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Markets, Ethics and Environment

John O'Neill

Abstract: Is there a relation between the increasing extension of markets and market norms to previously non-market goods, and the growth of environmental problems? This chapter explores two competing answers: market-endorsing positions that argue that a source of environmental problems lies in the absence of markets in environmental goods and that the extension of markets or market modes of valuation to environmental goods offers the most effective way of protecting them; market-skeptical positions that deny that the extension of markets will protect environmental goods or more strongly that markets and increasing marketization are themselves a source of environmental problems. These positions offer distinct perspectives on market mimicking instruments in environmental policy making, such as cost-benefit analysis, and on the development of new markets, for example in emission rights and biodiversity offsets. The issues raised include questions about value commensurability, justice, epistemic limits to planning and markets, and environmental limits to growth.

Keywords: markets, emissions trading, biodiversity offsets, economic growth, market boundaries

1. Economic Systems and Valuation

We live in market economies in which previously non-market goods and services are increasingly becoming either the direct objects of market exchange or treated according to market norms and forms of evaluation. We live in a social and economic world with increasing environmental problems—climate change, biodiversity loss, ocean acidification, resource depletion, and so on. What relation, if any, holds between these two features of modern economic life? In the academic literature, policy debates, and civil society deliberations it is possible to discern two very different perspectives on the relationship between the market economy and environmental problems, what we may call market-endorsing and market-skeptical.

On the one hand there are market-endorsing positions that argue that the extension of markets or market modes of valuation to environmental goods offers the best way of protecting them.

1. An influential version of the claim is that the very absence of markets is the source of environmental problems. Preferences for environmental goods are not captured in market exchange (Arrow, 1984: 155). Correspondingly the solution requires the extension of market prices to environmental goods to ensure that they are so captured. The extension can take one of two broad forms. First, property rights might be defined over environmental goods or services so that they can be traded directly in market. Second, public authorities can use market-mimicking procedures. Shadow prices over environmental goods can be constructed by ascertaining what individuals would be willing to pay at the margin for such goods, were there a market for them. The construction of shadow prices can proceed through “revealed preference methods” which infer a monetary value for unpriced environmental goods from the actual behavior of people in markets, for example from differential house prices in so far as they reflect the value of environmental amenities. Alternatively, it can proceed through “stated preference methods”, such as contingent valuation, which ask people how much they would be willing to pay for a good or accept in compensation for its loss in a hypothetical market. Shadow prices can then enter a cost-benefit analysis that aims to capture the

full range of benefits and losses associated with some projected change. This position assumes that a monetary metric can be extended to capture the value of environmental goods.

2. A distinct line of defense of markets as an institutional form for protecting environmental goods is one that, while it might concede that not all values can be captured by monetary metrics, holds that market modes of governance provide the most efficient and effective mechanism for achieving environmental goals (Caney, 2010: 206). Cap and trade schemes such as emissions trading are sometimes defended on these grounds. By allowing polluters to trade rights set within a total cap, the schemes are taken to provide a mechanism for abatements in pollution to occur where they are cheapest while keeping total levels of pollution under a certain total. The market is merely the means through which emissions are kept within a total cap that might be set by political and scientific criteria without the use of any monetary metric.

3. A third position, associated with libertarian and Austrian traditions in economics, are critical of both shadow pricing and politically set cap-and-trade schemes. Market prices are not measures of value, but rather the means through which different actors with their local, particular, and practical knowledge are able to coordinate their actions. According to this view, the solution to environmental problems lies in the definition of property rights over and market exchange in environmental goods such that actors can coordinate their behavior in ways consistent with environmental ends (Sagoff, 2008).

On the other hand, there are a variety of positions that are market-skeptical. One can distinguish the following positions.

1. Market measures of value cannot be expanded to include environmental values. One of the founding figures in ecological economics, Kapp, writes, "environmental values are social use values for which markets provide neither a direct measure nor an adequate indirect indicator" (Kapp, 1974: 38). This claim conflicts with the position that environmental protection requires the extension of monetary measures to environmental goods.

2. Markets provide neither an effective nor ethically defensible means to protect the environment. This claim conflicts with the more minimal position that markets offer an effective and ethical means of realizing environmental goals.

3. Markets and the spread of market norms are a source of environmental problems. Two influential forms of this claims are (a) that market economies involve the removal of customary or ethical constraints on the unsustainable exploitation of environmental goods (Polanyi, 1957: 73) and (b) market economies require or foster the constant material growth of the economy (Marx, 1970: ch.4) and this growth is unsustainable and the source of many of our increasing environmental problems.

Within the tradition of political ecology, market-skeptical positions can take stronger or weaker forms. Stronger forms argue for decision-making procedures that employ not monetary measures but direct physical, environmental and social measures of welfare; some aim ultimately at replacing markets with non-market economic institutions (Neurath, 1920; O'Neill, 2004). Weaker forms are critical not of markets but the disembedding of markets from the constraints of social and environmental norms (Polanyi, 1957; O'Neill, 2007: ch.1.). Both traditions have been sources of

continuing skepticism of market-based modes of environmental governance. Their influence is to be found, for example, in arguments for the use of multicriteria and deliberative approaches to environmental decision making that do not require the capture of environmental benefits and losses in a single monetary unit (Martinez-Alier et al., 1998).

Beyond these specific traditions in political ecology and ecological economics, the question of how far markets and markets norms should play a role in the governance of environmental goods has a wider role in debates about the boundaries of markets (Anderson, 1993; Satz, 2010; Sandel, 2013; Walzer, 1983). There is a long-standing argument about what classes of goods are such that they could not or should not be treated as commodities that can be bought or sold. Typical examples include persons, votes, bodily parts, sexual services, reproductive services, blood, indulgences, knowledge, educational service, many cultural goods, parks, and environmental goods. A variety of different arguments are presented for such ethical limits: Kantian-based arguments that certain beings have a dignity that demands respect should not be treated merely as a means, and hence should not be treated as fungible goods to be bought and sold; common-property arguments that there exist a variety of goods that are common property and should not be privatized; arguments that the nature of social relationships and goods that sustain social relations are constituted by a refusal to treat them as commodities with a price on them; solidarity-based arguments concerning the ways that market relations corrode forms of social solidarity and moral commitment; distributional arguments that the allocation of goods through markets exchange issues in outcomes that are unjust; consequentialist arguments that market exchanges fail as an institutional means to realizing valuable ends such as social welfare; democratic arguments that it is a constitutive condition of democratic political procedures that As will be evident, a number of these arguments have been invoked to advance the claim that certain environmental goods are not the proper objects of market exchange. The following sections examine some of the central arguments between market-endorsing and market-skeptical positions in more detail.

2. Extending Monetary Values—Incommensurability, Inequality, and Reason

A standard argument within the neoclassical tradition is that the source of environmental problems lies in the absence of markets in environmental goods and their solution in the extension of market prices to include those preferences for environmental goods, either directly through the definition of property rights allowing the goods can be traded in markets or indirectly through the construction of shadow prices. There are three central criticisms of this position.

The first concerns the distributional consequences of willingness-to pay-measures of environmental goods: since the marginal value of a dollar or euro for a poor person is much higher than it is for a richer person, willingness-to pay-measures put a lower value on the preferences of the less wealthy. Hence, the use of willingness-to-pay measures entails that environmental benefits will be valued higher for the rich, and environmental harms lower for the poor. There are various possible responses to this point. It might be argued that this is not a problem as such with the use of market mechanisms to resolve environmental problems, but rather with the prior distribution of assets. Moreover, there are some theoretical ways of modifying willingness-to pay-measures to respond to these distributional consequences, for example by giving differential weight to the preferences of the poorer. However, given existing patterns of inequality, the use of markets and standard unmodified willingness-to pay-measures will result in the less well-off being more adversely affected

by policies than the better off. A further set of distributional problems arises from the fact that some parties affected by environmental decision making—future generations and non-human animals—cannot express a willingness to pay. Their interests can be included only to the degree that those who do express a willingness to pay are concerned for them. Again, it might be argued that this is a problem that is general to any form of representation of future generations and non-human beings in current decision making. All forms of representation will be indirect. However, for reasons I shall discuss, there are grounds for thinking that there are features of deliberative institutions, as against market institutions, which entail that the interests of future generations will be better represented in the former than the latter.

A second problem with the attempt to extend willingness-to-pay-measures to capture environmental values is that there are social relations and ethical commitments associated with environmental goods that are constituted by a refusal to put a price on them. Social relationships of kinship and friendship, for example, are constituted by a refusal to treat them as commodities that can be bought or sold. Given the nature of love and friendship, one cannot buy either. Similarly ethical value-commitments are also characterized by a refusal to trade. To accept a price in cases like this would be an act of betrayal, and to offer a price would be an act of bribery (Raz, 1986: 345ff; O'Neill, 1993: 118–122). Environmental goods associated with particular places can be expressive of social relations between generations. Care about non-human nature is often not merely instrumental but involves ethical commitments, for example to the well-being of non-human beings. Given those features of environmental values, it is rational to respond to requests to price the goods by a protest bid that refuses to engage in the act of monetary evaluation.

A third set of objections focuses on the kinds of preferences that are captured by willingness-to-pay measures. The measures capture the private preferences of individuals as consumers rather than their public preferences as a citizen. Sagoff in particular suggests that the conflation of consumer preferences with citizen judgments involves a category mistake (Sagoff 2008). Public judgments about the good of a community are treated as if they were private preferences about personal welfare measured through willingness to pay. As a private consumer I might get great personal benefits from the road that cuts through a rare wetland habitat in virtue of the time it saves me to get to my favorite rock climb. However, as a citizen I may judge that it should not be built. The values that represent what I believe to be good or right for the community should not be conflated with the preferences I have about my consumption opportunities. Central to the distinction being drawn is the claim that citizen judgments answer to reasoned argument in a way that private preferences need not. As such they require deliberative rather than market-mimicking procedures for the resolution of differences. Whether or not Sagoff's strict separation of citizen judgments and consumer preferences can be sustained, the argument does point to two important distinguishing features of market as against deliberative institutional settings (O'Neill, 2007). The first is that market exchanges and expressions of willingness to pay are reason blind. Monetary valuations at best reflect the strength and weakness of the intensity with which a person has a preference for some marginal change in a bundle of goods. They do not reflect the strength and weakness of the reasons for the preference for the goods in question. Judgments are treated as expressions of taste to be priced and weighed one with the other. They do not have to undergo the test of being able to survive public deliberation. Consequently, markets and market mimicking processes offer conflict resolution and policy formation without rational assessment and debate. Judgments about environmental goods should be expressed and resolved in the forum and not the market. Second,

the publicness condition on deliberation, that reasons must be able to survive being made public, ensures that the interests of non-humans and future generations are likely to be better represented than in market or market-mimicking contexts. Forcing participants to offer reasons that can withstand public justification requires participants to appeal to general rather than particular private interests. Hence, reasons for action that appeal to wider constituencies of interest—including those of future generations and non-humans—will better survive in public deliberation than in private, market-based methods for expressing preferences (Goodin 1996: 846-7; Jacobs 1997).

3. Using Market Instruments—Effectiveness, Solidarity, and Injustice

The use of market mechanisms to realize environmental ends need not, as such, entail that all values can be caught by a monetary metric. Environmental ends might be defined through scientific and deliberative institutions, without the attempt to extend monetary metrics to capture preferences for environmental goods. However, markets might still be defended as the most efficient and effective means to realize those ends. Cap-and-trade schemes to control pollution and carbon emissions are often defended in this manner. The cap on total emissions is to be set according to best-science and political deliberation. Market trading of emissions rights within the cap ensures that reductions in emissions are made efficiently and effectively. Emissions markets are more efficient than regulation, since they ensure that reductions are made where they are least costly; they are more effective than other possible solutions such as carbon taxes in that a total level of emissions is set in advance (Caney, 2010; Caney and Hepburn, 2011).

3.1. Emissions Markets

Much of the debate on the actual use of markets to achieve environmental ends has focused on their effectiveness. Emissions-trading schemes in practice have proven to be ineffective in slowing the growth of emissions in greenhouse gases. Features of existing schemes such as the practice of grandfathering, allocating the greatest number of permits to emit to those with the largest prior emissions, and the low level of the initial cap are recognized even by proponents of emissions trading to have affected the efficacy of actual existing schemes. Existing forms of trading can also produce perverse policy incentives. Consider for example markets in carbon offsets, which allow companies that emit to compensate for their emissions by financing projects in areas such as forestation, forest protection, or the replacement of polluting factories in developing countries that are claimed reduce emissions to below levels that would have occurred had the project not been financed. The result can mean that polluting and logging activities become an asset to be maintained for future trade in markets despite existing public-good pressures to eliminate them (Lohmann, 2006). More generally, the fact that the offsetting regimes rely upon counterfactual claims about what would have been emitted without the trade means emissions savings are difficult to verify, thus rendering them open to abuse. In response, proponents of carbon trading tend to argue that these are flaws in market design. Ideal or close to ideal emissions markets, possibly without the addition of offsetting regimes, still remain the most effective and efficient means of achieving reductions (Caney and Hepburn, 2011). The shift of the debate to ideal carbon markets does raise issues about the relationship between such idealizations and actual world markets (Aldred, 2012; Spash, 2010). Moreover, questions of effectiveness can be raised even with respect to ideally designed markets. A particularly important argument is that by encouraging emissions reductions

where they are cheapest, emissions trading will not break the current technological lock-in of carbon-dependent sources of energy.

In addition to these arguments about the effectiveness and efficiency of markets in achieving environmental goals, there are also a number of arguments questioning their ethical defensibility (Caney and Hepburn, 2011; Goodin, 1994; Sandel, 2005). One that has been central to both academic and popular objections to emissions trading is that there is a prima facie case against controlling wrongful acts by granting parties tradable rights to perform those acts. Neither individuals nor firms should be permitted to buy rights to perform wrongful acts (Goodin, 1994). For example, even if giving gangs tradable rights to extort under some capped total were an efficient way to limit extortion, it would not be an ethically defensible policy. These objections do rely upon a premise that at least some carbon emissions are morally wrongful. Any version of the moral wrongfulness objection must concede that not all emissions are morally culpable. For example, subsistence emissions cannot be avoided and hence cannot be understood as morally culpable. The defender of trading might suggest that it will be difficult to find any particular act of emission that is wrongful, even those that are luxury emissions, since no individual act will be normally in itself harmful. It is the total aggregate level of carbon emission that is harmful, not any particular act. Since the purpose of carbon trading is to bring that aggregate level below that which would cause serious harms, it cannot be ethically objectionable. One response to this argument is that the wrongness involved in luxury emissions should be understood as a form of injustice. It is unjust that the wealthy be able to buy or benefit from rights to emit in a commons at levels that would cause serious harms if all were permitted to act similarly (Goodin, 1994: 585).

Similar concerns underlie arguments that appeal to considerations of solidarity. Internationally it might be argued that emission trading allows wealthy nations to buy their way out of contributing to the solution of common problem for which historically they bear greatest responsibility (Sandel, 2005: 95–96). Domestically, the argument might run that emission trading permits the wealthy to continue a life style without contributing to the solution of the problems to which they contribute. It is inconsistent with equality of standing that the rich be exempted from a common effort to cut emissions. If each person is to play his or her part, the rich may not buy their way out of common duties. Social solidarity requires that citizens' emission rights in greenhouse gases should be rationed, as in wartime, and firms regulated directly. One response to the argument here might be to deny the assumption that equality of standing requires that each person directly does his or her part (Caney, 2010: 207ff.) The argument raises large issues about what individuals and societies owe each other when faced with a common problem. However, it has particular significance where the wealthy contribute most to that problem and are least vulnerable to its consequences. In such circumstances, demands of justice and solidarity become particularly evident.

3.2. Biodiversity Markets

The use of cap-and-trade markets as an efficient means to realize independently defined environmental ends is not confined to emissions trading. Their use has been proposed in markets employing biodiversity offsets. Landowners who create, restore, or enhance some site of biodiversity are assigned credits, which can be sold to developers to offset losses to biodiversity caused by a development. The result of the market transactions is an efficient allocation of resources for development while ensuring that there is no net loss of biodiversity.

The extension of cap-and-trade markets to biodiversity raises particular problems over and above those associated with emissions trading. In particular it makes contentious assumptions about the value of biodiversity. It assumes that sites of biodiversity are to be valued in terms of the “ecosystem services” they provide. The creation of biodiversity at one site can offset losses in another if they provide the same services, be this in terms of life support, resource provision, waste assimilation, or cultural amenities. A feature of this understanding of biodiversity is that what is valued is not the specific object or site, but rather the services they provide: “Material objects are merely the vehicles which carry some of these services, and they are exchanged because of consumer preferences for the services associated with their use or because they can help to add value in the manufacturing process” (Ayres and Kneese, 1969: 284).

Understanding the value of biodiversity in terms of service provision assumes a particular understanding of the nature of that value. A useful way of understanding the assumptions being made is in terms of the distinction between *de re* and *de dicto* valuation. Hare illustrates the distinction through a joke about Zsa Zsa Gabor, who is said to have found a way of doing good, through keeping her husband young and healthy almost forever; she gets a new one every five years (Hare, 2007: 514). The joke plays upon an ambiguity about what it is for Zsa Zsa Gabor to value the health and youth of her husband. We assume a *de re* understanding—that there is a particular person, her husband, and that she values his health and youth. The joke turns on the fact that she in fact merely values the health and youth of her husband *de dicto*, that is, whoever fits the description of being her husband is young and healthy. If a site of biodiversity is valued merely as “a vehicle” to provide services then it is valued *de dicto*. Hence, one site of biodiversity, like a husband of Zsa Zsa Gabor, can be replaced by another if it provides the same services. A *de dicto* understanding of the value placed on many ordinary fungible commodities is reasonable: I don’t value any particular apple (except on special occasions, say as a present from my daughter) but just that there is an apple with particular gustatory properties. Similarly I don’t disvalue any particular molecule of CO₂ that contributes to climate change. Other objects demand a *de re* valuation—for example, persons. There are good grounds for placing at least some sites of biodiversity within the class of objects for which a *de re* valuation is appropriate. They are valued as places or biological systems that are valued as particulars that embody specific histories. To the extent that this is the case, then there are good reasons for holding that, whatever the defensibility of cap-and-trade markets to control pollution and carbon emissions, they are not appropriate in the sphere of biodiversity protection. Different sites are not substitutable with each other in the way required for this policy (O’Neill, 2013).

4. Markets, Knowledge, and Climate Change

A distinct set of arguments for a market-based response to environmental problems is to be found within the Austrian tradition of economics. Sagoff’s criticisms of the attempt to extend monetary prices to include unpriced environmental goods have been combined with an endorsement of a Hayekian epistemic defense of markets and criticisms of state planning. Hayek’s arguments depend upon a distinction between two kinds of knowledge: (1) scientific knowledge held by experts, which consists of propositional statements of general rules, and (2) the specific knowledge held by particular individuals, which is local to a time and place and often practical knowledge that cannot be stated in propositional form. Central planning is claimed to be based on a form of scientism that identifies knowledge with scientific knowledge and fails to recognize the local and practical

knowledge dispersed across different agents in society. Much dispersed knowledge cannot be articulated in the form of general propositional statements that could be passed on to a centralized planning agency. In contrast, through the price system, the market communicates that information that allows different individuals to coordinate their particular plans and actions. On this view, Sagoff argues, the neoclassical project of placing shadow prices on environmental goods to measure welfare gains and losses associated with different projects is founded upon a mistake. Actual prices are not measures of welfare, but coordinating devices (Sagoff, 2008: 80–81). The attempt by the state to mimic markets through shadow-pricing and cost-benefit analysis is founded upon an error. Public deliberation should aim not at expert measurements of welfare, but rather the articulation of the public values that shape general laws. The solution to environmental problems lies in the definition of property rights over relevant environmental and non-environmental goods within a framework of general rules of law that will allow the market itself to coordinate the actions and plans of different individuals. A market free of the distortions of public subsidies will deliver technological solutions to resource limits and provide the best arrangement for the protection of environmental goods.

This Austrian argument for market environmentalism is distinct from the more prominent neoclassical approach that dominates most public policy. However, it faces a number of difficulties (Gamble, 2006; O’Neill, 2012). There is an internal difficulty to the Hayekian argument that is of particular significance. Hayek’s argument is founded on a criticism of scientism, not of science. He recognizes that science is an important form of knowledge that matters to policymaking, particularly in the environmental sphere (Hayek, 1960: 371). The role of expert knowledge associated with climate change offers a more recent example. The observation sets up a potential conflict between the use of scientific and local knowledge, and the problem of how to call upon both. Hayek’s solution is to suggest that the generic knowledge of science be dispersed among relevant actors so as to allow them to use their local knowledge (Hayek, 1960: 371). However, the dispersal of generic knowledge has the same difficulties Hayek raised against the centralization of special knowledge. If, as Hayek claims, the knowledge of scientists itself has a tacit dimension that cannot be completely articulated in propositional form, then there is more reason to assume that it can be dispersed downward to all relevant actors than specific knowledge can be centralized upward to planners. The problem of bringing different kinds of knowledge to bear on decisions is ubiquitous. While the epistemic problems Hayek raises are important, his market solution is open to the same epistemic limits he raises against centralized planning.

5. Market Economies and the Environmental Limits to Growth

A central area of dispute between market-endorsing and market-skeptical positions has been over the relationship between markets, economic growth, and environmental limits. It is possible to distinguish a number of different positions. One, found among technological optimists in the market-endorsing position, is that markets will deliver economic growth, and economic growth itself is a condition of environmental sustainability. By driving technological changes that ensure declining energy and resource intensity in the production of goods and bringing material wealth, which fosters “post-materialist” values, which endorse environmental protection, market driven economic growth is best able to deliver long-term sustainable outcomes. Among skeptics of the assumption that continuing economic growth is consistent with respect for environmental limits, one can distinguish between those who claim that there is no conflict in principle between a market economy and a

steady state economy and those who are more skeptical of the possibility of a market economy delivering such an outcome. Both argue that continuous economic growth is neither possible nor desirable. In a globally just world it is not possible. There are limits in the waste assimilation capacities of the atmosphere, in particular with respect to greenhouse gases; in energy production; and in the use of critical resources, including water and top soils, which are such that the levels of consumption that exist now in “advanced economies” could not be generalized globally. Nor are there reasons to believe that technological innovation can overcome all such limits. In particular, falling relative energy and resource intensity is and has been consistent with increasing absolute total energy and resource use in an unregulated market economy. Part of the reason for this concerns rebound effects, discussion of which can be traced back to Jevons’ paradox (Jevons, 1866; Jackson, 2009). In a market economy, falling relative resource and energy intensity *ceteris paribus* leads to a relative cheapening of the goods, which will either increase or displace demand and hence potentially negate the claimed resource and energy savings.

At the same time neither is continuous growth desirable. There are, as Hirsch notes, social as well as environmental limits to growth. Insofar as the goods that people pursue are positional goods—goods such as status goods whose worth to a consumer is dependent on the consumption of the same goods by others—then in a market economy each individual’s consumption of that good will not issue in the promised improvement in well-being, since collective consumption of that good will mean that no one will be better off (Hirsch, 1977: 26). The classical view, shared by both hedonic and objective state accounts that there are limits to the goods required for a good life, is one that has received renewed empirical support (Easterlin, 1974). These arguments against growth are not arguments against technological or cultural innovation but against the possibility or desirability of an economy requiring increasing consumption of material and energy.

Critics of growth agree on the existence of social and environmental limits on continuing increasing consumption. Where disagreement lies is in what the drivers of growth are. Those who defend the compatibility of a capitalist market economy and the respect for environmental limits often take the source of the problem to be one of the cultural values embodied in consumerism, which involve a mistake about the sources of human well-being. Correspondingly, a change in values will render a market economy consistent with the recognition of limits. While the truth of this claim is an empirical matter, arguments for this position are sometimes guilty of what might be called the ethicist’s fallacy—the confusion of appraisal and explanation: that a state of affairs is appraised as deficient according to some set of values does not entail that the way to rectify that deficiency is a shift in values. Those more skeptical of the possibility of a capitalist market economy delivering sustainability argue that there are systemic features of a market economy that drive growth. The Aristotelian claim that the pursuit of wealth without limits is characteristic of the commercial world (Aristotle, 1948: book 1, ch.8) is one that is developed in the work of Marx in his account of the absence of limits in the processes of capital accumulation (Marx, 1970: ch.4) and in Polanyi in his account of the ways in which the market economy is disembedded from social and moral constraints (Polanyi, 1957: 53–55). The truth of these different perspectives is in the end a matter of empirical investigation. They will properly remain at the center of the continuing debates in political economy and political ecology about the economic preconditions of an environmentally sustainable economy.

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