms of justice and fairness would be too “vague” (Calabresi, 1961, p. 501), too general and not practical enough. By contrast, questions about everyday life situations, about “'rotary mowers versus reel mowers,' 'one method of making steel as against another' are questions difficult of collective decision“ (1965, p. 717), by which Calabresi meant that these questions are too "difficult" to be dealt with collectively. Decisions have to be made individually and have to be practical and cannot rest on ethical "principles". Calabresi then suggests that economics be used as a criterion to help judges to make their decisions: “the marketplace serves as the rough testing ground” (1965, p. 717). In other words, the rules that are not determined at the political level, that is by the citizens, have to be determined by judges by using an economic criterion. Thus, the assignment of liability should be made by using what Calabresi also names “the ‘allocation of resources’ justification” (Calabresi, 1961, p. 502).

Of particular interest for an history of law and economics and for an analysis of Calabresi's contribution to the field, we must note that Calabresi learned about the importance of economics for legal issues and how to answer these questions by using economics by studying legal cases and legal decision making. Evidently, he was not as

precise and affirmative as Posner was in his analysis of the Learned Hand rule (1972). For instance, Calabresi noted that economic theory might have been too sophisticated for judges—I do not suggest, of course, that 19th century judges made the transfer to fault liability on the basis of this rather complicated economic theory" (1961, p. 516), namely that "that proper "long run" allocation of resources required that industry be spared from paying hidden accident costs-at least unless other factors like fault were involved" (Calabresi, 1961, p. 516). But, he nonetheless believed that the statements made by judges represented "a rough and ready, noneconomist's, way of recognizing" (1961, p. 516) an economic result. Therefore, when reading "Some Thoughts on Risk Distribution and the Law of Torts", we realize that Calabresi developed a normative view on the role of economics in judicial decision making from a positive observation of the decisions made by judges.

3. Calabresi's invention of the Coase theorem

The originality and importance of Calabresi's early comes from the acknowledgement of the dual or reciprocal dimension of liability in tort or accident law. Reciprocity—the "reciprocal character of the components of the ... costs accidents impose" (Calabresi, 1970, p. 638)—can be found in almost all his works[11]. It was so strikingly obvious that it

11 For instance, in the *The Decision for Accidents*, Calabresi noted that "[W]e build a tunnel under Mont Blanc because it is essential to the Common Market and cuts down the travelling time from Rome to Paris, though we know that about one man per kilometre of tunnel will die. We take planes and cars rather than safer, slower means of travel. And perhaps most telling, we use relatively safe equipment rather than the safest imaginable because—*and it is not a bad reason*—the safest costs too much" (1965, p. 716; see also 1970, pp. 17-18; emphasis added). In T*ragic Choices*, he develops the same argument (1982; see also 1985, cars cause carnage but save lives too). For Calabresi, therefore, tort law or accident law appears to be a matter of reciprocity: "In torts law, we have become accustomed to the fact that many activities are permitted, even though statistically we know they will cost lives, since it costs too much to engage in these activities more safely or to abstain from them altogether. We have grade crossings, even though we know that with grade crossings a certain number of people

is one of the first element of Calabresi's 1970 *The Costs of Accidents* that Posner emphasized and discussed in his review of the book. However, Calabresi did not wait the 1970s to realize how important it was to a system of tort or accident law. In his 1961 article, he clearly stated the problem of the attribution of liability in *non-Pigovian* terms—therefore adopting a frame of analysis which was exactly the same as the one adopted by Coase and in which the reciprocal dimension of liability is central. Thus, for someone who would have adopted a Pigovian perspective, it would not have been debated whether or not an enterprise or an industry has to bear the cost of its activities generate for the rest of the society or, if the injurer has to be liable for the consequences of his or her activities. The injurer, the tortfeasor would be liable for his or her actions. By contrast, Calabresi started his analysis by questioning this belief. In effect, he asked whether it should always be the case and who should actually bear the costs of economic activities: Are they the firms, or "[t]hose classes of people "most able" to pay?", (Calabresi, 1961, p. 499) or have the losses to be spread, "both interpersonally and intertemporally" as broadly as it is possible (Calabresi, 1961, p. 499)?

From an economic, or a law and economics, perspective, Calabresi's position is as radically original as was Coase's who was, at exactly the same period, building his analysis on the same point. And it may have been original for certain legal scholars. It was not, however, uncommon that judges and courts based their decisions on "reciprocity". This is exactly what Coase noted in "The Problem of Social Cost" when he

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will be killed each year and even though grade crossings could be eliminated relatively easily. We use auto mobiles? Knowing that they cost us fifty thousand lives each year? because to use safer, slower means of transport would be far too costly in terms of pleasures and profits foregone. Worse even than that, we use automobiles with relatively cheap (but relatively dangerous) tires, airports with relatively cheap (but relatively dangerous) control systems, and so on ad infinitum. And we do this because we deem the lives taken to be cheaper than the costs of avoiding the accidents in which they are taken" (Calabresi, 1969, p. 387).

praised judges for understanding what most economists fail to recognize, namely that liability involves two parties and therefore that is is a two-sided problem (1960, p. 19). This is also exactly what Calabresi stressed, insisting that judges in the U.S.A. during the 19th century tended to adopt a rule of *nonfault liability*, according to which they did not always attribute the liability of an action to the firms that had caused the damage. Thus, Just like Coase said that liability should be decided by a comparison between "the value of what is obtained [... to ...] the value of what is sacrificed to obtain it" (1960, p. 2), "the value of the fish lost [... to ...] the value of the product which the contamination of the stream makes possible" (1960, p. 2), Calabresi claimed that judges had understood what was at stake in terms of economic efficiency: when they ruled that an "industry was simply not ready to bear all of its costs, and that the country would in the long run be better off if it did not." (Calabresi, 1961, p. 516), they clearly meant that one has to compare what an industry costs to the country to what it brings to decide who is liable and who has to bear the costs of his actions.

From the economic perspective that judges adopted in some of their decisions, and that Calabresi actually explained and theorized in his 1961 article, that is “under a strict resource-allocation theory” (Calabresi, 1961, p. 505), it was then possible to give an answer to these legal questions that otherwise appeared to be difficult, or tricky, to answer: "the most desirable system of loss distribution ... is one in which the prices of goods accurately reflect their *full cost to society"* (Calabresi, 1961, p. 505; emphasis added)—that is one which reconciles the private and social costs of activities. It thus appears that the determination of a liability rule is viewed as an instance of the same debate as the one to which Coase's name is usually connected. And Calabresi once again adopts a non-Pigovian perspective by writing that costs do not have necessarily to be borne by the injurer. Actually, "the costs of injuries should ... be borne by the activities

which caused them or be placed on the party which is most likely to cause the burden to be reflected in the price of whatever the enterprise sells" (Calabresi, 1961, p. 505). Calabresi even went one step further. He was very clear about the conclusion that could be reached from the use of an economic analysis, that he also names a "pure loss-distribution theory" (1961, p. 506): the assignment of the burden of costs, the distribution of losses or the assignment of liability to one party or the other has no impact on the allocation of resources. Thus, to use Calabresi's own words: "[t]here are naturally, some situations where ... it actually *does not matter who bears the loss initially*" (Calabresi, 1961, p. 506; emphasis added).

Thus, Calabresi established two results that that are usually although not always simultaneously associated with the Coase theorem: first, the external effects of individual activities can be internalized if or when prices include the costs imposed to the society; second, in certain circumstances, legal rules do not matter. It is particularly interesting to note here that Calabresi was the first to reach a conclusion that the Chicagoan economists viewed as an "heresy" (Stigler, 1988, p. 76) and as "extraordinarily unobvious" (Stigler, 1972, p. 11) when Coase presented his article for the first time in 1960 in Aaron Director's living room and that economists acknowledged only in the early 1970s as the "invariance" thesis (Borcherding, 1970, p. 948; Regan, 1972, p. 427). Also notable is that this thesis did not appear in the 1966 version of the Coase theorem. Stigler included it in the theorem in 1972 only (Medema, forthcoming, p. 26).

Thus, Coase and Calabresi adopted the same starting point—the problem has a twofold, reciprocal dimension— and reached the same conclusions. More precisely, what is interesting is not exactly that Calabresi discovered the same result as Coase but rather that he gave these results a form that economists would acknowledge later.

In addition, Calabresi did not explain the result by using the same variables. Among the conditions that have to be satisfied, Calabresi did not mention "transaction costs" in 1961. And the the illustrations he gave did not show that he believed that the costs of bargaining were a key-variable that would explain that (or why) private arrangements would lead to efficient outcomes. In fact, to Calabresi and this is a difference with Coase, transaction costs appeared as secondary to other explanatory elements that therefore have to be taken into account as primary factors. These primary factors were those upon which Calabresi insisted in his first writings, where he explained that liability rules have no impact on the allocation of resources only from the perspective of "traditional economic t*heory*" (1961, p. 505; emphasis added) or "[i]n terms of 'pure' resource-allocation-loss-distribution t*heory"* (Calabresi, 1961, p. 505; emphasis added). Now, from such theoretical perspective, transaction costs were not viewed as be a crucial variable at all and the level of transaction costs was not presented as an issue. Much more important were the behavioral assumptions that economists put at the core of their analyses, namely the rationality of individuals.

The secondary role of transaction costs, vis-à-vis to rationality, makes sense because, from the theoretical perspective that economists retain, that is in the perfect world of economics, transaction costs are necessarily equal to zero because individuals are rational. Because of their assumed rationality, individuals are not only able to calculate the costs and benefits associated with their actions. They also have all the information that is necessary to make such calculus. In "Some Thoughts on Risk Distribution and the Law of Tort", Calabresi argued that the pure-loss-distribution theory "presupposes and all-knowing, all rational economic world" (Calabresi, 1961, p. 506) and he added that,

> "in a world populated by such ["rational," "all-knowing," economic] men,

> proper resource allocation would often result no matter who bore the initial risk of loss. Thus, the “rational” worker in a purely competitive world would demand higher wages if his job involved a substantial risk of accident and the company did not provide him with insurance for it. As a result, putting accident costs on worker or company would not matter“ (Calabresi, 1961, p. 515).

After having insisted on the fact that the result —“it does not matter who bear the loss initially”— is *theoretically* valid and centered his explanation on the rationality of individuals, rather than transaction costs, Calabresi noted that human beings actually do *not* live in the perfect world described by economists. And therefore, one has to move from the theory to the reality, which is not without consequences. First, in the “real world”, the allocation of resources does not take place through competitive markets but result from the exercise of monopoly power. Second, even when markets are competitive, problems may arise because individuals do not have the same insurance costs to face (1961, p. 406). Then, he proceeded to a third, and certainly more important reason. Calabresi claimed that individuals are not, in contrast to what economic theory assumes, rational. They do not possess the same capacity to gather and to process information. Thus, in the real world, in practice, there obviously exist subjective differences between individuals that must not be neglected: "in the real world not all parties evaluate losses equally” (1961, p. 506). The personal and subjective evaluations of risks vary from one individual to the other and above all are not precise — these are “guesses”. They cannot reflect the actual value of the risk for the individual[12]. This implies that a sum paid to an individual to compensate him or her from a risk may correspond to his or her evaluation but it will likely differ from the actual loss he or she will have to face. It thus cannot be said that it makes no difference to let a risk be born

12 “Before workmen's compensation the individual worker simply did not evaluate the risk of injury to be as great as it actually was. He took his chances; and even if he did not wish to take his chances, the fact that other workmen took a chance forced him to do the same, or to starve” (1961, p. 506).

by one party or by the other.

These remarks allow us to give a complete statement of Calabresi's conclusion. The economic—or loss-distribution—argument is t*heoretically* correct but *"in fact* inaccurate" (Calabresi, 1961, p. 506; emphasis added). Thus, in theory, legal rules do not matter but they actually do and effectively affect the allocation of resources, which means, even if Calabresi did not use the word, that his analysis contributed to corroborate the thesis that there are market failures that must be corrected. And, as a lawyer and as a legal liberal convinced that judges have a role to play, he concluded that judges have a role to play in the functioning of the economy and in the allocation of resources.

4. A Coasean turn towards the Coase *Axiom*

Calabresi's demonstration was, it can be said, finalized. And there will not be fundamental differences between "Some Thoughts on Risk Distribution and the Law of Torts" and Calabresi's next papers, such as "The Decision for Accidents: An Approach to Nonfault Allocation of Costs" (1965) and "Transaction Costs, Resource Allocation and Liability Rules—A Comment" (1968 a). The main difference results from the fact that Calabresi had started to write his first article before the publication of "The Problem of Social Cost" and, possibly, before Coase had started to write it. But he wrote his next articles after having read Coase. It is not only that Calabresi made references to Coase that is important but rather that he a Coasean tone to his analysis and demonstration—without, of course, altering his own views and departing from his conclusions.

Thus, in 1965, Calabresi repeated again that "[t]here are, happily, some situations in which it will not matter which of two activities initially bears the cost of an accident" (1965, p. 725). In the same article, he pointed again that "it ultimately makes no

difference whether the dock owner or the shipowner in Vincent v. Lake Erie Transp. Co.20 is held liable for damage to the dock caused by an unexpected storm" (Calabresi, 1965, p. 726) and also that

> "[t]heoreticians[13] will insist that in terms of "general" deterrence of accident-prone activities it makes no difference either way ... [that] the cost of industrial accidents be put on workers or on their employers ... [or] the cost of rotary as against reel lawn mowers be borne by the manufacturers or the users" (Calabresi, 1965, p. 725-726)

And then, later, he used more economic terms to present exactly the same conclusion: "the same allocation of resources will come about regardless of which of two joint cost causers is initially charged with the cost, in other words *regardless of liability rules*" (Calabresi, 1968 a, p. 67; emphasis added). The last part of the quotation is particularly interesting because it points to one of the corollary of the general conclusion put forward by Calabresi: liability rules, or more broadly, legal rules do not affect the allocation of resources. Once again, Calabresi insisted on the "invariance" of the allocation of resources under various liability rules.

This time, Calabresi gave an explanation that can be viewed as more Coasean than the one given in 1961 since he devotes an entire section (pp. 726-733) to the analysis of "bargaining situations". He thus notes that there are "happily" (1965, p. 725) in which legal rules do not affect the allocation of resources. It happens when parties are "related by bargaining" (Calabresi, 1965, p. 726). It makes no difference to let the burden of costs fall on one party or the other because they are able to search for and use the "least expensive way to minimize the loss ... whichever of the two is initially liable" (Calabresi, 1965, p. 726). In other words, it could be said that he started his analysis by agreeing with Coase. But Calabresi insisted again on the same limitation, a problem that is

13 Calabresi was wpeaking of Blum and Kalven (1964)

certainly not taken into account in Coase's analysis, namely that there exist differences between individuals in terms of their capacity to estimate the risks and the consequences of their actions: "one of the two actors may, in *practice*, be far better able than the other to evaluate the accident risk, that is, the expected accident costs" (Calabresi, 1965, p. 726; emphasis added). Therefore, it is only when such difference between individuals does not exist, that is "in theory" (Calabresi, 1965, p. 726) and "that "[i]n a perfect world such a bargaining relationship will always result in the appropriate minimization of the loss" (Calabresi, 1965, p. 730). In general, and in practice, "we *cannot* assume that it makes no difference, in terms of accident deterrence, who is saddled with the original liability" (Calabresi, 1965, p. 731; emphasis added).

The Decision for Accidents: An Approach to Nonfault Allocation of Costs, thus published in 1965, is not only interesting for the references to Coase and the Coasean turn in Calabresi's explanations. Also, Calabresi criticized the Coase negotiation result, stressing a difference, that no one had perceived up to that point, between the short-run and the long-run: while in the short-run, the allocation of resources is independent from the liability rule, it might not be the case in the long-run and therefore the nature of liability rule matters (Calabresi, 1965, p. 730 and 731). What appears to be the first incorrectness claim raised against Coase[14] played an important role in the respective reputations of Coase and Calabresi. The latter in effect wrote a paper——entitled "Transaction Costs, Resource Allocation and Liability Rules—*A Comment*" (emphasis added)— to explain that he was wrong. The article was published in the 1968 April issue of the *Journal of Law and Economics*. From this perspective, the way Calabresi acknowledge his misinterpretation of Coase's reasoning, and the total and unambiguous

14 I thank Steve Medema for stressing this point.

agreement he expressed with Coase, are more interesting than the mistake in itself. Thus, one reads under the pen of Calabresi that "further thoughts" (Calabresi, 1968 a, p. 67) had "convinced" him that

> "if one assumes no transaction— costs-including no costs of excluding from the benefits the free loaders, that is, those who would gain from a bargain but who are unwilling to pay to bring it about—and if one assumes, as one must, rationality and no legal impediments to bargaining, Coase's analysis must hold for the long run as well as the short run" (Calabresi, 1968 a, p. 67).

Therefore, Calabresi had no more objections to put against the arguments made by Coase in "The Problem of Social Cost". He could then conclude without hesitation and without any reserve that, under certain conditions "*all* misallocations of resources would be fully cured in the market by bargains" (Calabresi, 1968 a, p. 68; emphasis in original). Even more precisely, in a more complete form, Calabresi stated the following result:

> "If people are rational, bargains are costless, and there are no legal impediments to bargains, transactions will ex hypothesis occur to the point where bargains can no longer improve the situation; to the point, in short, of optimal resource allocation. We can, therefore, state as an axiom the proposition that all externalities can be internalized and all misallocations, even those created by legal structures, can be remedied by the market, except to the extent that transactions cost money or the structure itself creates some impediments to bargaining" (Calabresi, 1968 a, p. 68; emphasis added).

These quotations are remarkable. First, the paper was published two years after the publication of the third edition of Stigler's *The Theory of Price*, in which the Coase theorem had been for the first time presented. However, Calabresi did not make any reference to the theorem—it is hard to say if he knew the last version of Stigler's textbook—even though he knew previous editions that he quoted in "Some Thoughts on Risk Distribution and the Law of Torts". That Calabresi used the word "axiom" just after Stigler had spoken of "theorem" is certainly not a proof even if the coincidence is striking.

Second, it is also quite notable that, in 1968, for the first time Calabresi made a

reference to "transaction costs" (Calabresi, 1968, p. 67 and 68) that he presented as obstacles, "legal impediments to *bargains*" (Calabresi, 1968, p. 68; emphasis added)—that he nonetheless blended with his belief in the role of the subjective perception of risks: “[t]he transaction costs which attach to a bargaining situation, and hence to most products liability cases, are generally those of differentiation and risk awareness” (Calabresi and Bass, 1970, p. 77). Later in 1968, another of Calabresi's article was published on the same issue. Not only Calabresi insisted on the same result—"[a]pure market system would allocate accident costs to the acts or activities (or combinations of them) which could avoid the accident costs most cheaply" (1968 b, p. 436)—but also the analysis almost exclusively revolved around transaction costs: "[i]f there were no transaction costs and no information costs associated with paying people to alter their behavior, it would not matter (in terms of market control of accidents) who bore the accident costs initially" (1968 b, p. 436) but because "in reality transactions are often terribly expensive, it is often not worthwhile spending both the cost of the transaction and the amount needed to induce someone else to diminish his accident-causing behavior" (1968 b, p. 436)[15].

This reference to the role of transaction costs could be an indirect proof that Calabresi was indeed acquainted with Stigler's Coase theorem. Another evidence that Calabresi could have been aware of the Coase theorem is that, and it is a third point to stress, he no longer referred to the two complementary results that he put forward in his 1961 article, namely that private and social costs are equal if there are no transaction costs

15 In the same article, as if not totally convinced with his own analysis, Calabresi came back to the question of the validity of Coase's analysis in the long-run: " liability rules can have a broader, long-run effect. They can change the relative profits of the activities involved and so affect the relative number of car makers and cars, pedestrians, and television makers in my examples" (1968 b, p. 438, n. 14).

and that legal rules do not matter. Calabresi insisted only on the "internalization of externalities"[16]—a result that was not controversial and that corresponded, as mentioned above, to Stigler's Coase theorem as expressed in 1966.

Fourth, Calabresi took care to list all the conditions that had to be fulfilled to reach an optimal allocation of resources, as if to insist on the difficulty to obtain such a result; to stress the validity of the result, as Stigler did, was one thing, but one could not forget the circumstances in which this result holds. This was reminiscent of the distinction established in his previous works, about the "theoretical validity" and the "practical inaccuracy" of Coase's result. No surprise, thus, if Calabresi complemented his claims about the existence of a Coase axiom with a conclusion in which he "reduced" the analysis made by Coase as "an admirable tool for suggesting what kind of empirical data would be useful in making resource allocation decisions, and for indicating what kinds of guesses are likely to be justifiably made in the absence of convincing data" (Calabresi, 1968, 73). However, one could not go that far as using "Coase's analysis to suggest that little or no government intervention is usually the best rule" (Calabresi, 1968, p. 73). In fact, Coase's analysis *only* "explain various types of heretofore inadequately justified governmental actions" (Calabresi, 1968, p. 73) but "more precise data" are required to "prove some of these interventions to be improper from the standpoint of resource allocation" (Calabresi, 1968, p. 73). Calabresi accepted Coase's analysis and agreed that it could be generalized as an axiom but one with a limited scope[17].

16 Let us note also that the use of the word "externalities"—a word that Coase did not like and therefore did not use, even if most of the contributors to the "debate" on the problem of social cost did.

17 Calabresi even defends Coase against Blum and Kalven who rejected Coase's analysis because, first, “there are always transaction costs” and, second, economics has much to say to help jurists in deciding which liability rule to use.

Therefore, an analysis of Calabresi's works shows that he shared with Coase the belief that, in some circumstances, it does not matter who is liable in the first place or who bears the costs of one's actions. The explanation Calabresi gave nonetheless differs from that given by Coase. While the later insisted on the role of transaction costs, the former argued that it would occur in a world peopled with rational individuals. In other words, both Coase and Calabresi agree that in a perfect world liability rules would have no impact on efficiency. However, Coase believes that imperfections originate from positive transaction costs, while Calabresi identifies the source of market failures in the presence of monopolies and, more importantly, from irrational behavior More precisely, one must note that Calabresi's thought evolved and he eventually acknowledged the role of transaction costs. But this did not lead him to change his mind: to him, what is known as the Coase theorem and that he labelled the "Coase axiom" indeed rests on unrealistic assumptions.

5. Calabresi as the co-inventor of the Coase theorem

In the first half of the 1950s, market failures and, in particular, the problems that public goods and externalities could represent to an optimal allocation of resources curiously did not attract much attention among economists. Very few articles were written about the question; Meade (1951), Scitovsky (1954), Bator (1957) are exceptions. And when it was discussed, the phenomenonwas found "unimportant" (Scitovsky, 1954, p. 145) because "examples of it seem to be few and exceptional" (Scitovsky, 1954, p. 145). It is in the late 1950s and early 1960s that the possible divergence between public and private cost became topical. Among the papers that were published at that time about externalities, market failures and market efficiency, and besides Coase's, there are Buchanan's 1959 and (co-authored with Craig Stubblebine) 1962 articles and

Calabresi's. And, as is well known, "The Problem of Social Cost" is the only one that attracted the attention of economists. It was not immediate, though. In particular, not before the mid-1960s. This can be explained by the fact that, among the factors that played a certain role in this process, Coase's move from the University of Virginia to the Law School of the University of Chicago was important. In the mide1960s, the department of economics of the University of Chicago had already acquired a certain prestige. The names of Knight and Viner, but also those of Friedman and Stigler were already well known and the idea that there existed a Chicagoan tradition in economics—or, a Chicago School of Economics—had already been put forward (see Miller, 1962)[18]. Coase's move to Chicago gave visibility to his work. In addition, the establishment of the Coase theorem by George Stigler in 1966 was also determining for, without doubt, what Stigler wrote in the third edition of his *Theory of Price* contributed to make "The Problem of Social Cost" visible and gave Coase's analysis a very specific turn. After Stigler, the Coase theorem, rather than Coase's article, became the object of attention of legal scholars and economists.

In the meantime, Calabresi's articles remained unnoticed by economists[19]; about ten citations in academic journals can be found in the entire decade that follows the publication of his first article in 1961. One could be tempted to explain this phenomenon

18 Significantly and surprisingly, Miller included Coase in this tradition even though Coase was not at Chicago. This is one of the point that Stigler emphasized in his answer to Miller ("Ronald Coase ... has never taught here", Stigler, 1962, p. 71). The main argument Miller put forward is that Chicagoans are pro-market economists and so was Coase in 1959 article of the Federal Communications Commission. Stigler argued that Miller "has not described ... a unifying ethical or political philosophy or an articulate and reasonably specific policy program" (Stigler, 1962, p. 71). One may say that, in this condition, it is even more remarkable to see that Coase was viewed as a Chicagoan: his thought was indeed viewed as a strong defence of market mechanisms.

19 Similarly, legal scholars did not pay attention to Calabresi's works that were not cited nor quoted or even mentioned (with the exception of Blum, Kalven and Gregory).

by the fact that his works were published in law journals, that economists did not read. But even when he published papers in journals edited by economists, this did not alter the situation. Thus, Calabresi's 1968 article was published in the *Journal of Law and Economics* did not contributed to make his work visible. A particularly good instance is given by "The Coase Theorem on Social Cost: A Footnote" written by Warren G. Nutter, an economist at the University of Virginia and thus a former colleague of Coase. A defense of the Coase theorem[20], Nutter's article was published in October of the *same* year and in the *same* journal as Calabresi's paper. It was not only about exactly the *same* issue as Calabresi's 1968 paper—the validity of the Coase theorem in the long run. It was about the point that Calabresi had been the first and only one to emphasize. Therefore, Nutter's "footnote" was only directed against Calabresi. This could have been an opportunity to read Calabresi's work. Actually, Nutter gave a broad turn to his paper noting that "[q]uestions have been raised, however, as to whether the Coase theorem applies to the allocation of resources in the long run" (1968, p. 503) and was precisely aimed at showing that the Coase theorem applies to the long-run as well as the short-run allocation of resources" (Nutter, 1968, p. 504). In other words, Nutter was primarily interested in Coase and not in Calabresi.

In his article, Nutter did not particularly pay attention to transaction costs. He wrote that the Coase theorem meant that "market transactions will have the same consequences as internal management no matter what the property structure, provided *only* that costs of transactions are negligible" (1968, p. 503; emphasis added). However,

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20 Stigler recounted that Nutter "was scheduled to give a talk at Rochester at a workshop entitled something like, "The Fallacy of the Coase Theorem." But he made the mistake of taking a plane from Charlottesville and sitting next to Friedman and when he got to Rochester the paper was retitled "A New Proof of the Coase Theorem"' (Stigler, in Kitch, 1983, p. 227).

this assumption was going to attract more interest, and criticisms, in the last years of the decade when scholars started to emphasize the lack of realism of the assumptions on which rests the Coase theorem. Most significant are the statements made during a conference organized at Stanford University by the Joint Committee appointed by the Association of American Law Schools and the American Economic Association with the purpose “to explore the possibilities of collaborative efforts between the two organizations” (report 1)[21]. Most of the participants, in spite of many disagreements, nonetheless agreed on a twofold idea: on the one hand, "Coase is right if one accepts the basic assumptions" (McKean, 1970 a, p. 31) upon which his analysis rests which, on the other hand, "are fairly heroic" (McKean, 1970 a, p. 31). Accordingly, "they do not hold in the *real world*" (McKean, 1970, p. 31; emphasis added)[22]. Robert Dorfman, an economist from Harvard University, compared economics with physics and economists with "ballistic experts": the law of gravity "works best in a vacuum ... [but] ... is not helpful *at all* in predicting more terrestrial projectories" (Dorfman in Manne, 1978, p. 122;

21 The Joint Committee, chaired by economist and law and economics specialist Henry Manne, met a first time in Chicago on November 12, 1966. A conference was planned for 1968, to be supported by the Walter E. Meyer foundation. "Product Liability: Economic Analysis and the Law" as a topic for the conference because it was assumed that "product liability [was] an area of particular interest for economists and lawyers" (report 1, Stigler papers). Product liability was one of the three topics that were envisaged for the conference. The others two areas were: criminal law — and antitrust (report, AER, 1967). Roland McKean was invited to write a monograph on the subject. Two economists (James Buchanan and Robert Dorfman) and two law professors (Guido Calabresi and Grant Gilmore) were chosen to comment McKean's paper that was entitled "Products Liability: Trends and Implications"—McKean wrote a second, more economical, version of his paper that was published in the Quarterly Journal of Economics.

22 The claim that Coase's approach of the problem of social cost was "unrealistic" and therefore useless was new among economists. It was not new to legal scholars. Among others, Blum and Kalven had already noted this problem. In one of their articles, they explained that "[i]n the eyes of the bar another Utopian approach to the auto accident problem coming from economics would be an effort to adopt the general analysis offered by Ronald Coase" (Blum and Kalven, 1964, p. 264) precisely because "[a]s far as we can see, the relationship between the parties involved in auto accidents is too remote from any conceivable bargaining arrangement to make this analysis usable" (Blum and Kalven, 1964, p. 264).

emphasis added); economists, like "ballistics experts", are "*not* concerned with problems in a vacuum" (Dorfman in Manne, 1970, p. 122; emphasis added) but are interested in "actual markets" (Dorfman in Manne, 1970, p. 122). Similarly, Grant Gilmore, a law professor at the University of Chicago, accepting McKean's claims, insisted on the necessity to acknowledge a difference "between Professor Coase's world in which there are no transaction costs and all exchanges are voluntary and a world in which there are always transaction costs and few, if any, exchanges that are voluntary" (Gilmore, 1970, p. 106). Although he doubted that Coase's "abstract theoretical analysis ... gives us, or is meant to give us, guidance in handling real problems in the real world" (Gilmore, 1970, p. 116).

As a consequence of this need for a realistic theory, scholars started to turn towards Calabresi's works in which they found, at the same time, the acceptation of an unrealistic theory and also its rejection for possible applications in the "real world". From this perspective, the findings of Calabresi appeared to be broader and more complete than Coase's or, at least, than the Coase theorem. No surprise if the idea that Coase and Calabresi had developed the same arguments and reached the same conclusions spread in the early 1970s. In other words, as soon as Calabresi's work were acknowledged and quoted, they were put on the same footing as Coase's and both Calabresi and Coase credited for having discovered the result of the "Coase theorem". Actually, Calabresi is cited or quoted for having "summarized" or, alternatively, "generalized" and "clarified" the result found by Coase. One of the first quotations that goes in that direction was made by Douglas Ayer who noted that Calabresi is "generally" (Ayer, 1969, p. 696, fn 11) the reference for the following result:

> "If there were no transaction costs, no legal impediments to bargaining, and the windfall-seeking condenmees were all rational,t hey could work out among themselves a contractual arrangement that would ensure that their

> demands did not exceed, individually or in the aggregate, the monopoly tolls that the condemnor could pay and still benefit from the public improvement" (Ayer, 1969, p. 696).

Also, from this perspective, an interesting reference to mention is Richard Posner's conclusion in the review of *The Costs of Accidents,* according to which "for reasons first explained in a classic article by Ronald Coase and *well summarized by Calabresi,* it is not always an easy trick to [find a solution that] will produce the same result as would private contracting" (1970, p. 640; emphasis added). One year later, G.A. Mumey made a similar claim: Calabresi *generalized* the Coase theorem established by Stigler (1971, p. 718). In 1972, in an essay entitled "The Problem of Social Cost Revisited" aimed at showing that the Coase theorem is "open to doubt", Donald Regan found more convenient to start his analysis with a reference to Calabresi rather than with a quotation from Coase, arguing that Calabresi had "stated more clearly" (Regan,1972, p. 428) an argument that was only "implicit in Coase's original article" (Regan, 1972, p. 428). Similarly, Harvard law professor Lawrence Tribe spoke of a "now almost traditional ... analysis to the legal problem of how to assign "rights" and liabilities"—for example, between polluters and breathers" (Tribe, 1972, p. 86) and also of "[t]he currently popular analysis traceable to the works of Ronald Coase and Guido Calabresi" (Tribe, 1972, p. 86).

Certainly, the reference to Calabresi and to Coase, most of the time—not for Posner, obviously—, was made to stress the conditions that limit the validity of the Coase theorem. Thus, when Warren Schwartz (1971, p. 719) referred to Calabresi's "Transaction Costs, Resource Allocation and Liability Rules-A Comment" (1968), it was to indicate it as the article in which could be found "a brief but incisive discussion of the circumstances in which market transactions can be relied on to produce the socially desirable result in cases of this kind". Similarly, Joseph Sax noted that "the

substantiality of transaction costs in organizing a fully informed market suggests the inadequacy of reliance solely upon private negotiation" (1971, p. 174). Later, Alan Randall argued that, with his 1968 article, Calabresi "spoke for the proponents of market solutions in 1968: all externalities can be internalized and all misallocations can be remedied by the market except to the extent that transactions cost money" (1972, p. 176).

To be more precise, the result which is co-attributed to Calabresi and Coase is not only that there are transaction costs or that the Coase theorem is necessarily wrong. It is interesting to note that scholars tended to make a difference between the perfect world of the theory—in which carefully selected assumptions allow markets to be efficient—and the real world—in which frictions, and in particular transaction costs prevent market efficiency. Therefore, the Coase theorem was not rejected in principle but accepted as *theoretically* valid and as false in practice, or, more precisely as people became accustomed to say, in the real world. And Calabresi was always mentioned in the discussions of this difference. For instance, Tribe argued that the distinction between “an ideal world of free transactions, free competition, and full information [in which] economic efficiency (in the sense of Pareto-optimality) would be achieved without regard to how rights ... are assigned by law” (1972, p. 86) and "the real world, where transactions (for instance, coalitions of breathers to bribe polluters to reduce pollution) are far from free" (1972, p. 86) can be found in Coase and in Calabresi. For his part, A. Mitchell Polinsky did not only mention Calabresi for having demonstrated that "transaction costs are all the costs which inhibit competitive markets from working" (1974, p. 1667) but also note that the "*zero transaction costs assumption* is ... more likely to be invalid in the real world" (1974, p. 1667: italics in original; emphasis added). More recently—since it appears that this identification between Coase and Calabresi lasts—

Alan J. Meese mentioned Calabresi's 1968 article Transaction Costs, Resource Allocation, and Liability Rules-A Comment to support the result that "In a world with no transaction costs, tort law would not be necessary. Instead, injurers and victims would bargain among themselves to produce the mix of activities and care that would maximize their own and thus society's wealth" (2001, p. 1201). Or, Michael Ashley Stein in "The Law and Economics of Disability Accommodations" noted that

> "[i]n this transaction-cost-free world, private bargains move resources to their highest-valued use and thus maximise the wealth than can be obtained from society's existing resources. In such a perfect world, employment practices would being with an individualized determination of each potential employee's productivity, costs, and benefits ... The real (economic) world is not, however, wholly bereft of transaction costs in this sense—even Professor Ronald Coase didn't think so" (Stein, 2003, p. 158).

On the contrary, they were put on the same footing for having demonstrated the same, twofold, result. On the one hand, from a theoretical perspective, it makes no difference to place costs or liability on one party or on the other because parties are able to devise private, market-like, arrangements allowing them to reach an efficient allocation of resources. Thus, the market does not necessarily fail when activities generate external effects. However, on the other hand, the conditions to satisfy to reach such efficiency were viewed as too strong to be actually met; as a consequence, the existence of a gap between private and social costs at least revealed the existence of market failures and possibly led to a claim in favor of the intervention of the State[23].

4. Conclusion

From the perspective of the history of the law and economics movement, Calabresi's contributions worth being mentioned because he reached similar conclusions as those

23 Coase never clarified this point—apparently because he himself believed in the existence of a difference between theory and practice (see Medema).

known as the Coase theorem, although independently from Coase and without knowledge of "The Problem of Social Cost" by using economics to analyze legal rules—he used economics to theorize some of the decisions made by judges in the 19th century. His economic analysis of legal rules and legal decisions allowed him to state what will be known in the 1970s as the "invariance" proposition— according to which "liability rules have no impact on the allocation of resources". He then demonstrated that the proposition might be valid from a theoretical perspective—by which he meant, under the assumptions used by economists—but has no empirical content or, to put in other words, is wrong outside of the perfect world described by economists. This result, that is close but also different from the "Coase theorem", remained ignored by economists and by most of legal scholars until the late 1960s, early 1970s. It was only when scholars started to emphasize the unrealistic assumptions upon which rest the Coase theorem that they also started to pay attention to Calabresi. His works were then mainly used to emphasize the limits of the Coase theorem. Calabresi and Coase were put on the same footing; the works of the former presented as more complete and more practical than the works of the later.

References

Barreto Humberto , Thomas A. Husted and Ann D. Witte. 1984. "The New Law and Economics: Present and Future, review of The Economic Approach to Law by Paul Burrows; Cento G. Veljanovski", American Bar Foundation Research Journal, 9 (1), pp. 253-266.

Bator, Francis M. 1957. "The Simple Analytics of Welfare Maximization", American Economic Review, 47 (1), pp. 22-59.

Bertrand, Elodie. 2006. "The Coasean Analysis of Lighthouse Financing: Myths and Realities? , Cambridge Journal of Economics, 30 (3), pp. 389-402.

Bertrand, Elodie. 2009. "Empirical Investigations and their Normative Interpretations: A Reply to Barnett and Block? , Public Choice, 140 (1-2), pp. 15-20.

Bertrand, Elodie. 2010 (forthcoming). "The Three Roles of the “Coase Theorem” in Coase? s Works? , European Journal of History of Economic Thought, 17(4.)

Blum, Walter J. and Harry Kalven, Jr. 1967. "The Empty Cabinet of Dr. Calabresi Auto Accidents and General Deterrence", University of Chicago Law Review, 34 (2), pp. 239-273.

Borcherding, Thomas E. 1970. "Liability in Law and Economics: Note", American Economic Review, 60 (5), pp. 946-948.

Buchanan, James M. and W. Craig Stubblebine. 1962. “Externality”, Economica, 29 (116) pp. 371-384.

Calabresi Guido. 1991 b. “The Pointlessness of Pareto : Carrying Coase Further”, Yale Law Journal, 100 (5), p. 1211-1237.

Calabresi, Guido and Kenneth C. Bass III. 1970. “Right Approach, Wrong Implications: A Critique of McKean on Products Liability”, University of Chicago Law Review, 38 (1)pp. 74-91.

Calabresi, Guido. 1961. “Some Thoughts on Risk Distribution and the Law of Torts”, Yale Law Journal, 70 (4), pp. 499-553.

Calabresi, Guido. 1965 a. "The Decision for Accidents: An Approach to Nonfault Allocation of Costs"Harvard Law Review, 78 (4), pp. 713-745.

Calabresi, Guido. 1965 b. "Fault, Accidents and the Wonderful World of Blum and Kalven", Yale Law Journal, 75 (2), pp. 216-238.

Calabresi, Guido. 1968 a. "Transaction Costs, Resource Allocation and Liability Rules—A Comment", Journal of Law and Economics, 11 (1), pp. 67-73.

Calabresi, Guido. 1968 b. "Does the Fault System Optimally Control Primary Accident Costs?", Law and Contemporary Problems, 33 (3) , pp. 429-463.

Calabresi, Guido. 1969. “Reflections on Medical Experimentation in Humans”, Daedalus, 98 (2), Ethical Aspects of Experimentation with Human Subjects, pp. 387-405.

Calabresi, Guido. 1991 a. “Commentary on Some Thoughts on Risk Distribution and the Law of Torts”, pp. 1482-1484, in Fred R. Shapiro, “The Most-Cited Articles from The Yale Law Journal” Yale Law Journal, 100 (5), pp. 1449-1514.

Calabresi, Guido. 2003. “The Generosity of a Dean”, Yale Law Journal, 113 (1), pp. 5-7.

Coase, Ronald H. 1937. The Nature of the Firm, Economica, 4 (16), pp. 386-405.

Coase, Ronald H. 1959. The Federal Communications Commission, Journal of Law and Economics, 2 (Oct.), pp. 1-40.

Coase, Ronald H. 1960. "The Problem of Social Cost", Journal of Law and Economics, 3 (Oct.), pp. 1-44.

Coase, Ronald H. 1988. “The Nature of the Firm: Influence.” Journal of Law, Economics, and Organization 4 (1): 33-47.

Coase, Ronald H. 1992. “The Institutional Structure of Production.” American Economic Review 82 (4): 713-19.

Coase, Ronald H. 1993. “Law and Economics at Chicago.” Journal of Law and Economics 36 (1) Part 2: 239-54.

Epstein, Richard A., Gary S. Becker, Ronald H. Coase, Merton H. Miller and Richard A. Posner. 1997. “The Roundtable Discussion.” University of Chicago Law Review 64 (4): 1132-65.

Friedman, Barry. “The Birth of an Academic Obsession: The History of the Countermajoritarian Difficulty, Part Five”, Yale Law Journal, 112 (2), pp. 153-259.

Gay, David E. R. 1976. Review of The Economics of Legal Relationships: Readings in the Theory of Property Rights by Henry G. Manne,Southern Economic Journal, 42 (4), pp. 765-766.

Geoghegan, Thomas. 1986. “The angst of an aging activist. WARREN COURT CHILDREN”, The New Republic, May 19, pp. 17-23.

Gilmore, Grant. 1970. "Products Liability: A Commentary", University of Chicago Law Review, 38 (1), pp. 103-116.

Harnay, Sophie and Alain Marciano. 2009 a. ”Posner, Economics and the Law: From “law and economics” To an economic analysis of law”, Journal of the History of Economic Thought,

Harnay, Sophie and Alain Marciano. 2009 b. ”Should I help my neighbour? Self-interest, altruism and economic analysis of rescue laws”, European Journal of Law and Economics,

Hirsch Werner Z. and Evan Osborne. 1992. "Law and Economics-Valuable but Controversial; a Review of Richard A. Posner, Economic Analysis of Law, 3rd edition", Law & Social Inquiry, 17 (3), pp. 521-537.

Kalman, Laura. 1996. The Strange Career of Legal Liberalism, New Haven: Yale University Press.

Kitch, Edmund W. 1983. “The Fire of Truth: A Remembrance of Law and Economics at Chicago, 1932-1970”, Journal of Law and Economics, 26 (1), pp. 163-234.

Landes, William M. and Richard A. Posner. 1978 a. “Salvors, Finders, Good Samaritans, and Other Rescuers: An Economic Study of Law and Altruism”, Journal of Legal Studies, 7 (1), pp. 83-128.

Landes, William M. and Richard A. Posner. 1978 b. “Altruism in Law and Economics“, American Economic Review, 68 (2), pp. 417-421.

Manne, Henry G. 1970. "Edited Transcript of AALS-AEA Conference on Products Liability", University of Chicago Law Review, 38 (1), pp. 117-141.

McCloskey, Robert G. 1965. “Reflections on the Warren Court”, Virginia Law Review, 51 (7), pp. 1229-1270.

McKean, Roland. 1970 a. "Products Liability: Trends and Implications", University of Chicago Law Review, 38 (1), pp. 3-63.

McKean, Roland. 1970 b. "Products Liability: Implications of Some Changing Property Rights", Quarterly Journal of Economics, 84 (4), pp. 611-626.

McKean, Roland. 1972. "Property Rights within Government, and Devices to Increase Governmental Efficiency", Southern Economic Journal, 39 (2), pp. 177-186.

Meade, James E. 1952. “External Economies and Diseconomies in a Competitive Situation”, Economic Journal, 62 (245), pp. 54-67.

Medema, Steve G (ed). 1995. The Legacy of Ronald Coase in Economic Analysis, Brooldield: Edward Elgar.

Medema, Steve G. 1994. Ronald H. Coase, New York: St. Martin's Press.

Medema, Steve G. and Warren J. SamuelsJ. "Ronald Coase and Coasean Economics: Some Questions, Conjectures and Implications," in Warren Samuels, Steve Medema, and Allan Schmid, eds., The Economy as a Process of Valuation, pg. 72-128, Cheltenham, U.K.: Edward Elgar, 1997.

Medema, Steve. 2011 (fortchoming). "A Case of Mistaken Identity: George Stigler, “The Problem of Social Cost,” and the Coase Theorem", European Journal of Law and Economics.

Meese, Alan J. 2001. "The Externality of Victim Care", University of Chicago Law Review, 68 (4), pp. 1201-1234.

Michelman, Frank I. 1971. “Review: Pollution as a Tort: A Non-Accidental Perspective on Calabresi's Costs”, Yale Law Journal, 80 (3), pp. 647-686.

Mumey, G. A. 1971. “The "Coase Theorem": A Reexamination”, Quarterly Journal of Economics, 85 (4), pp. 718-723.

Newman, Roger K. 2001. "The Warren Court and American Politics: An Impressionistic Appreciation", a review of The Warren Court and American Politics, by Lucas A. (Scot) Powe, Constitutional Commentary, 18 (3), pp. 661-698.

Nutter, Warren. 1968. "The Coase Theorem on Social Cost: A Footnote", Journal of Law and Economics, 11 (2), pp. 503-507.

Polinsky, A. Mitchell 1974. "Economic Analysis as a Potentially Defective Product: A Buyer's Guide to Posner's "Economic Analysis", Harvard Law Review, 87 (8), pp. 1655-1681

Posner, Richard A. 1970. “Review of The Costs of Accidents—A Legal and Economic Analysis by Guido Calabresi”, University of Chicago Law Review, 37 (3), pp. 636-648.

Posner, Richard A. 1972. “A Theory of Negligence”, Journal of Legal Studies, 1 (1), pp. 29-96.

Randall, Alan. 1972. "Market Solutions to Externality Problems: Theory and Practice",

American Journal of Agricultural Economics, 54 (2), pp. 175-183

Regan, Donald H. 1972. "The Problem of Social Cost Revisited", Journal of Law and Economics, 15 (2), pp. 427-437.

Sanders, Joseph. 1987. "Road Signs and the Goals of Justice", review of Ideals, Beliefs, Attitudes, and the Law: Private Law Perspectives on a Public Law Problem by Guido Calabresi, Michigan Law Review, 85 (5/6), pp. 1297-1323.

Sax, Joseph L. 1971. "Takings, Private Property and Public Rights", Yale Law Journal, 81 (2), pp. 149-186.

Schwartz, Warren F. 1971. "Mandatory Patent Licensing of Air Pollution Control Technology", Virginia Law Review, 57 5), pp. 719-744.

Scitovsky, Tibor. 1954. “Two Concepts of External Economies”, Journal of Political Economy, 62 (2), pp. 143-151.

Stein, Michael Ashley. 2003. "The Law and Economics of Disability Accommodations", Duke Law Journal, 53 (1), pp. 79-191.

Stigler, George J. 1950. Five Lectures on Economic Problems, London: The London School of Economics and Political. Science, and Longmans, Green & Co.

Stigler, George J. 1962. "On the "Chicago School of Economics": Comment", Journal of Political Economy, 70 (1), pp. 70-71.

Stigler, George J. 1966. The Theory of Price, New York: Macmillan.

Stigler, George J. 1988. Memoir of an Unregulated Economist, Chicago: University of Chicago Press.