

# **ECONOMICS, ECOLOGY AND THE ENVIRONMENT**

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**Is Posner's Principle of Justice an  
Adequate Basis for Environmental Law?**

**by**

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**Clem Tisdell<sup>2</sup>**

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## **Is Posner's Principle of Justice an Adequate Basis for Environmental Law?**

### **ABSTRACT**

Posner adopted the economic principle of wealth maximization as a guiding principle for the dispensation of justice. This resulted in his endorsing the Kaldor-Hicks principle (also known as the potential Paretian improvement principle) as a basis for just laws. This article explores whether this principle is an adequate basis for environmental law. As can be deduced from Fleming, the legal approach adopted by Posner is by no means new because early British tort law was applied in a manner intended to foster economic growth. Nevertheless, the wealth maximization principle is not adequate as a basis for just environmental laws because for one thing it ignores questions involving changes in income distribution. Consequently, Rawls' principle of justice is examined and compared with that of Posner. The role of property rights in relation to the state of the environment is assessed in the light of Posner's principle of justice, as is Coase's theorem supporting a clear definite allocation of private property rights as a solution to environmental problems. Furthermore, in this context, the justification for the taking of private property by the state is examined. It is argued that additional factors to wealth maximization and income distribution must be taken into account in determining whether laws are just. In addition, it is suggested that it is not the sole purpose of the law to dispense justice.

**Keywords:** Coase theorem, law and economics, Posner's principle of justice, principles of justice, property rights, Rawls' principle of justice, tort law, welfare economics.

**JEL Codes:** K, K1, K11, K13, K32, Q5.

# **Is Posner's Principle of Justice an Adequate Basis for Environmental Law?**

## **1. Introduction**

Posner (1981, 1985, 1987) has advocated as just laws and legal decisions that promote the maximization of economic wealth. The purpose of this article is to consider the adequacy of this rule as a principle of justice, particularly in relation to laws and legal decisions affecting the state of the environment and the use of natural resources. Posner's advocacy does not seem to be new. According to Fleming (1977, p.8), British tort law was after the start of the Industrial Revolution interpreted by British judges by favouring legal decisions that promoted economic growth. Several economists by supporting the Kaldor-Hicks criterion (also known as the Paretian potential improvement criterion) have also added their weight in favour of policies that increase economic wealth in aggregate. However, Posner's principle is rejected by some social philosophers of which John Rawls (1971) is a prominent one. His principle of justice differs substantially from that of Posner and in many circumstances, conflicts with it because of its heavy emphasis on income distribution as a factor in the dispensation of justice.

These views are discussed in turn and subsequently, Coase's theorem is examined (Coase, 1960). This theorem advocates the precise specification of property rights in order to increase wealth by ensuring that the use of environmental resources is better managed. Coase's theorem highlights shortcomings of Posner's principle of justice. In the final discussion, general limitations of the application to environmental law of the principles of Posner and of Rawls are outlined.

## **2. Posner's Principle and Economic Concepts of Welfare**

During the first half of the 20<sup>th</sup> century, economists developed several concepts and criteria for determining the impacts of economic policies on the welfare of groups of individuals, that is their social welfare. An increase in social welfare was taken as an indication that society was better off or 'wealthier'. Adam Smith (1910; first published in 1776) had already indicated that the wealth of a nation is most appropriately indicated by the well-being of its citizens and not by its accumulation of precious metals (such as gold) and similar assets. This view differed from that of the

Mercantilists who believed that the accumulation of such objects added to national wealth. This is mentioned because Posner's concept of wealth accords with that of those economists who attempt to measure wealth in terms of social (economic) welfare.

Pareto (1896-97) suggested that any change that made some individuals better off in society without making any worse off would increase social welfare, and therefore, the wealth of society. This was politically a relatively conservative principle because it accepted the existing distribution of rights as given. It tended to uphold the existing social order. In addition, it transpired that few policies were possible that would satisfy the rule. However, the application of the rule is widened if in cases where some gain and some lose from a change in the law, the gainers can actually compensate the losers and be better off than before the change in the law or policy. Nevertheless, institutional mechanisms may not be available to ensure such a redistribution. Or the transaction costs involved in making the redistribution after the change in the law or policy may be so high that the aggregate economic benefit of the change is annulled or a considerable reduction in aggregate economic benefit occurs. This led some economists to advocate a different rule; one that is at the core of Posner's principle of justice.

Because of the limited scope for applying the Paretian improvement criterion, Kaldor (1939) and Hicks (1939) suggested the Paretian improvement criterion (also known as the Kaldor-Hicks criterion) as an alternative. According to their rule a change in the law or policy is socially desirable if those who would gain from the change **could** compensate those who are made worse off by it and still be better off than before this change. Actual compensation may or may not be paid by the beneficiaries of the change to the losers. If this criterion is applied and a potential Paretian improvement occurs, it is **one** possible indication that the wealth of society has increased. It is the criterion that Posner had mind when he proposed that laws should be designed and interpreted to maximize wealth in order to be just.

Hicks (1939) believed that application of the potential Paretian improvement criterion would result, in most instances, in everyone in society being made better off. Although when this principle is applied to particular policies or in relevant laws, some gain and some may lose, when many different policies and laws are considered

together, the overall gains of individuals are likely to exceed their losses in his view. Hence, the welfare (wealth) of all would increase; an actual Paretian improvement would occur. The result, however, depends on the extent to which actual pooling of gains and losses from changes in the law and in policies occur. Consider an environmental example.

Suppose that an entity A engages in an activity that benefits A by the equivalent of \$100 but that (as a result of an environmental spillover) it disadvantages another entity, B, by \$10. A's activity can either be allowed or not allowed; a dichotomous social choice is assumed. If the potential Paretian improvement criterion is applied, A's activity ought to be allowed because if A pays \$10 to B, A has a net gain of \$90 as a result of the activity.

Now imagine that B engages also in an activity that benefits B but due to an unfavourable spillover disadvantages A. Imagine that the benefit to B from this activity is equivalent to \$80 and the disbenefit to A from it is \$20. Once again, the potential Paretian improvement criterion would allow B's activity to occur.

If both A and B are allowed to engage in their activities causing negative environmental spillovers, both are better off than if neither are allowed to do this. A is better off by the equivalent of \$80 ( $\$100 - \$20$ ) and B is better off by the equivalent of \$70 ( $\$80 - \$10$ ). Thus in this case, Hick's suggestion that all might gain as a result of collective decisions is satisfied if the potential Paretian rule is applied. To ban the above mentioned activities of A and B would reduce wealth.

However, such offsets of gains and losses do not always occur, and even when they do, the distribution of income may be radically altered. Consequently, application of the Kaldor-Hicks principle may not always result in justice being done. Attention therefore, needs to be given to the consequences of the law for the distribution of income and whether or not its outcomes can be regarded as just. Scitovsky (1941) argued that the Kaldor-Hicks principle is only a straightforward guide to desirable policy if its application does not result in a worsening of the distribution of income. Social values are involved in deciding whether the distribution of income has worsened. If, as a result of a policy change it has worsened but there is a Kaldor-Hicks gain, this gain must be balanced against the deterioration in the distribution of

income to decide the social desirability of the policy change. Consequently, the distribution of income is an issue to be considered in the dispensation of justice.

### **3. Rawls' Principle of Justice**

Whereas Posner emphasised aggregate wealth creation as a guide to just laws, Rawls believes that just laws or policies must be based on their consequences for income distribution. According to Rawls (1971), the incomes of individuals should be equal unless income inequality is to the benefit of all. His view is that our individual economic fortunes in life depend on our situation at birth and that this is determined by chance. He argues that if all individuals could enter into an agreement prior to their birth (not then knowing the situation into which they would be born), they would opt for his principle. While Rawls' principle can be criticised on several grounds (see, for example, Tisdell, 1999; 2000, Ch.11), it provides a different perspective on justice to that of Posner. The difference can be highlighted by a couple of cases.

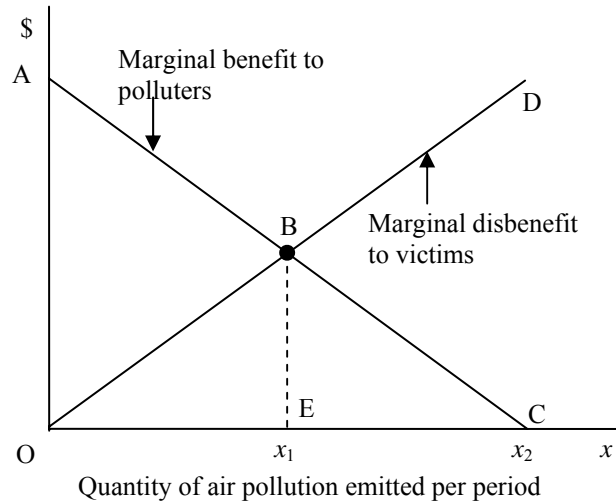
Consider the environmental spillover examples outlined in the previous section and suppose that the only spillover that occurs is that A has an adverse environmental spillover on B. Given the payoffs previously mentioned, Posner would approve of it because A gains more than B loses but Rawls would reject A's activity if B happened to be poorer than A. On the other hand, if there are reciprocal spillovers of the type specified above, Rawls' principle would permit the externalities because both A and B benefit.

The second case has to do with intergenerational equity and the sustainability of incomes. Rawls' principle is widely believed to be favourable to the adoption of development strategies designed to ensure that the incomes of future generations are no lower than those of current generations. This is likely to require greater conservation of natural capital than if the aggregate wealth of all generations taken together is maximized. Sometimes, this wealth maximization criterion may sanction the income of current generations being higher than that of future generations. Rawls' principle would reject this as inequitable if the higher income of current generations is obtained at the expense of that of future generations. In these circumstances, one might expect laws based on Rawls' principle compared to Posner's to be less tolerant of actions by current generations that reduce the stock of natural resources available to future generations.



#### 4. Coase's Theorem and Posner's Principle of Justice

Coase's theorem highlights several difficulties with Posner's principle of justice. Coase (1960) asserts that in the absence of transaction costs, and if environmental externalities occur, a Paretian efficient outcome can be achieved if legal rights are clearly specified, so that either those causing an adverse environmental externality are given the legal right to generate it or those who are adversely affected by it are given the right to be free of it. In these cases, a Paretian efficient outcome would be assured by means of bargaining between the parties. In order to illustrate Coase's theorem, consider the emission of an air pollutant. Those who emit the pollutant obtain a marginal benefit indicated by line ABC in Figure 1 and those who are victims of the pollution incur a marginal disbenefit shown by line OBD in this figure. The Paretian efficient level of pollution is  $x_1$ . If polluters have the right to pollute, victims would have to pay them an amount equal to the area of triangle ECB to entice them to reduce their emissions from  $x_2$  to  $x_1$ . If on the other hand, victims have the right to a pollution-free environment, polluters would need to pay victims the equivalent of the area of triangle OEB to emit  $x_1$  of pollutants.



**Figure 1:** A diagram designed to illustrate Coase's theorem

In the theoretical situation considered by Coase, the income distribution consequences of achieving Paretian optimality (wealth maximization) differ considerably depending upon which party is assigned the right to use the environment. Nevertheless, Posner would consider either the allocation of those rights to polluters **or** to the victims of

pollution to be just because either allocation results in wealth maximization, if Coase's theorem holds. However, members of most communities are likely to disagree with this view. For example, there may be a presumption that the polluter should pay rather than the victims of the pollution. There have been many advocates (including economists) of the polluter-pays principle.

The search for a just solution to such environmental issues may, however, involve additional considerations to wealth maximization. If polluters are rich and the victims of the pollution are poor, many may believe it just that the polluters should compensate victims for the pollution they generate. On the other hand, if polluters are poor and victims are rich, it might be believed to be equitable for the victims to pay polluters for reducing their emissions of pollutants.

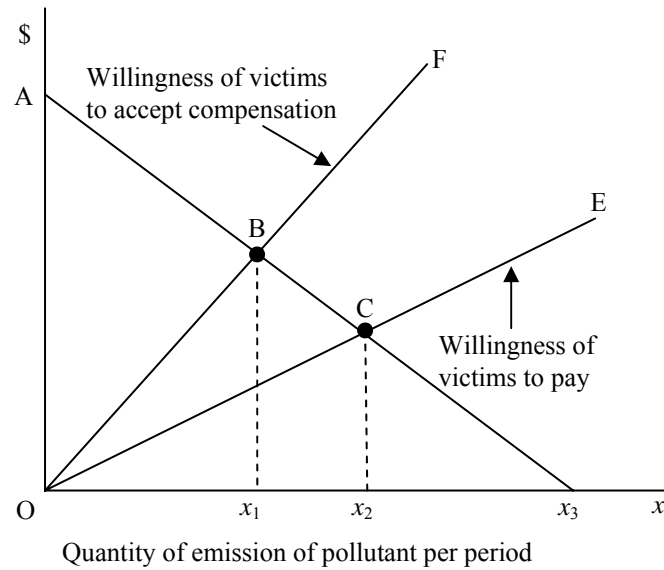
In some instances also the dispensation of justice depends upon the evolutionary sequence of rights to use the environment, as for example discussed by Pitchford and Snyder (2003). *De facto* rights to use the environment may develop which were wealth-maximizing at an earlier time but at a later time are not due to changing circumstances. For example, a piggery may be established on the outskirts of a city. In the early years of its existence, its environmental spillovers (noxious smells, noise and sewage) cause no communal (environmental) problems but as the city expands, urban settlement near the piggery grows and wealth would be maximized by the piggery relocating further away from the expanding city. City-dwellers have come to the environmental nuisance. Should the developers of housing estates have to pay the piggery to move? What factors should be taken into account in deciding a just solution in this case? For example, is it relevant that the owner of the piggery could have predicted the expansion of the city to the vicinity of the piggery? If so, the owner should have been aware of the pending conflict of interest and this might affect judgment on the case. It is not intended to go into the specifics here since the main point I want to make is that the dispensation of justice in the settlement of environmental issues is not solely dependent on considerations involving wealth or income distribution. Many other factors can also be relevant.

A further problem for Posner's principle of justice is that the valuation of wealth is not independent of the distribution of rights in resources, including rights to use the environment. In general, Posner does not specify how wealth is to be measured and

this is a serious weakness of his approach. The problem is that the valuation of what is claimed to be wealth is not independent of the entitlements of individuals. This is also a problem for Coase's theorem. This can be illustrated by a particular case.

Several scholars have observed on the basis of empirical evidence that the willingness to pay to avoid an environmental nuisance is usually much less than the willingness to accept compensation to allow it (see for example, Knetsch and Sinden, 1984). Consequently, the Paretian optimal solution to an environmental problem depends upon how rights are assigned to use the environment.

Let us modify Figure 1 to take account of this possibility assuming (as Coase did) that the transaction costs of settling an environmental conflict are zero once legal rights are clearly assigned. For simplicity, assume that the marginal willingness to pay of polluters to pollute does not differ from their marginal willingness to accept compensation to reduce their pollution. This is represented by the line ABCD in Figure 2. However, the marginal willingness of victims to pay to avoid pollution is shown by line OCE and their marginal willingness to accept compensation to permit pollution is indicated by the higher line OBF. It follows that if polluters are given the legal rights to pollute, the Paretian optimal level of pollution emission is  $x_2$  per period whereas if victims are given the right to a pollution-free environment the Paretian optimal level of pollution emission is  $x_1$ . Hence, the Paretian optimal solution (the solution that maximizes wealth) depends on how legal rights to use the environment are assigned. In such circumstances, Posner's principle of wealth maximization is not able to determine which Paretian solution is just.



**Figure 2:** Diagram used to show that policies to achieve wealth maximization are not independent of the allocation of entitlements (such as, legal rights) to parties having a stake in resource use.

## 5. The Taking of Property Rights by the State: The Exercise of Eminent

### Domain

In all countries, the state has the right to take away private property or to take away customary or established rights of legal entities to use natural resources (for further discussion, see for example, Tisdell, 2009a, Ch.4). Posner (1987) argues that the taking away of private property rights by the state may be justified if it adds to wealth. However, the mere fact that such actions can add to wealth (that is bring about a potential Paretian improvement) does not justify them. From the point of view of dispensing justice several additional matters need to be considered. These include what compensation, if any, should be paid to those who lose their pre-existing rights and the purpose for which these rights are taken.

Secure private property rights are the foundation of market-based economic systems and tend to promote the productive use of resources as well as in various circumstances, their conservation. An increase in the likelihood that private property will be seized either without compensation (or adequate compensation) being paid to prior holders of these rights, undermines the wealth-creating role of the market system. However, markets are not perfect in their operation. Various types of market failures (such as environmental externalities and the presence of commodities with the attributes of public goods) can occur which result in the market system not

maximizing wealth. In such circumstances, state intervention in the economic system involving the taking away of pre-existing property rights or their restriction may add to wealth.

The nature of private property rights in resources to be taken by the state may be an important consideration in the dispensation of justice. If the legal entity has a formal legal title to the property (for example, land) it would be considered unjust in most societies for the state to take such property without paying adequate compensation to the owner. In most cases, it would seem reasonable that **at least** the market value of property be paid to the owner if it is taken by the state. Furthermore, individuals may genuinely value their private property at more than its market value. In such cases, they are not fully compensated by payment of its market value. In addition, the taking of such property may impose transaction costs on them which they would otherwise not incur. For example, if the property is a residential property, a resident-owner would have to find alternative accommodation and will incur extra costs in doing so. This possibility is recognized in paying compensation for property taken by the state in Canada.

A second consideration in the taking of such property rights is the purpose for which the rights are taken. If the property is taken to supply a private good, it is less likely to seem to be justified than if it is taken to supply a collective good. For example, suppose that an individual has a large lot of land in a city which is used by the individual for his/her pleasure. The lot would add more to collective wealth if it were used for apartments, a shopping centre, or a public park or new access road. The first two alternative uses would be for the supply of private goods whereas the latter would supply collective goods. There may be less public sympathy for taking of rights in the former cases than in the latter ones.

The taking of customary rights in the use of natural resources or the environment is a more complicated issue because formal legal rights do not exist. Whether or not compensation is paid for the taking away of such rights varies considerably by jurisdiction and individual cases. The law in this regard is far from settled. It seems often to be applied as a means of social or political conflict resolution rather than as an instrument for the dispensation of justice. This raises the possibility that the legal

system has multiple objectives of which the dispensation of justice is not always the overriding one. Settlement of social conflict may also be an objective of legal systems.

## **6. Concluding Comments**

It has been argued that Posner's principle of wealth maximization is not an adequate basis for the dispensation of justice because it fails to give adequate attention to the income distribution consequences of the law. On the other hand, Rawls' principle of justice relies too heavily on assessment of the income distribution consequences of policies or laws. Both theories of justice are based on extreme positions. In dispensing justice both aspects (wealth effects and distributional consequences) should be weighed up. The trade-off between these factors is liable to be influenced by community values. However, wealth creation and distributional consequences are not the only important factors in the dispensation of justice, as was illustrated by the taking of property rights by the state. In addition, one can doubt whether the sole purpose of the law is to dispense justice. An important aspect of the law may be to promote social or political stability by helping to resolve social conflicts about resource use. Legal decisions that resolve such social conflict may not always be accepted as just and certainly are not always wealth-maximizing (compare Tisdell, 2009b).

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