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Abstract: Moral positions on Tradable Permits Markets

Permit trading is a preferred environmental policy instrument among economists, and has become a popular tool in environmental treaties the last decades. The reason is that market-based policy instruments such as permit trading have been shown to foster cost-effectiveness. However, many non-economists have not embraced permit trading as the right way to attack environmental problems, and even among economists, there are many arguments for other market based instruments such as taxation.

In this paper, we show some results from two experiments where the participants were asked about their attitude to emissions permit trading. In spite of the behavior in the experiments, a large majority of the subjects found permit trading among nations morally unacceptable. Permit trading among firms were found more acceptable, but still a significant number of people found it immoral. We then continue by studying reasons to oppose permit trading. In ethical reasoning, there are two ways to justify if an action is good or bad. The first is to refer to the *consequences*. Based on this, an action is good if it is the best way to attain the aim we strive for. However, another way of moral thinking argues that *consequences alone do not guide us* whether something is right or wrong. It is not enough to know that the action is the most effective way to attain the aim. The results from both experiments may indicate that people are not too concerned about the consequences of trading a public bad in general. However, when the public bad is associated with certain goods such as emissions permits, people tend to find it immoral.

1. Introduction

Permit trading is a preferred environmental policy instrument among economists, and has become a popular tool in environmental treaties the last decades. The reason is that both in theory (Montgomery, 1972) and in practice (Schmalensee et al., 1998), market-based policy instruments such as permit trading, have been shown to foster cost-effectiveness. However, many non-economists have not embraced permit trading as the right way to attack environmental problems, and even among economists there are many arguments for other market based instruments such as taxation.² Environmental organizations, political parties and individuals have expressed concerns about permit trading. Some of these concerns are over specific implementations of permit trading systems or more general practical obstacles to a successful permit trading concern.³ Others, however, see permit trading as morally wrong or problematic *in principle*. For instance, some consider it a way of avoiding one's obligations, to pay others to clean up, or to pay indulgence, see, e.g., Goodin (1994). However, concerns may vary among countries, cultures and religion. While we report results from Norway below, where people express strong concerns about permit trading, most polling shows large support for emissions permit trading in the United States.⁴

The concerns may have had impacts on politics. Even if permit trading has advantages when it comes to the costs of meeting a certain emissions target, governments as well as existing multinational tradable permit schemes have put restrictions on permit trading. Norway's broad-based political agreement on climate policy from 2008 specifies that two thirds of emissions reductions up to 2020 should be taken nationally when reforestation is included. In the Kyoto protocol, trade in pollution permits is allowed, but only as a supplement to national mitigation.⁵ Also in the European Emission Trading Scheme (ETS), access to buying emission reductions in third party countries (JI – Joint Implementation for economies in transition and CDM - Clean Development Mechanism for developing countries) is limited.⁶

² See, e.g., <http://www.openforum.com.au/content/top-climate-scientists-opt-carbon-taxes-slam-ets> for examples of scientists and economists that favor taxation to cap and trade.

³ For a report on practical problems with a permit market see, e.g., Friends of the Earth (2009).

⁴ See, e.g., references in http://en.wikipedia.org/wiki/Emissions_trading#Public_opinion.

⁵ Article 6.1 of the original Kyoto Protocol text states “The acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3”. However, later meetings of the Conference of the Parties (CoP) have not been able to find a consensus on a more precise or quantitative meaning of this supplementarity requirement.

⁶ Under Phase II of the ETS (2008-2012), some EU member states have limited access to CDM credits for the installations on their territory. For Phase III (2013-2020), a stricter limitation is in place requiring that no more

These restrictions could mean that the cost-effective volume of trade may not be within reach, and the emissions reductions will be achieved at a higher cost than necessary.

There may be several reasons why such restrictions have been introduced. One reason may be that signatories have been reluctant to allow full trading due to concerns about permit trade among those they represent. In a democracy, signatories or governments represent the people, and if their voters express concerns about permit trading, they may want to restrict this option. Restrictions on permit trading can in this case be seen as a trade-off between the benefits from trading (in terms of reduced costs) and the costs of involving in something that is not preferred. However, there may be other explanations. Eyckmans and Kverndokk (2010) present a model where such restrictions are effective in reducing negative environmental impacts of moral concerns about permit trading. Thus, restrictions may not be set because of moral concerns, but to reduce the impacts of such concerns. The reason is that moral arguments against trading may lead to higher instead of lower global emissions in an international climate agreement with permit trading, where the total number of pollution permits is determined endogenously when the different signatories decide the amount of permits to be allocated to their own domestic industries. Restrictions on permit trading may reduce the incentives of the signatories to allocate the high amounts of permits to their industries that may follow from moral concerns. Finally, arguments have also been put forward that do not deal with moral concerns, such as means to reduce market power in the permit market, see Ellerman and Wing (2000).

We will present some empirical evidence on concerns about permit trading and discuss possible reasons why people may be concerned about permit trading. Could the concerns be based on sound reasoning, or do they just follow from lack of economic competence?

The chapter is organized as follows. In the next section we show some results from two recent experiments where the participants are asked about their attitude to emissions permit trading. These examples may help explain some of the attitudes shown in national politics and international environmental negotiations. Section 3 organizes the arguments according to consequential and non-consequential ethics, while section 4 concludes.

2. Some results on reluctance to trade emission permits

than 50% of the total EU reduction effort over the period 2008-2020 can be covered by credits generated by project based mechanisms in third countries.

To illustrate some of the reluctance against permit trading, we start by referring some views on permit trading that have been expressed in popular media.

A cartoon by Ruben Bolling (Bolling, 1992), starts by referring to the idea of pollution permit trading under the Clean Air Act, and asks the question “Where will this lead...?”. It then follows up with the following story: A person wakes up by the sound of a burglar. He surprises him, points the gun at him and claims that “I have every right to kill you – I’m in my own dwelling, and I fear for my own life”. However, he has a better idea and decides to contact a “crime broker” to sell his right to kill. The broker finds a buyer, and the “The same number of deaths result, but with a more efficient allocation”.

In an ironic radio monolog on Norwegian Public Radio (NRK) from last year⁷, the journalist suggests in a similar way as Ruben Bolling, several extensions of permit trading to also include areas like sickness leave, infidelity and traffic offenses.

It is not hard to come up with reasons why emissions permit trading is very different from the entertaining examples above. Institutions like criminal law or marriage will be undermined, while emissions permit trading on the other hand is a way of introducing institutions to an area where they are lacking. Examples like this may however indicate that people find trading a “bad” to be immoral.

To test whether this is the case, two experiments in economics have recently been conducted at the University of Oslo with students as subjects. Both experiments are public good games, but are framed differently. In the first (Bråten et al., 2011), the subject can choose to use stickers that will inflict a harm on the other subjects in their group, but will be beneficiary to themselves, while in the other experiments (Hauge et al., 2011), subjects choose how much to give to a public good, where giving is costly (quadratic cost function), but benefit all in their group. Both experiments were first run without any regulation, while in the second round regulations were put on the public good (how much you could harm others, or how much you had to contribute), but with a possibility to trade the rights within the group. In Bråten et al. (2011), the idea was to test whether subjects would vote against the possibility to trade a good that would harm others, while Hauge et al. (2011) wanted to test whether the distribution of commitments was important for the choice to trade. However, both experiments found that there was no significant reluctance to trade the right or the commitment.

⁷ “Morgenkåseriet” on 22 November, 2010, by Ulf-Arvid Mejlænder.

The rights or the commitments in the experiment were abstract public goods where no connections to environmental problems were explicitly made. But after both experiments were finished, subjects had to fill in an exit survey where they were asked about their attitudes to trade certain goods. In spite of the behavior in the experiments, few subjects found trade in permits between poor and rich countries morally acceptable. Figure 1 below shows the results from Bråten et al. (2011) with 44 subjects. In their survey, less than 5% of the subjects found permit trading among nations morally acceptable, a lower number than for trade in body parts and sex. Permit trading among firms were found more acceptable, but still a significant number of people found it immoral. Hauge et al. (2011) found a similar pattern with 87 subjects, however, in their survey permit trading between countries were found morally acceptable by a larger number of subjects, close to 30%. These questions were followed up by reasons to oppose permit trading between rich and poor countries, and reasons such as it is morally wrong, it increases inequality and exploits global poverty got widespread support.

The results from both experiments may indicate that people are not too concerned about the consequences of trading a public bad in general. However, when the public bad is associated with certain goods such as emissions permits, people tend to find it immoral. We will comment more on this in the next section.

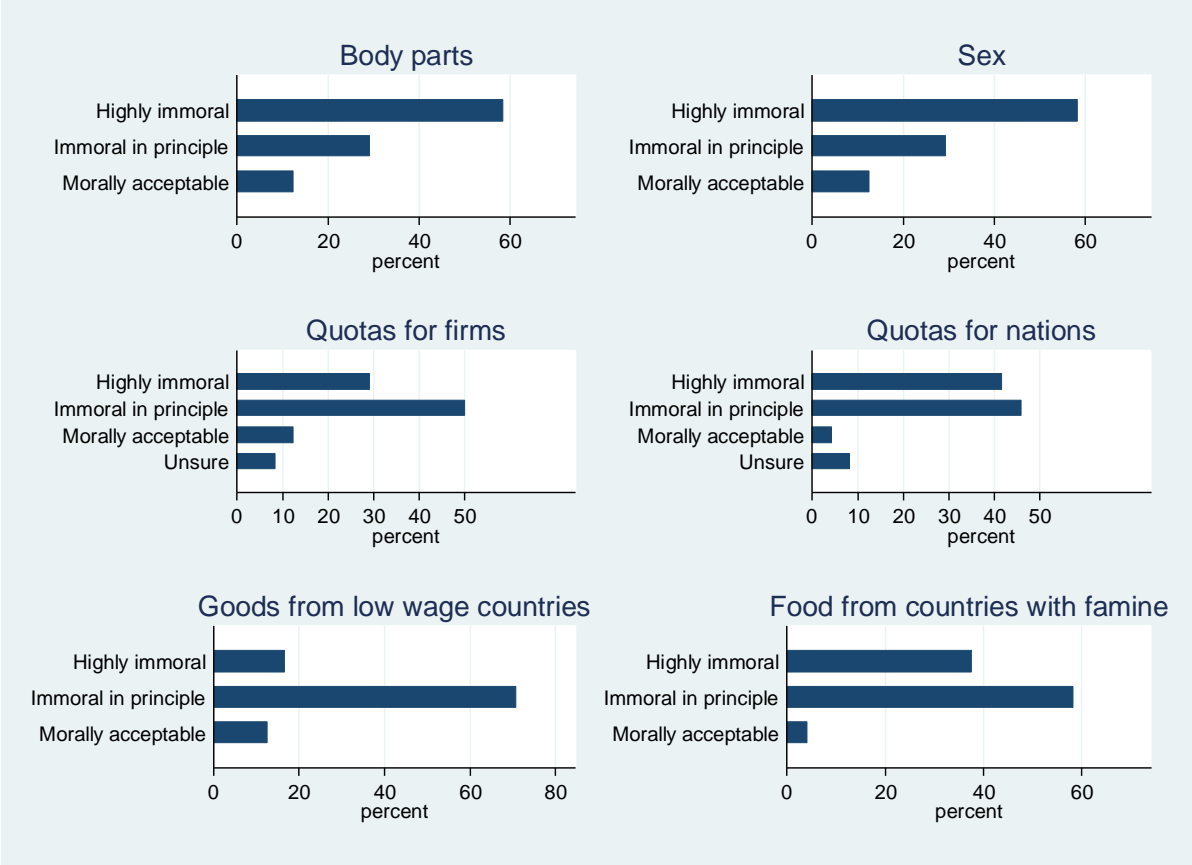


Figure 1: Reluctance to trade in different types of goods.
Source: Bråten et al. (2011)

3. Emissions permit trading and ethical reasoning

In ethical reasoning, there are two ways to justify if an action is good or bad. The first is to refer to the *consequences* (teleology or substantive fairness). Based on this, an action is good if it is the best way to attain the aim we strive for (e.g., maximize welfare, reduce greenhouse gas emissions). However, another way of moral thinking argues that *consequences alone do not guide us* whether something is right or wrong (deontology or procedural fairness). It is not enough to know that the action is the most effective way to attain the aim. Concerns about permit trading can be organized according to these two strands of ethical reasoning.⁸

Consequences matter

Standard economic analysis is basically about consequences and if the consequences of a particular policy are positive (i.e., increased welfare), economists will recommend it. This is the case with emission permits. The basic argument in favor of permit trade is cost-effectiveness (Montgomery, 1972). Parties involved in permit trade would get lower abatement costs than if they had to mitigate the emissions within their geographical boundaries. Thus, cost-savings will be welfare improving (or at least give potential Pareto improvements), everything else equal. This approach is also referred to as a *utilitarian approach*, where the aim is to seek people's greatest happiness or utility. If permit trading maximizes the resources available for the individuals in the economy (for a given environmental target), total utility may be maximized.

A contrast to the utilitarian approach is an approach that also considers fairness.⁹ A utilitarian approach focuses on efficiency by maximizing the total amount available of resources or utility. However, there may be a trade-off between efficiency and justice. Would a permit trading system be unjust in the way that it increases the pollution gap between rich and poor countries? Would it lead to a more unequal distribution of income in the world? One way of thinking about this is that countries may be opposed to permit trade because of *inequality aversion*. If for instance they are concerned about income inequality and if inequality

⁸ Some, however, argue that we do not necessarily know why something is right or wrong, but that moral reasoning is based on intuitions or emotions, and that we rationalize these intuitions later, see, e.g., Haidt (2001). For an example on incest, see also <http://www.polipsych.com/tag/disgust/>.

⁹ The arguments below shares similarities with the *Kantian approach*. However, the Kantian approach is usually not connected to consequentialism.

increases in a trade regime, they may prefer not to trade. This means that if countries or individuals are not only concerned about their own income, but also the income distribution, they may oppose trade even if their own income may increase because of the trade regime. This hypothesis was tested in the experiment by Hauge et al. (2011) referred to above, but they could not find support for it. However, in the exit survey, more than 50% of the subjects agreed or highly agreed that permit trading between rich and poor countries increases inequality and that this is a reason to oppose permit trading.

Explanations based on allegedly negative side effects of a permit market, may also be plausible. Buying CDM quotas, i.e., greenhouse gasses pollution permits in countries that did not subscribe to binding emission limits in the Kyoto Protocol, may have *adverse effects* based on lack of an emission baseline, lack of incentives to undertake emissions reductions by the developing countries, transaction costs and carbon leakages. As a result, CDM projects may not fully offset emissions, see Rosendahl and Strand (2009; 2011), and total emissions will be higher with permit trading than without. Related to this is *cheating* or non-compliance in the permit market that also has negative environmental impacts. This has been analyzed in van Egteren and Weber (1996), and over the last few years the media has reported several examples of cheating and fraud in the permit markets, that may reduce the confidence in markets (see, e.g., Harvey, 2006, and Davies, 2007). It has also been reported that CDMs make an *incentive to produce greenhouse gases* (Pearce, 2010). Further, *hot air*, meaning that some countries receive an initial emission quota allocation that exceeds their actual emissions, has also been mentioned as a reason to avoid emission trading as trading hot air will not reduce emissions. In the Kyoto Protocol hot air exists as several Eastern European countries have quotas that are higher than their 1990 emission levels, and these countries have also not been successful in selling their permits.

Some papers argue that if the permit allocation is set in a non-cooperative equilibrium, permit trading may actually *lead to higher emissions*, see Helm (2003) and Holtmark and Sommervoll (2008). This can particularly be the case for sellers of permits that may allocate more permits to their industries than in the non-cooperative case without permit trade. One example of this may be “hot air” as mentioned above, when several countries got allowances higher than their business-as-usual emissions. The idea is that if the permit price is not very sensitive to increases in permits and if the marginal damage of the country is relatively low, the benefits from overallocation is higher than the costs.

Abating at home instead of buying emission permits may also be perceived as a better policy based on consequences, and arguments against permit trading may, therefore, be based on the benefits of abating at home and not necessary against permit trading per se. Some arguments that have been raised in this debate are the positive local *spillover effects* of technology development by national abatement as well as the *ancillary benefits* (reduction in local emissions, traffic accidents, congestion etc.) of abating at home. Related to this is the *environmental justice* argument, that minority groups suffer from permit trading because they live close to polluting facilities and will, therefore, not benefit from potential ancillary benefits of abating at home if the government decides to buy permits abroad (see, e.g., Kverndokk and Rose, 2008, for a survey). Another argument is that to meet the goals for greenhouse gas emissions in the long run that has been raised over the last few years,¹⁰ new infrastructure investments have to be made to replace a large part of the existing infrastructure such as roads, railways, buildings etc. By buying permits abroad instead of abating at home, the incentives for making such investments may be smaller, and, therefore, also the possibility to meet future goals. It may be a way to postpone a necessary restructuring of the economy.

It is finally argued that unilateral abatement has positive effects for the global environment as it may lead to *similar behavior* by other countries, it may *affect positively the negotiation climate in the international policy arena*, and it may *reduce the conflict of interest* within a country as it actually shows the true costs of abatement, a cost that economic agents have an incentive to exaggerate; see Hoel (1991) and Golombek and Hoel (2004).

Consequences may not be that important

To look at the consequences may not be the only way of evaluating certain actions. Based on a procedural justice approach, consequences alone do not guide us whether something is right or wrong. One way of approaching this may be virtue ethics, associated with Aristotle. Virtue ethics cares about the moral standing of those engaged in the activity. Will the moral stigma attached to pollution be different due to pollution permits? One possibility is that if one can pay for the right to pollute, the moral stigma may be reduced; pollution is not “wrong” anymore. We no longer share the responsibility for pollution reduction as we can pay somebody else to take over the responsibility. One illustration of this is made in Brekke et al. (2003) where people can pay an organization instead of doing voluntary work. If they think that the payment is enough to pay professionals to do the job, they do not feel responsible

¹⁰ The EU aims for instance to reduce domestic emissions by 80 to 95% by the mid-century (see, e.g., European Commission, 2011).

anymore, and they may choose the market solution. But, if they think that the payment is not enough, they feel that they still are responsible for having the task done.¹¹

Related to this is crowding out of moral motivation as permit trading may reduce incentives to behave "green". As Hansen (2009) points out, individual actions to reduce the carbon footprint will not have any impacts, as all you do is to free up emission permits for someone else as the total amount of emissions is set by government. Thus, the motivation to behave green may be reduced.

Duty is also often referred to when discussing climate change. Some argue that industrialized countries have created the global warming problem, and that it is their *duty* to reduce the consequences of it, even if this does not minimize overall costs of taking action. This can be used as an argument against developing countries selling permits to industrialized countries because the permit trade would not lead to abatement in the countries responsible for the problem.¹² Another argument is based on *unfair background conditions* (see Kverndokk, 1995, and Eyckmans and Schokkaert, 2004). Even if two parties agree to trade permits, the trade may not be justified on ethical grounds. A voluntary agreement between two parties is not necessarily fair if it is entered into under conditions that are not fair (Pogge, 1989). Background justice is not preserved when some participant's basic rights, opportunities or economic positions are grossly inferior. Some examples can be kidney trade or an agreement between a prostitute and her/his customer. Even if these trades may be beneficiary both for sellers and buyers, they may not be right due to the unfair background conditions. Under the Kyoto Protocol, for instance, some may argue that this is the case for some CDM contracts, as this is a trade between poor and rich countries.¹³ The view of unfair background conditions may also get some support from the surveys referred to in Section 2 above, where a large number of the subjects supported the claim that permit trade between rich and poor countries exploits global poverty, and may, therefore, be a reason to oppose permit trading.

Markets for pollution permits have been recognized by several authors as a case in which there may exist some reluctance or even repugnance against transactions, see, e.g., Goodin (1994), Bénabou and Tirole (2007) and Roth (2007). Some activities are considered repugnant

¹¹ See also Gneezy and Rustichini (2000) for a similar argument when a fine is introduced for late-coming parents in day-care centers.

¹² The problem may, however, be more complicated as other countries than those directly involved may also have benefitted from the early industrialization via spillover effects, see Kverndokk (1995).

¹³ Some argue that it is not fair that the developed countries take all the "low hanging fruits" and the developing countries are left with the more expensive mitigation options in a possible future agreement. An economic treatment of this long hanging fruit argument can be found in Narain and van 't Veld (2008).

because they violate traditional values or religious and moral prohibitions. What is considered repugnant may vary from place to place and it may change over time. Slavery is an example of a market that used to exist in large parts of the world, but is now repugnant and illegal in most places. On the other hand, there have been more positive attitudes over time towards life insurance (Zeliner, 1999) and legalized prostitution. It may be difficult to predict what is considered repugnant, but introducing money into the exchange may often be what people do not like and find immoral. It may just be “unnatural” in such settings; everything may not be subject to market pricing. Examples of “priceless” or “sacred” goods may be life, freedom, love, friendship, children, religion and democracy. Other examples are connected to the human body; you may donate an organ, but payment to living kidney donors is highly debated and often prohibited; giving blood is considered a deed, but not to sell your blood in an open market; having a one night stand is accepted in most societies, but selling sexual services is often met by legal restrictions. In a similar way introducing the environment into the market place is also repugnant for many people. Such a view may for instance be consistent with ecophilosophy or the “deep ecology” movement (see, e.g., Næss, 1973), i.e., the respect for Nature and the inherent worth of other beings.¹⁴ In the experiments discussed in Section 2 above, the repugnance to trade goods connected to both the human body and the environment get support.

4. Conclusions

This chapter has studied several reasons for the observed concern about international permit trading. All policy judgments are based on ethical considerations, so even if there are advantages of permit trading in terms of lower costs of reaching an environmental target, there may be good reasons for reluctance based on both consequentialistic and non-consequentialistic ethics. Several ethical arguments can be used in the debate, but based on newly conducted experiments, it may seem that one main argument is that international permit trading is simply immoral, even if the argument was rationalized when the subjects

¹⁴ Some of these goods mentioned above are called taboo goods (Fiske and Tetlock, 1997). Taboos are meant to protect individuals and societies “from behaviour defined or perceived to be dangerous” (Tannenwald, 1999), and breaking a taboo is usually met by social sanctions or repercussions. Incommensurability may also be a problem, meaning that there may not be a common measure to compare the goods (O’Neill, 1993, chapter 7). Some examples may be friendship or love. A market may destroy these goods, as setting a price on them may reduce their value.

were presented to several reasons to oppose. Introducing the market to international environmental problems may just be wrong to many people; it may be considered a taboo.

One important question is, however, if the best may be the enemy of the good? Would for instance abandoning or restricting permit trading mean that it will be harder to reach international climate agreements due to the higher costs? As mentioned in the introduction, abandoning permit trading or introducing restrictions could mean that the cost-effective volume of trade may not be within reach, and the emissions reductions will be achieved at a higher cost than necessary. Thus, reaching an agreement will be more expensive, and may therefore get less support. On the other hand, it may be easier to reach an agreement that has ethical support. Eyckmans and Kverndokk (2010) found that moral concerns about permit trading most likely will increase global emissions, as countries may set their caps at levels that reduce trade. In this case, however, the negative environmental impacts can be offset by introducing restrictions on permit trading.

One parallel may be kidney sale, which is prohibited by federal law in the United States. According to Cohen (2008), about 4,400 people died while waiting for a kidney in the US in 2006, and Becker and Elias (2007) have calculated the price of a kidney to eliminate the waiting list if a free market existed. Is following the ethical rule of not involving money into the transactions worth the deaths? When it comes to climate change, such trade-offs will probably not play the same role. Market based instruments such as taxes and permits have been introduced, and will probably play an important role also in the future. But there may be a tendency that the optimism of using market based instruments has been reduced, and other options are now also discussed among economists, see, e.g., Aldy and Stavins (2007) for a number of alternative approaches, and Barrett (2008) for sectoral agreements. Whether or not this is due to an ethical debate is still an open question.

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