
Including non-trade concerns: the environment in EU and US agricultural policy

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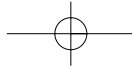
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Abstract: The challenge for any trade agreement is to be adaptable enough to enable countries to address legitimate non-trade concerns (NTC) while being restrictive enough to limit harm to other countries and to assist the creation of free international markets. In this paper, we focus on how environmental NTC have been addressed in agricultural policy in the USA and the European Union (EU) and the resulting implications for trade agreements. For example, programmes in the USA discourage production on environmentally sensitive land, while the EU encourages extensive production. While these and other differences will affect production and trade, the different approaches to agri-environmental policy affect the degree to which the two regions can use agri-environmental policy to offset commodity payments. This difference in flexibility will, in turn, affect how easily the two regions can accept a trade agreement that mandates greater reductions in trade-distorting price supports.

Keywords: agreement on agriculture; agricultural policy; agricultural trade; conservation; environment; green-box; multifunctionality; non-trade concerns; WTO.

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1 Introduction

Trade agreements not only affect the production and consumption of goods and services, but in so doing, they affect all of the social, environmental and cultural aspects associated with production and consumption. Agriculture in particular is intrinsically linked to many national cultures and environments, and is therefore an interesting case-study of the effects of trade agreements on so-called 'non-trade concerns (NTC)'. In this paper, we will specifically focus on the effect of environmental concerns on agricultural policy and the resulting trade implications. We ask how the United States and European Union have addressed the environmental externalities from agriculture, and propose several political and economics structural causes for the differences in approach. We then suggest what these underlying structural differences imply for the next round of the WTO.

Protection of the environment is often used as a rallying point for groups (and countries) concerned with trade liberalisation. Trade agreements have been seen as restricting government's abilities to respond to environmental concerns, such as by limiting import restrictions on products whose production generates negative externalities (e.g. the dolphin-safe tuna case, see Beaulieu and Gaisford, 2002) and constraining subsidies for positive externalities. These legitimate concerns are often overshadowed by domestic political constraints that have their own reasons to oppose trade agreements. Given the large sums of money that go to subsidising agricultural production in the developed world (US\$20 billion per year¹ on average for 2002–2006 for the USA, CBO 2002, and US\$42 billion for the European Union (EU) in 2002, USDA-ERS 2004), the agricultural industry is understandably concerned with any agreement that would limit this support. However, we know how these sums can greatly distort agricultural trade, harming producers worldwide (as evidenced by the recent concerns raised by developing countries at Cancun). As pressure has been placed on direct subsidies, one outlet for support has been environmental and conservation policies. The challenge for any trade agreement is to be flexible enough to enable countries to address legitimate externalities and flexible enough to allow the country to sign on, while being restrictive enough to limit harm to other countries and to assist the creation of free international markets.

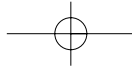
The USA and the EU have taken alternate approaches to addressing the environmental externalities created by agricultural production. In both regions, agri-environmental programmes have been recognised as a trade-friendly way to transfer income to farmers while responding to growing pressure from an expanding environmental lobby. However agricultural conservation policies have evolved in strikingly different ways in the two regions. These differences lead to alternate responses to restrictions imposed by trade agreements – both in terms of the production of externalities and the ability for the countries to use the environment as an alternative means to deliver support to farmers.

We identify three differences between the two approaches (Baylis et al., 2004). The primary difference concerns the fundamental relationship between agriculture and the environment. The agri-environmental programmes in the USA reflect a view that there is an intrinsic conflict between the goals of expanding (or maintaining) agricultural production and preserving the environment. The policies in Europe, on the other hand, reflect a quite different view: that the expansion of agricultural activity can actually benefit the environment, provided that it is undertaken in an appropriate manner. As a consequence of these orientations, US policy focuses primarily on the negative environmental externalities caused by agriculture, while EU policy focuses primarily on the potential positive externalities generated by agricultural production.

That said, we recognise that the EU does address some negative externalities. The second difference we identify is that to the extent that the EU does so, its policy focus has been on negative externalities resulting from *intensification* (e.g. high livestock density, increased use of chemical inputs). By contrast, the focus in the USA has been on environmental problems resulting from *extensification*: pollution has traditionally been associated with the use of marginal land (e.g. highly erodible soil, drained wetlands). Our third difference relates to the targets of agri-environmental programmes in the two regions. In the USA, these programmes typically focus on the anticipated environmental outputs (e.g. soil erosion, water quality) associated with certain agricultural activities, so that competing proposals for funding under these programmes are ranked in accordance with their potential for either mitigating the negative, or enhancing the positive, impacts of these outputs. In order to receive agri-environmental payments in the EU, by contrast, it is typically sufficient to commit to using agricultural inputs, or farming practices, that have been designated as environmentally friendly (e.g. organic production methods, livestock practices that respect animal welfare).

These different approaches have alternative implications for trade. At its most basic, the US approach of treating agriculture and the environment as substitutes implies that an increase in environmental (conservation) funding will lead to a decrease in agricultural output. In comparison, the EU's approach of treating agriculture and the environment as complements will generally lead to an increase in production.² The second difference involves intensification versus extensification, which will lead to different rates of technology adoption in the two regions, which in turn, will lead to different levels of production. The last difference is that the USA targets its programmes to anticipated environmental outcomes versus the EU approach of targeting farmer actions allows the EU to subsidise many more producers – both those on environmentally-sensitive land, and those who are not.

The policy approaches will also dictate how easily environmental programmes can be used to transfer income to farmers. As many of the US programmes are focused on removing land from production, these programmes are not well suited to providing support



to farmers who continue to farm. In comparison, the EU's focus on complements allows the government to fund existing farmers for 'stewardship' of actively farmed land. Even for those US programmes that fund practices on working land, the US approach, with its focus on specific, measurable environmental outcomes, is primarily designed to provide short-term funding for transitions to more environmentally friendly practices, rather than long-term income support for ongoing farming in an environmentally sound way. Thus the EU programmes are more conducive for transferring funds to active farmers.

To understand the region's responses to restrictions imposed by trade agreements implied by these policy differences, we need to understand the underlying motivation for the alternate policy responses. We ask whether the agri-environmental policies differ purely due to differences in the type and degree of environmental externalities produced by agriculture in the two regions. We find that the observed policy differences go well beyond those that would result from addressing externalities. This implies that the NTC of the environment is also being used to meet political goals. Thus, there may be both need and room for trade agreements to limit policy actions that may use environmental objectives as an excuse to transfer rent to stakeholder groups, in a production and trade-distorting way.

In the next section, we present our typology of the differences in agri-environmental policy between the USA and the EU, using numerous examples. Section 3 evaluates this evidence and concludes that while economic differences have some explanatory power, there is much that cannot be explained in purely economic terms. In Section 4 we consider some policy implications of the differences we have identified. Section 5 concludes.

2 A comparison of the US and EU approaches to the environmental NTC

Both regions have used environmental and conservation programmes to transfer income to producers, and both countries have recognised this non-trade concern in the Uruguay round of the GATT by building in a 'green box' which allows for non-distortionary funding to be paid to producers for environmental purposes. However, this green box has also allowed both regions to use agri-environmental programmes as a safety-valve for farm payments as they were restricted by the Uruguay Round agreement.

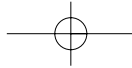
In Europe, the shift from direct commodity payments towards agri-environmental and rural development programmes has been a cornerstone of the region's response to the Uruguay Round. A large component of the recent CAP reforms has been the decrease of price supports and the subsequent increase of so-called 'agri-environmental payments.' The linkages between agriculture, the environment and the development/management of rural areas have become encapsulated in the concept of multi-functionality. The EU, supported by its farm organisations, has taken the position that these additional benefits are typically not marketable and, consequently, are under-produced relative to the levels that societies desire. Further, it argues that these outputs will be under-supplied to an even further extent if agricultural support prices are reduced by trade liberalisation. Simplifying drastically, the argument is that farm income support through production-linked agricultural policies can be justified on conventional economic grounds once the positive externalities generated by agriculture are taken into consideration. In the view of many commentators, this argument is a thinly veiled repackaging of protectionism, pre-Uruguay Round style:

“[the EU] has gone to enormous lengths to create, both domestically and internationally, the camouflage of multifunctionality to justify the continuation and probable increase of expenditure of more than 40 billion a year on bolstering an industry which is quite capable of surviving without subsidies.”
(Agra Europe editorial, September 28, 2001)

The US administration has also used environmental policy as a means to comply with WTO provisions. During the recent debate over the 2002 Farm Bill, there was a great deal of pressure by environmental groups and by legislators from non-farm states to shift funding from direct price supports to conservation programmes. Although these attempts were not wholly successful, the 2002 Farm Bill did substantially increase the size and scope of conservation programmes, and viewed them in part as a trade-neutral way to transfer income to farmers. While motivated by concerns similar to those that motivated the EU, the US approach to agri-environmental policy is quite different from Europe's. While the Europeans focus largely (though not exclusively) on the positive implications of agricultural activity for the environment and rural areas, the US administration tends to focus on the negative relationship between agriculture and environmental goals. The administration's view is reflected in a recent document by the Economic Research Service (Claassen et al., 2001): [farm] payments should be de-coupled from production, mitigating environmental degradation due to overproduction resulting from policy-induced distortionary signals; they may be conditioned on compliance with certain environmental standards and they may be provided in the form of compensation to offset the cost of adopting best-management practices (e.g. Environmental Quality Incentives Program).

The primary conservation programmes in the USA are the Conservation Reserve Program (CRP), Wetland Reserve Program (WRP), the Environmental Quality Incentives Program, (EQIP), Wildlife Habitat Incentives Program (WHIP), and the Farmland Preservation Program (FPP). The first two programmes, CRP and WRP, both pay farmers for taking their land out of production. Farmers can agree to set aside environmentally-sensitive land for an extended period³ in return for an annual payment. Unlike the CRP and WRP, EQIP and WHIP are programmes intended to decrease environmental damage on farmed land. EQIP is primarily a cost-share programme that pays farmers to adopt more environmentally sound farming practices. EQIP funds activities such as building better manure storage facilities, planting windbreaks, etc. Likewise, WHIP helps defray costs associated with providing wildlife habitat on the farm. WHIP funds are available for either farmed or set-aside land. The FPP is a programme designed to keep farmland from being converted into urban sprawl, by allowing the government to purchase from a farmer the development rights to his property. The USA also has two cross-compliance provisions, sodbuster and swampbuster, that are credited with greatly reducing pollution associated with farming. Sodbuster restricts farmers from farming highly erodible soil whereas swampbuster limits the draining of wetlands. In order for farmers to receive income supports under the Commodity Title, they must comply to these regulations. Thus, these compliance provisions effectively act to remove land from production. The vast majority of US conservation funding (88 cents of every conservation dollar spent from 1997–2001 (USDA-ERS 2003)) goes to the land retirement programmes, the CRP and WRP.

Compare this to the expenditure on land retirement in the EU, where these programmes are only offered in a few member states. Land retirement payments are only offered in Greece, Ireland and a few states in Italy and Germany, and payments for



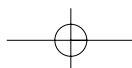
planting trees on cultivated land are less than 15% of all agri- environment and forestry payments. A consequence of this difference is that most of the agri-environmental policy euros spent in the EU have the effect, *ceteris paribus*, of *increasing* aggregate agricultural output, while most of the agri-environmental policy dollars spent in the USA have the effect of *decreasing* aggregate output.⁴ In this sense, agri-environmental spending and agricultural output are *complements* in the EU and *substitutes* in the USA.

The distinction is further evident in the differing ways that the two regions approach the issue of environmental stewardship. In the EU, agri-environmental policy reflects the view that land attains its highest environmental value when used for farming. For example, a significant fraction of EU agri-environmental payments are targeted at limiting land abandonment. Linked is the idea that farmers are stewards of the land, and that simply removing land from production is an environmental loss. On the other hand, the direction which US policy has taken indicates that, in large parts of the United States, land is perceived to attain a higher environmental value when it is taken out of farming and returned to its natural state. Thus, while European policy attempts to limit land abandonment, farmers in the USA are often specifically paid to abandon farmland, for example, through the CRP. Furthermore, farmers are paid a premium through the CRP if they seed traditional cover crops or plant native trees, attempting to return the land to its pre-farmed state.

Under the guise of agri-environmental programmes, EU member states pay farmers for producing other positive externalities such as landscape, habitat and rural employment on their active farmland. On the other hand, the USA has virtually no programmes that promote any positive externalities. Second, the EU focuses very little attention on reducing on-farm pollution (Buller et al., 2000), whereas this is a primary focus of US policy. In fact, in the USA, agri-environmental payments – e.g. those used for manure storage under EQIP – are often geared to help farmers comply to external (EPA) regulations restricting on-farm pollution. The CRP, as mentioned above, was initially designed to reduce soil erosion, and this is still considered its primary success (USDA, 2001). Thirdly, the EU through its LFA payments also subsidises farmers to keep them farming less productive land. These subsidies are primarily intended to keep the rural populations from dropping, reflecting an emphasis on the positive externalities flowing from having active farmers staying in these areas.

The EU does not ignore negative externalities generated by agricultural production. The negative externalities that cause most concern in Europe, however, differ from those that matter most in the USA. The first of our two subsidiary differences is that agri-environmental policy in the EU focuses mainly on externalities that are a by-product of the intensification of farming – i.e. the use of too many non-land inputs per unit of land – whereas US policy focus mainly on the bi-products of extensification – i.e. the use of an excessive amount of (environmentally sensitive) land. A recent study commissioned by the European Commission notes that the more severe environmental concerns tend to arise from intensive farming systems, either because of increasing chemical use or increased number of livestock per acre (Baldock et al., 2002). On the other hand, most of the negative environmental externalities targeted by US conservation policy are caused by increased use of farmland that is marginal, either because it is highly erodible or because it has been reclaimed by draining wetlands.

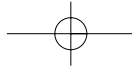
As evidence for this difference, note that the EU supports both traditional extensive farming practices and non-abandonment of land whereas the USA supports neither. Secondly, where the EU targets negative externalities, these are often linked to promoting



farm processes, such as organic production or extensive agriculture, which are viewed as generating positive externalities as well. Thirdly, as noted above, the vast majority of US conservation expenditure not only goes to addressing negative externalities, it goes specifically to removing land from production, i.e. making farming less extensive, while EU agri-environmental payments actually encourage farmers to keep marginal land in production, by subsidising them to maintain pasture and keep land from being abandoned. For example, EU infrastructure and landscape funding can be used to preserve dykes; the farms on which these dykes have been built would, in the USA, be considered wetlands, and farmers would be subsidised to allow them to revert to their natural state. Fourthly, some EU member states address the concerns associated with intensification by paying farmers to stock lower numbers of livestock per hectare and to reduce the use of chemical inputs. The USA has no comparable programmes. In fact, through EQIP payments, the USA also helps subsidise farmers who want to become more intensive, for example by helping farmers pay for manure storage or to improve pasture to allow for higher stocking rates.

The second subsidiary difference that we identify relates to the targets of agri-environmental programmes in the two regions. In the USA, these programmes typically focus on the anticipated environmental outputs associated with certain agricultural activities. Moreover, competing proposals for funding under these programmes are ranked in accordance with their potential for either mitigating the negative, or enhancing the positive, impacts of these outputs. To receive agri-environmental payments in the EU, by contrast, it is typically sufficient to commit to using agricultural inputs that have been designated as environmentally friendly. In some instances, the input choices themselves are deemed to have intrinsic environmental merits. For example, European farmers receive funding for enhancing the welfare of their livestock and or farming in accordance with traditional methods. In others, input choices are subsidised not because of their intrinsic merits but because they are expected to result in valued environmental outputs. Indeed, a recent EC document goes so far as to say: 'adherence to organic production standards is more likely to lead to general improvements in environmental quality than the production of specific environmental goods.' (Lampkin et al., 1999, p.40) To illustrate the difference, both regions are concerned about chemical run-off. In the USA, the run-off is targeted directly; in the EU, farmers are paid to use organic production methods, at least in part because these methods will reduce run-off.

A closely related issue is that agri-environmental programmes in the two regions tend to differ in their degree of focus. Relative to the USA, EU programmes tend to be oriented towards multiple, sometimes nebulous goals. Multifunctionality, by definition, is a broad concept, encompassing many targets simultaneously. The very concept stems from the idea that agriculture generates a number of externalities, which are not easily measurable, but that have social value, and therefore their production should be somehow compensated. Similarly, the objectives which EU agri-environmental payments are designed to accomplish tend to be quite general in nature. For example, these objectives include protecting the biosphere, keeping farmland from being abandoned, and preserving various broadly defined features of the rural landscape. US programmes tend to be focused more narrowly, and on targets that are more easily measured. For example, in contrast to preserving the biosphere, the USA has programmes to preserve habitats for specific species. Consider also the US CRP, which targets multiple outputs, such as the expected environmental improvement in soil resources, water quality, wildlife habitat, and other



resource concerns. All of these output objectives are sufficiently measurable that each land parcel offered for enrolment in the Program is assigned an EBI score, measuring the contribution that retiring the parcel would make to a weighted sum of these objectives.

To appreciate the nature of this distinction, suppose that a number of farmers are producing under a differing environmental circumstances – such as, for example, soil factors and proximity to a water source – and assume they seek funding to improve water quality by reducing their nitrogen use. Depending on the exogenous environmental factors, the same change in the level of input usage will result in quite different changes in the environmental output. In the USA, these exogenous characteristics will be taken into account when the farmers' applications are considered. Using the EBI (in the case of the CRP) or farm plans (in the case of EQIP), the government⁵ estimates the expected environmental benefits that will result from each proposed farm action and scores each proposal according to the difference between the benefits that it is expected to generate and its expected cost. Projects whose scores exceed some threshold will then be funded. In the EU, by contrast, each of these farmers will be equally eligible for funds provided that they satisfy certain administrative regulations, but these regulations, and the farmers' eligibility, do not depend on the balance between the specific costs and specific benefits of the farmers' proposed actions.⁶

LFA payments illustrate the EU policy of targeting inputs rather than environmental outputs. Although these payments were originally designed to redistribute income and sponsor rural development, a side-objective has been to promote the environmental benefits purportedly created by retaining farmers on the land in these areas. It is assumed that farmers in the LFAs are producing environmental benefits by farming. For example, in steep mountain areas where terraces have been built and maintained, continued farming along traditional lines will generate positive environmental externalities relative to land abandonment, since soil erosion will result if the terraces fall into disrepair. However, farmers are able to receive LFA payments whether or not they maintain these traditional methods (in particular whether they maintain their terraces).⁷ The point here is that one of the goals of LFA payments is to mitigate a negative environmental output (soil erosion), but by conditioning eligibility for these payments only on the use of a specific input (i.e. the land input is in a LFA), the linkage between the programme and the objective is weaker than it would be if the payments were conditioned more directly on the output itself. Another related point is that the criteria used for determining LFAs are production-oriented rather than environmentally-oriented. If one agrees with the assumption made by many authors (Classen et al., 2001; Lafrance et al., 2000) that there is a negative correlation between land productivity and environmental sensitivity, then some LFA's may well not benefit environmentally from continued farming.

3 Attribution and implications⁸

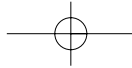
To determine the effect of these differences on the responses to trade agreements, we need to understand the underlying motivations for the alternative policy approaches to this non-trade concern: are these policies purely addressing environmental externalities, or are they being used as a means to transfer rent? If they are purely addressing externalities, global welfare might decrease if they were restricted by trade agreements. On the other hand, if they are merely a tool of rent-seeking (and particularly if they result in trade distortions), welfare may be increased if their use was limited.

We first ask whether these policies are purely a result of the different types and levels of externalities produced by agriculture. If this hypothesis holds true for the EU and the USA, it should hold true when comparing the various EU member states. The levels of various pollution types vary a great deal across the member state, and each country has a high degree of autonomy in setting its own policy priorities. Accordingly, we would expect that if policy variations can indeed be attributed to technological considerations, this pattern would also be apparent at the member state level.

Member states receive funds designated for so-called 'accompanying measures' from the European government. The states have the discretion to allocate these funds either to rural development projects or for agri-environmental payments. If supply-side economic considerations, such as factor endowment ratios, were a key determinant of European agri-environmental policy priorities, we would expect the percent of each country's 'accompanying measures payments' that are devoted to agri-environmental payments to be negatively correlated with land per capita, and positively correlated with indicators of intensive farming, and the environmental problems that result from it, yet the data provides little evidence of any such correlation. For example Luxembourg, Greece and Spain have among the highest levels of land degradation yet are in the lowest quartile when ranked in terms of agri-environmental expenditure as a percentage of all rural development expenditure (overall correlation coefficient between rank of land degradation and percent of agri-environmental expenditure was 0.20). In the Netherlands, a huge quantity of nitrogen is applied and the level of nitrogen balance, and hence run-off, is extremely high, yet it is in the median agri-environmental expenditure (the overall correlation coefficient between nitrogen balance and agri-environmental expenditure was 0.12). By contrast, Sweden is top ranked in terms of percent of rural development funding directed at agri-environmental payments, yet ranks close to the bottom in terms of most measures of intensive farming and the environmental problems associated with it. Indeed, since Sweden (and Finland as well) has more land per capita than the USA, an economic explanation of policy choices would conclude that the Nordic countries would spend more on land-retirement policies – which by their very nature discourage extensification – than even the USA. In fact, however, Swedish policy actively encourages extensification: the largest component of Swedish agri-environmental payments is the management of working pastures, meadows and leys (EC, 2003). While we cannot include the USA into the present comparison, it is worth noting that while a huge fraction (over 70%) of the US's water is devoted to agriculture, very few of its conservation programmes are directed at preserving this resource.⁹

One can also consider the targets of the agri-environmental programmes stated by the member states. Of the four countries that list reduction of nitrogen as one of their policy objectives, three are below the median in terms of nitrogen applied and nitrogen balance. Likewise, very few countries target soil erosion, even though it is a serious concern for many.

Our analysis suggests that these differences can only partially be attributed to different environmental externalities. Because EU and US agri-environmental policy orientations differ so dramatically, our welfare-theoretic criterion for an economic explanation can be satisfied in both regions only if there are commensurately dramatic differences in social preferences and/or production possibilities. Certainly, differences between the aggregate factor endowment ratios in the EU and USA could potentially explain, at least in part, why programmes in the relatively land-scarce EU tend to focus on pollution caused by



intensive versus extensive agriculture. However, the data we present above suggests that at the level of individual member states, there is little evidence of correlation between relative land scarcity, intensive agriculture and associated environmental problems, on the one hand, and, on the other, a high priority being assigned to the mitigation of such problems. We conclude that politics must also be playing a role and then develop the hypothesis that the distinct political structures in the EU versus the USA give rise to disparate policy outcomes. Specifically, we postulate that policy outputs are a result of a domestic bargaining game, and argue that the utility functions of the participants in the bargaining process, their relative political power and the structure of the bargaining process will all play roles in determining policy outcomes. The explanations differ, however, in the kinds of outcomes they predict: a decision-making process driven purely by economic considerations would result in policies that maximise some kind of social welfare function, given economic constraints, while a process driven primarily by political considerations will give rise to policies that distribute rents to bargaining participants, at the expense of social optimality.

4 Trade implications

Agri-environmental programmes have been viewed in both the EU and USA as a way to achieve two goals simultaneously: providing income support to farmers in a trade-friendly manner, while responding to the pressures and/or opportunities that agriculture creates for the environment. In the light of these twin objectives, what are the implications of the policy differences we have been discussing?

Agri-environment programmes can potentially serve as a substitute for commodity payments to farmers, benefiting trade by decoupling these payments from production. In this regard, the EU approach may have a greater potential for success than the US approach. Because it focuses on land retirement, the US approach is not well suited to providing support for farmers who continue to farm. By contrast, the EU's focus on the complements between agricultural production and the environment may politically facilitate the continued support of active farmers through the conversion of commodity payments into 'stewardship' payments. Moreover, the US approach, with its focus on specific, measurable environmental outcomes, is primarily designed to provide short-term funding for transitions to more environmentally friendly practices, rather than long-term income support for ongoing farming in an environmentally sound way. (As we discuss below, this bias in the US approach is problematic from an environmental policy perspective as well.) The EU programmes, by contrast, are designed to fund ongoing farm practices that meet certain, loosely defined environmental criteria. Indeed, by one estimate (Buller, 2000), these types of programmes comprise over a third of EU agri-environmental funds, and over half in a number of member states.

Whether or not agri-environment payments can effectively replace commodity payments also depends in part on the extent to which the recipients of the former overlap with the recipients of the latter. To the extent that they do not, political pressure to provide commodity payments in order to support rural incomes will not be assuaged by increases in agri-environmental payments. In the USA, many of the recipients of land retirement payments are either retired or hobby farmers, who would not otherwise receive federal support (USDA, 2001). In the EU, the degree of recipient overlap is less clear. Especially

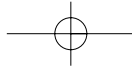
in the northern states, many farmers who receive commodity payments can (and do) also receive agri-environmental payments. On the other hand, many of the EU 'rural development' payments, whether LFA compensation payments or agri-environmental funds going to extensive farming, are targeted at farmers who do not receive large amounts of commodity support. Indeed, it appears that farm interests have supported conservation payments in part to expand the claimant group – and hence strengthen the lobby for continued payments from the respective agriculture departments – rather than as a device by which to decrease existing commodity payments.¹⁰

With respect to environmental goals, each region's approach has potential costs and benefits. The US focus on negative rather than positive externalities has wide-ranging ramifications. The negative externalities associated with agricultural production are generally seen as very specific, for example, soil erosion, nitrate run-off and water pollution. On the other hand, the positive externalities tend to be less easy to precisely identify, and therefore more difficult to measure, (for example, aesthetically-pleasing landscape, biodiversity and cultural heritage.) Because these positive externalities are hard to pinpoint, it is difficult to design policies that target them directly. For example, it is more straightforward to design and efficiently monitor a policy focused narrowly on reducing a particular type of pollution than one aimed at promoting biodiversity.

A problem with policies that are narrowly targeted and efficiently designed to realise a specific objective is that other, perhaps more diffuse by-products of the policy tend to be ignored. Indeed, reducing one negative externality may exacerbate another. For example, one criticism of land retirement programmes is that they have negative effects on rural development, by encouraging the depopulation of rural areas. Similarly, certain soil-erosion mitigation schemes, such as no-till, have been criticised because they increase chemical input use. On the other hand, the EU's approach of targeting input choices may not be the most efficient method of either mitigating negative externalities or promoting positive ones. In many of the EU's input-based programmes, farmers who make the same input choices will be equally eligible for funding, even though, because of other distinguishing circumstances, their choices may result in quite different levels of the environmentally valued outputs.

A related implication of this difference is that by targeting environmental outputs, the USA will tend to target farmer actions that have predictable (and preferably measurable) environmental outcomes. Thus, EQIP will fund the adoption of an environmental-friendly practice, but will not compensate a farmer for ongoing expenses associated with the same practice, if it was adopted some time in the past. Also, EQIP tends to fund one-time capital expenditures, such as manure storage facilities, windbreaks and fencing, rather than projects that require ongoing funding. Thus, the US focus on environmental outputs creates a bias in favour of actions that are expected to result in discrete changes in some tangible, measurable environmental output, and against actions oriented towards either less tangible, less certain or less measurable benefits or the long-term maintenance of environmental outputs that are already in place. It seems entirely possible that the net marginal environmental value of the latter kinds of project exceeds the marginal value of the former. In this sense, the US bias may be unfortunate.

One method by which future trade negotiations might attempt to limit policies addressing NTC, such as the environment, is by developing further restrictions around what programmes can be classified as 'green box' and therefore not subject to an expenditure cap. Currently all of the agri-environmental programmes discussed above are

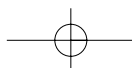


listed as falling into the 'green box' category of agricultural programme expenditure under the WTO. Although the name might mislead some to believing that the green box is for agri-environmental programmes, the primary criteria is that the subsidies are not tied to agricultural production. If a government sets up an environmental programme that specifically subsidises the production of a certain crop, for example, subsidising hay production, it might well be argued that the programme should be listed under the 'amber' box, and therefore included in the overall subsidy limit. That said, programmes that only offset increased costs of adhering to stringent environmental production regulations can also be considered to fall under the green box. Given that this notion contravenes the philosophy of 'polluter-pay', it will be interesting to see if this rule is challenged in the future. Certainly one can imagine how this rule could be abused – for example a country might subsidise any cost associated with production if it could be argued that the cost decreased environmental damage, even if the production method is one the producer would have used in any case. Imagine a farmer who has long used minimum till techniques. If her production costs were subsidised (for example, her purchase of a new airseeder), the government might classify this production subsidy as 'green box' since it is nominally aiding the environment. On the other hand, the attempt to only allow subsidies for practices over and above 'business as usual' practices is very difficult to police. For example, who determines what is 'business as usual'?

Due to the difficulties in identifying and quantifying externalities, it is understandable that the Uruguay Round only attempted to limit those policies that are production-distorting whether they were implemented in the name of addressing externalities or were purely a means of rent-transfer. That said, the exact rules that dictate which policies distort production need to be addressed for agri-environmental programmes. The WTO negotiations could determine whether the EU and USA will take a pure 'polluter-pay' approach, and therefore disallow all subsidies meant to offset the increased costs associated with reducing negative externalities, or not. Perhaps progress can also be made in determining what is the 'business as usual' baseline, and what magnitude of subsidies might be needed to induce an increase in the production of positive externalities and/or a decrease in the production of negative ones. Perhaps the dual approach of keeping policies addressing non-trade-concerns as minimally-production-distorting as possible while defining appropriate and transparent rules around those policies may be the best way to allow countries to address true externalities in an efficient manner while limiting the potential for these policies to be targeted by those engaged in pure rent-seeking.

5 Conclusions

In both the USA and EU, agri-environmental programmes have been viewed as a way of transferring income to farmers while conforming to trade agreements. The two regions have, however, approached the agri-environmental nexus in quite different ways. Firstly, programmes in the USA have focused on the negative environmental externalities generated by agriculture, while those in Europe focus on the positive ones. Secondly, to the extent that the EU does acknowledge negative externalities, it focuses primarily on those generated by agricultural intensification – excessive use of non-land inputs per unit of land – whereas the USA focuses on the extensive margin – excessive use of land. Thirdly, while US conservation programmes target environmental outputs such as soil



erosion or water pollution, the EU targets producer actions and input choices, with the consequence that EU environmental objectives are broader and often less readily measurable.

The two approaches to agri-environmental policies have different production and trade effects. The programmes in the USA will discourage production of crops on environmentally sensitive land, resulting in some decrease of those crops; however it may encourage intensification, and the commodities that are more easily produced using intensive farming methods. The EU, on the other hand, by encouraging extensive production, will presumably increase the output of those products that are best produced using these methods. The different approaches to agri-environmental policy also affect the degree to which the two regions can use agri-environmental programmes to offset commodity payments. This difference in flexibility will, in turn, affect how easily the two regions can accept a trade agreement that mandates greater reductions in trade-distorting price supports.

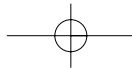
If the reasons for the differences are purely due to differences in externalities, there should be gains from specialisation in the two regions. If the different policies come from differences in factor endowments, for example, moving to a regime of free trade should allow each country to specialise in the goods in which they have a comparative advantage, and optimal environmental policy would probably differ between the two regions. If, however, the reasons for the differences in policy are primarily political, then there may be gains from changing the domestic policy bargain through trade agreements. By harmonising rules and restricting policy outcomes, trade agreements can limit the ability of groups to rent-seek. Since the differences are in part political, at least partial harmonisation of rules may lead to an increase in welfare.

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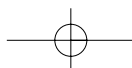
Including non-trade concerns

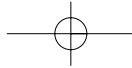
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Notes

- ¹ The addition of the CBO score for the average expenditure under the commodities and conservation title of the 2002 Farm Bill.
- ² Notably the EU has proposed to only offset increased costs associated with environmentally-sound production, however, compared to forcing producers to incur those costs, the subsidy will increase production.
- ³ 10–15 years for the CRP, 30 years for WRP.
- ⁴ By *ceteris paribus*, we mean that we do not take into consideration how a euro *might* have been spent if it had not been allocated to an agri-environmental policy. For example, an EU programme to promote organic production will clearly increase aggregate agricultural output *ceteris paribus*. However, to the extent that the euros allocated to this programme might otherwise have been allocated to a traditional production subsidisation programme, then the *net* effect of the reallocation might be to reduce aggregate agricultural output.
- ⁵ For the CRP, this is the USDA. EQIP applications are ranked at the state or local level, and sometimes by land-use.
- ⁶ The distinction we draw here must be qualified to take account of the Natura programme. This programme requires each Member State to designate a percentage of its agricultural land as environmentally sensitive and many states allocate a portion of their agri-environmental payments specifically to Natura lands. Natura recipients of agri-environmental payments have thus been 'pre-screened', in a sense: their Natura designation ensures that the land they are farming is above average on some environmental sensitivity scale. This kind of pre-screening is, however, a very coarse, macro kind of filter: it cannot, of course, take account of distinctions at the farm level, such as proximity to a water source.
- ⁷ Some member states have, however, introduced environmental regulations associated with LFA payments (Dax and Helleger, 2000).
- ⁸ For a more detailed discussion of attribution, please see Baylis et al., 2004.





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- ⁹ Interestingly, for the stated purpose of agri-environmental expenditure to reduce input use, those member states with the highest input use before the agri-environmental programmes came into effect (nitrogen and pesticide use from 1995–1997) did not tend to have the highest agri-environmental expenditures. Specifically, the correlation coefficients were very close to zero at 0.02 and 0.09 for nitrogen and pesticides respectively (OECD, 2002; EC, 2003; FAO, 2003; and authors' calculations).
- ¹⁰ It is also notable that payments for land retirement will only accrue to the land owner, not necessarily the land operator. Since over half of agricultural land in the USA is rented, these programmes are not suited to transfer income to many farm operators. On the other hand, paying producers to use less of the non-land inputs (e.g. fertiliser, pesticides, or to lower stocking rates) will result in (some) funding going to the actual operator. In cases where land is owned by many scattered relatives, this may be a more effective way to transfer income to the producer.

