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Information Asymmetry and the Coase Theorem Fallacy

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Abstract

The paper deals with the problem of externalities caused by environmental pollution. A theoretical contribution made by Ronald Coase, in 1960, presented a paradigm shift in externality policy, offering the possibility of bargaining between parties as an efficient way of solving problems without government interference or judicial intervention. Coase claimed that the efficient outcome will be attained irrespective of the property rights distribution among the parties. In spite of the broad popularity among free-market economists, the so-called Coase theorem appears to be a fallacy. Waves of criticism came from various directions, from Behavioral Economists to Transaction Cost Economists. The paper gives four reasons why the Coase theorem should be given more consideration in practical life, as an exception than as a rule. Most of the pollution problems concern numerous affected parties with a significantly different bargaining power. Information asymmetry is the most important obstacle to efficient bargaining. Therefore, asymmetric information has to be included as a fundamental tool in non-equilibrium market analysis.

Environmental pollution is considered as a typical example of negative externality. In economic theory externalities are defined as unintended and uncompensated effects of one agent's activities on another agent's utility (Ayres and Kneese, 1969). The effects may be either positive or negative, so we may speak about positive and negative externalities. Positive externalities generally create no problem and are useful, even desirable. Positive externalities usually are not subject to economic analysis; however negative externalities in most cases are. Construction of an airport close to a densely populated residential area, functioning of a nickel smelter in the vineyard region are just two of many negative externality cases. Public goods and externalities are considered two basic types of market failure (Browning and Browning, 1987).

In dealing with market failures, government intervention was envisaged a long time ago. In most cases, courts of justice were aimed at solving negative externality problems. However, after an article appeared (Ronald Coase, 1960) externality policy has been altered. In the essence of Coase's work is the possibility of bargaining between private agents. If property rights are well-defined and protected, and if transaction costs of bargaining are non-existent or negligible, bargaining between affected parties will result in an efficient outcome. In this way, negative externality problems will be solved efficiently without government interference or judicial intervention. Even more, Coase claimed that the same efficient outcome will be attained irrespective of the distribution of property rights among the parties. This seemingly revolutionary perspective attracted high attention in the economics

profession and many respected theorists have accepted it, calling it the Coase theorem. Many economists dealing with the issue should be mentioned; among them are Armand Alchian, Douglas North, Oliver Williamson, Harold Demsetz, etc. Richard Posner (1993) has formulated the theorem as follows: "If transaction costs are zero, the initial assignment of property rights—for example, whether to the polluter or to the victim of pollution—will not affect the efficiency with which resources are allocated."

"In economic theory there has never been a formal proof of the Coase theorem."

1. The Coase Theorem Appears to be a Fallacy

No matter how logical and convincing the Coase theorem seems to be, after half a century, it appears to be a fallacy. In spite of the fact that many free-market economists would strongly disagree with the previous assumption, there is no answer to the rising tide of questions about its validity. Waves of criticism came from various angles. In a seminal article by Kahneman, Knetsch and Thaler (1990), the question of so-called "endowment effect" has been raised. Contrary to theoretical expectations, several experiments conducted by the authors proved that the Coase theorem appears to be wrong. According to the theorem, allocation of resources to the individuals who can bargain and transact at no cost should be independent of the initial allocation of property rights. However, the experiments proved that the observed marginal rate of substitution between transacted goods is affected by the initial distribution of property, or by the endowment. In fact, the person who is assigned property rights on a certain good is more likely to retain it, not to transact it. The conclusion made by Kahneman et al. gives a good explanation for a frequently observed paradox in contingent valuation studies, when willingness to accept (WTA) compensation for lost environmental goods is always higher than willingness to pay (WTP) for the same good to be obtained.

Another set of problems with the Coase theorem is related to a totally unrealistic assumption about nonexistent or negligible transaction costs. In fact, such costs always exist and are part of normal market functioning. Information gathering, processing and dissemination of information, negotiation, monitoring, risk-management, and protection of institutional order are always costly, and cannot be avoided or neglected. Ronald Coase was aware of this fact. In one of his later papers, Coase (1992) describes the theorem as a provocative result that was meant to show how unrealistic the world would be without transaction costs.

In a detailed paper, Anderlini and Felli (2000) analyzed the presence of ex-ante transaction costs that may lead to failures of the Coase theorem. The so-called basic "hold-up problem" arises whenever the bargaining parties have to pay some ex-ante costs before the negotiations take place. The authors concluded that under such circumstances a Coasian solution to the externality problem is not available. Instead, a recurrent "hold-up problem" emerges.

2. The Coase Theorem is a Tautology

One of the hardest criticisms of the theorem was given by Dan Usher (1998). He concluded that the Coase theorem is instructive but misnamed as a theorem. In fact, it is a tautology, and even when bargaining is costless, the theorem may be considered either incoherent or wrong.

How is it possible that after such a hard criticism the Coase theorem is still part of Economics and can be found in many textbooks? The answer may be that the "theorem was used to justify a hands-off approach to big business on the part of politicians, regulatory agencies, and judges, leaving pollution and other economic problems to the corrective powers of free market." (Cassidy 2013) In other words, the theorem is just an ideological construction, suitable for offering a seemingly scientific foundation to the neo-liberal political thinking. The fact is that in economic theory there has never been a formal proof of the Coase theorem. Formally speaking, a theorem without proof is not a theorem. Even Ronald Coase in his Nobel Prize lecture, given in 1991, tried to clarify the issue saying, "I tend to regard the Coase theorem as a stepping stone on the way to an analysis of an economy with positive transaction costs."

"In Microeconomics textbooks, one of the basic preconditions for Pareto-optimal solutions in competitive markets is the assumption of perfect information."

If his words are to be properly understood, the next steps in the development of economics will be focused on transaction costs, not on the imposition of the theorem itself, as a ready-made solution for dealing with negative externalities. Practical use of the Coase theorem should be limited just to a narrow set of situations, in which only two equally endowed private agents are in a position to negotiate, both with equally negligible transaction costs. In all other cases, certain ways of internalizing externalities are to be utilized, including government intervention through legal procedures or taxation. In other words, the Coase theorem should be considered more as an exception than as a rule. In real life such exceptions are very rare, even impossible.

3. The Coase Theorem should be properly understood, more as an exception than as a rule

There are limitations that reduce the validity of bargaining solutions, and the applicability of Coase theorem.

1. Most of the pollution problems concern numerous affected parties, not a single person. Whenever there are a number of damaged agents (i.e. environmental pollution with a factory polluting a broad area with many inhabitants), transaction costs of gathering and organizing the damaged side will be prohibitive for an efficient solution. In such a situation the polluter is often in a better position, paying damages just to a few.

2. The Coase theorem claims that the manner in which property rights are initially distributed has no effect on the outcome. In other words, the initial distribution of property has no effect on the real allocation of resources, and the same efficient outcome would emerge via bargaining, irrespective of the property allocation. However, this is far from being the case. In reality, it is clear that the outcome of bargaining process is always dependent on bargaining powers. The outcomes of bargaining are always influenced by initial

allocation of property between parties. Evidence can be seen in many cases when rich and powerful polluters managed to "compensate" poor victims of pollution. Many times outcomes of negotiations are tailored by the powerful, unrelated to any notion of efficiency.

"The Coase theorem should be properly understood, as Coase himself stated in his Nobel lecture."

3. Even more striking are the cases with unequally informed parties. Typical examples are pollution accidents, particularly with long-lasting pollution, when only one side has complete information about the consequences (Bhopal disaster, 1984, India). Sometimes even no one has full and complete information about the consequences, for example of radiation pollution (Fukushima disaster, 2011, Japan; Chernobyl disaster, 1986, USSR). Under such circumstances, characterized by information asymmetry, there is no efficient bargaining. It is surprising that in Microeconomics textbooks, one of the basic preconditions for Pareto-optimal solutions in competitive markets is the assumption of perfect information. Even after a broad discussion raised by George Akerlof's article about the market for "lemons" (1970), a perfect information assumption is still part of standard Market Competition Theory. In real life, there is a permanent information asymmetry, in nearly all of the markets, no matter how organized they are.

   Nearly always some of the demand-side or supply-side agents have better information about the objects of transaction. Sometimes much better information, like participants in the sophisticated markets (e.g. participants on antique markets or art markets, food markets, vine markets, chemicals markets, high-tech markets etc.). The more complex (technically, socially, psychologically) the object of transaction is, the higher information asymmetry appears to be. Only in market transactions with simple or standard quality commodities (e.g. ores and minerals, metals traded on commodity markets), it may be expected that all participants have same, or nearly the same, information. However, such simple commodities are less and less present in the contemporary markets. In all other transactions, a certain level of information asymmetry exists. Sometimes, the asymmetry is very high, providing one of the transaction agents with unbeatable advantage, and leaving others with an unsurmountable disadvantage. Therefore, a new approach to the market analysis must start with an assumption that some of the market participants are better informed per se than the others. In other words, all transaction parties should be informed about the market, but some are in a position to be more informed than the others. Consequently, chances for monopolistic advantages based on information asymmetry always exist. If one party possesses better information, there is no efficient solution for environmental externalities provided by bargaining.

4. Particularly complicated are the situations with inter-generational bargaining between current and future generations (e.g. negotiations about climate change). In such cases, one of the bargaining parties is actually missing (still unborn), and all the attempts of the current generation to act in the interest, or in favor, of future generations are unjustified and irrational. Many environmental externalities have trans-generation effects. Current generation's behavior will definitely have significant effects on future generations. However, there is no bargaining with the unknown future.

Therefore, it may be concluded that the only rationale would be to keep the bargaining procedure as an extremely specific and seldom a solution for the externality problems. Some other ways are to be implemented, including the existing legal procedures, via judicial system, and through Pigouvian taxation. The Coase theorem should be properly understood, as Coase himself stated in his Nobel lecture. Finally, an asymmetric information approach should be included as a fundamental tool in non-equilibrium market analysis.

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