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Multifunctionality: Implications for EU Policies

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(Preliminary Draft Final Paper for the book/conference)

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Abstract

Introduction

In the first chapter of this book, a broad set of theoretical issues associated with the design and implementation of trade, support and multifunctionality policies has been extensively examined and important inferences from economic theory have been drawn. The question of whether multifunctionality can justify farmers' support that might be trade distorting in its effect, an issue of concern in the WTO agricultural trade negotiations, has also been addressed. (Guyomard and Le Bris, 2003; Potter and Burney, 2002)

Guyomard and le Bris (2003) conclude that *“Provided corrective policies properly internalize positive and negative externalities, trade liberalization benefits all countries. If externalities are not adequately addressed, trade liberalization may not (be) beneficial to some countries but even in this case, which corresponds to reality, trade policies are unlikely to be second-best ways of dealing with positive or negative externalities. According to the policy targeting principle, non trade concerns (NTCs) associated with agricultural production should ideally be addressed through specific, i.e. targeted instruments. Even in this ideal world, such as in a first-best context, policies used to address NTCs are likely to be country-specific, reflecting differences in preferences among countries”*.

In contrast, as suggested by Van Huylenbroeck and Durand (2004), multifunctionality is viewed as a new paradigm for European agriculture and rural development that requires a fundamental rethinking of the position of agricultural activities within society and not as a justification for defending protectionist policies. In other words, policy intervention that ensures the “European Model of Agriculture”, by means of CAP type measures, is being justified under the assumption that all the three relevant questions posed by OECD (OECD, 2001; Guyomard and le Bris, 2003; Thomson, 2004) have been answered positively. More specifically, it is assumed here that a) there is jointness in the sense that the same farming activity produces more than one output, b) there is market failure in the sense that market transactions, for at least one of the jointly produced products (“public good” or “public bad”), are inefficient, and c) other market solutions that do not require state intervention are unavailable.

In brief, the objectives of this chapter are: to outline the implications for EU policies of the findings of our work on this theme, to present the final results of quantitative analyses concerning policy scenarios and their impacts, to review and discuss these results and to identify the broad policy implications of the work as a whole.

This draft paper intends a) to summarize results and b) to present some comments on relevant issues.

1. Multifunctionality and policy for agriculture and rural development

Environmental quality as a policy goal

In general, conservation and environmental quality provide a transparent and publicly acceptable basis for rural households' support that is also consistent with policy

reforms as agreed upon by the WTO. However, an efficient implementation of environmental policy in agriculture presupposes that environmental support is addressed to agricultural activities that provide particular benefits to the natural environment. A policy orientation toward adopting a clear environmental basis for support would probably imply a radical redistribution of payments from that which currently prevails under the CAP. Also, if farm payments are to be justified on the basis of a *wide spectrum* of environmental goals and indicators (biodiversity, landscape, historic features, water, soil and air quality), then, a significant proportion of agricultural holdings might qualify for assistance (Smith, 2001). However the critical issue in this context is perhaps where the 'reference level' of responsible farming practice lies, such that below this level no payment is justified whereas above it, there is an agreement that farmers should be rewarded for providing these public services.

Rural employment as a policy goal

According to OECD (1998) agricultural activity is supposed to have a strong impact on employment and income in either predominantly rural or significantly rural regions. In contrast Doyle, Mitchell and Topp (1997) consider that the OECD's thesis is valid only when: a) agriculture is highly interrelated with the rest of the economy at the local level (thus any decrease in agricultural support that leads to the reduction of farm output has a negative impact on off-farm employment), and b) any benefits attributed to agricultural support are concentrated in rural areas. What is implied here is that part of any benefits that stem from agricultural support is transferred to urban areas. With highly capitalized forms of agriculture as typified by large areas in several EU Member States, this part is likely to be quite significant.

It is likely that the goal of rural employment enhancement might be better served if total support is distributed among all economic activities at the local level instead of being focused on agriculture (Teagasc, 2004).

Trade concerns: WTO and the Doha Development Agenda

An agreement on a number of agricultural "modalities", which resemble the URAA framework, was reached at the Ministerial Meeting in Hong Kong in December 2005. The modalities deal was based on proposals already made concerning the three main "pillars" of discussions about agriculture, namely, domestic support, market access and export competition.

Following is an outline of the items agreed: (after Guyomard, Le Bris, 2003, Thomson, 2004)

- On market access - A further lowering of import tariffs, with the highest tariffs subject to the highest cuts along with a probable imposition of a maximum tariff, but all phased in over several years. Precise levels of cuts and 'sensitive' product exemptions are still to be agreed.
- On export subsidies - Phasing out of all export and all trade distorting subsidies by the end of the period of implementation (2013).

- On domestic support – no reconsideration of “Green Box” criteria. It is now likely that the new Single Farm Payment will be included in the “Green” rather than the “Blue Box”. A reduction of “Blue Box” aggregate domestic support, linked to production limits, by a certain percentage that is still to be negotiated.

A number of issues that have been characterized as “vital topics” by senior E.U. officials (food security, rural development, environmental concerns, social aspects, food quality, geographical indications, food safety, etc.) are related to the so called “non-trade” or “multifunctionality” concerns, (Guyomard, Le Bris, 2003). Although they have been specifically recognized they have not been given high priority in the negotiation process, to date.

2. Decoupled payments: The Single Farm Payment (SFP)

Definition

Decoupled agricultural subsidies are a means of supporting producers without essentially distorting agricultural production and trade. The Single Farm Payment (SFP) of the reformed CAP provides fixed income transfers while allowing for increased market orientation. Producers are therefore encouraged to make market based decisions about the type and level of production as the level of support is almost entirely unrelated to production levels. Any Common Market Organization (CMO) type of support, the level of which is based on the crop or livestock product under consideration as well as current prices, greatly affects and distorts producers’ decisions. In the past, “coupled” EU policy instruments have encouraged excess production, market price deterioration, high financial burdens, inefficient allocation of resources and international trade distortions. In contrast, SFPs have an impact mainly on household income and wealth, plus an effect on land use, in that their receipt remains dependent upon keeping a given area of land in Good Agricultural and Environmental Condition. Hence, in order to assess policy impacts and policy implications of the reformed CAP one needs to investigate the on and off-farm working decisions of agricultural holdings’ operators and examine the conditions under which such decisions may change. (Burfisher and Hopkins, 2004) However, one also needs to recognize that the implementation of decoupling will vary between EU Member States, with a few opting for full decoupling for all their major sectors by 2005 or 6, while others are retaining a significant proportion of coupled payments in some sectors, particularly beef.

Agricultural versus total household income

Today only a small percentage of the EU labour force engages in farming and farm families make up a small part of the rural population. In most rural areas non farm related economic activities account for a good part of total household income. In addition, the farm sector is characterized by specialization and concentration. The number of agricultural holdings has decreased dramatically in spite of the fact that the total area of agricultural land has remained fairly constant. The largest farms account for a very high value of EU agricultural production. Even after the 2003/2004 reform the distribution of CAP payments will continue to be skewed toward the producers who historically received substantial and product specific support. An important share

of agricultural holdings in the EU receives very little or no CAP payments. (Smith, 2001)

Agricultural activity is no longer the main source of income and employment in most rural areas. However, there are still areas in the EU that depend on agriculture. These areas will be those most affected by the implementation of the reformed policy. Even in areas heavily dependent on agriculture, a good part of CAP support, to a minority of rural citizens, escapes toward landowners who are likely to live outside the area, most probably in urban centres, or, by means of business dealings, toward firms situated further away. Due to a) the apparent diversification of rural employment and income sources and b) the prevailing distributional pattern of CAP support, it has been argued that farm household welfare as well as rural economic development is best served by the creation of non farm job opportunities. (Smith, 2001)

Support based on historical patterns

As it has well been established that agricultural land owners, who may not be operators, are the beneficiaries of a good share of total agricultural support, due to the process of capitalization of benefits into land values, one would expect that efficiency, as a policy goal, will not be well served by support which is distributed according to historical patterns. Past, present and expected future payments will translate into higher land rental rates which in turn will imply higher costs of production and loss of efficiency. If policy is addressed to accomplish goals related to multifunctionality, such as rural economic development, agri-environment, farm structures or even economic efficiency goals, a different distributional pattern should emerge with respect to agricultural support. (Smith, 2001)

Targeting

On the basis of the reasoning expressed above, one could argue that the new CAP, based on the notion of a single farm payment (SFP), designed to serve multiple goals, is not likely to meet any one well. One alternative would be to employ different policy instruments or mixes for different policy goals. More specifically, promoting environmental quality and safeguarding the economic viability of rural areas could perhaps be best served by the implementation of enhanced rural development (pillar 2) measures, for which such targeting should already be a clear policy attribute (Smith, 2001). Dwyer (2003) has made the point that in some respects it is already possible to see Pillar 2 measures as a more appropriate vehicle for pursuing the modern goals of the CAP, as re-defined by the Council following Agenda 2000, than Pillar 1 now appears to provide.

Effects of SFPs on the household's decisions

The flow of household income and expenditure, as presented in Figure 1, provides an explanation of the effects of SFPs on farm households. CAP decoupled transfers, along with a host of other income sources, contribute to total household income. On the basis of a number of socio-economic characteristics (age, preferences, wealth, family characteristics, location, role of institutions, etc.) every household decides how to allocate income between consumption and savings/investment. Households' decisions are affected by current and expected future SFPs alike. Households compare

possible alternative rates of return in order to decide about how to invest. They keep on investing on the farm until expected returns cease to exceed returns associated with off-farm opportunities. In theory, SFPs alone should have practically no effect on on-farm investment, nor affect production levels. However, SFPs might influence production decisions when market failures exist, such as credit constraints that prevent farmers from making profitable investments on the farm. In such cases, SFPs might make it possible for the household to proceed with an investment that, in turn, might lead to a small increase of production. (Burfisher and Hopkins, 2004) Practically, no agricultural policy tool, designed to support producers' incomes, appears to be entirely production neutral (OECD, 2001)

A multifunctionality policy promoting environmental benefits from extensive agriculture is highly related to the risk aversion behavior of farmers. As variability in the market for agricultural goods and thus the level of market risk increases, as implied by the abolition of coupled support and the adoption of the Single Farm Payment scheme, the degree of farmers' adoption of more intensive practices should decrease (Oglethorpe, 1995), bringing about some 'environmental dividend' in certain intensively farmed areas of the EU. At the same time, however, decoupling could decrease the incentive to farm in marginal areas including some of High Nature Value which are dependent upon the continuation of extensive farming systems, in which case some environmental disbenefits could result. Hence decoupling as a policy option is clearly insufficient, on its own, to provide a socially optimal level of environmental benefit from agriculture.

From the strict perspective of economic theory, there should be a clear distinction between policies designed to enhance farmers' incomes and welfare and policies intended to promote multifunctionality in agriculture. Policies aiming at income enhancement have a focus on the farmers' consumption abilities, whereas policies whose multifunctionality is the primary goal, are focused on farmers as producers of private and public goods. (Prestegard, 2003) However in reality, it is often the case that instruments designed for the former purpose have been reinterpreted in the latter context, and that conversely, agri-environment and other pillar 2 payments have been perceived as providing an element of income support, in many areas of Europe.

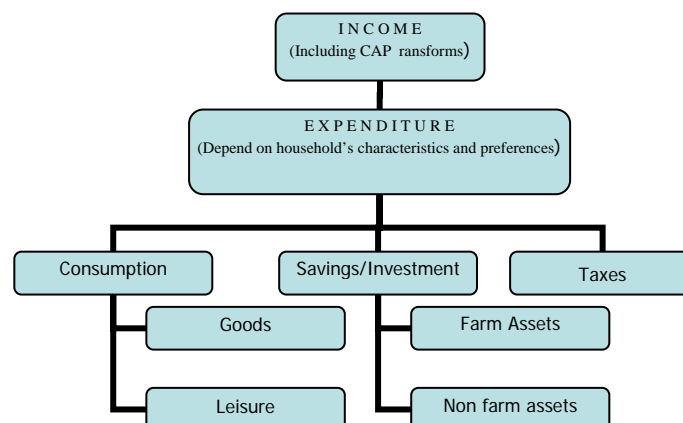


Figure 1. Flow of Household Income and Expenditure

Effects of SFPs on land values and land rents

It seems very likely that SFPs will have an impact on land values. In theory, the price (value) of any asset reflects future returns from its ownership. SFPs per producer stem from a fixed number of base hectares established during the period 2000-2002. The link between eligible hectares and payment rights in many countries will allow the future stream of SFPs to be capitalized into land values and therefore decoupled support, along with other factors, should have some positive effect on agricultural land prices (relative to no support). Decoupled support does increase the well-being of producers who receive it, especially when they own the eligible hectares that they cultivate. One has to acquire complete knowledge about the ownership patterns of eligible hectares in order to be able to determine the degree to which benefits ultimately accrue to the farm operator and the farm sector, or migrate to other destinations. Concentration of benefits among large holdings should also be examined more closely. (Burfisher and Hopkins, 2004)

Effects of SFPs on farm consolidation

It is possible that decoupled SFP's will allow marginally viable small agricultural holdings to remain in operation for a longer period than would otherwise be the case. This farm category might be able to cover variable expenses and thus remain in business in the short run. It is highly unlikely however, if not impossible, for such less efficient farms to stay alive in the long run due to rising land values and increasing competition. SFPs could offer a financial cushion enabling them to maintain their low-yield production thus preventing land consolidation. By contrast, SFPs could be used by larger producers to buy production rights along with the land that is required, thus triggering greater structural change than might otherwise have occurred. The more efficient producers are likely to adopt newer technologies and exercise better management techniques, thus raising yields and production levels. Therefore, the direction of the net effect of SFPs on consolidation is uncertain. One should bear in mind however that land consolidation is a process already underway and decoupled payments, under the new CAP, seem to have a marginal effect on yields and production. (- too early to be sure??Burfisher and Hopkins, 2004)

Effects of SFPs on farm labour

According to the 1999/2000 results of the Farm Structure Survey, of the 13.5 million persons employed in EU-15 agriculture only about a fourth (less than 25%) devote all their work time to their holdings. A report by EUROSTAT on the structure of agricultural holdings in the EU reveals that "*The importance of part time work varies widely across member states: from 90% in Greece and Italy to less than 60% in Belgium, Denmark, France, Ireland and the Netherlands. Amongst the family labour force, 83% work part time and 70% work less than half time-on the farm.*" (Linares, 2003) In general, part-time work increases with age, is more frequent amongst women, and is even more important on smaller holdings (90% for holdings with less than 5 hectares), permanent crops and mixed cropping. "*..the average proportion of people performing exclusively agricultural activities on the holding is seven in ten, for those under 35 years of age this ratio turns out to be only 56%. In other words, almost half of the holders aged less than 35 have another gainful activity.*" (Linares, 2003)

Holders of agricultural holdings and household members work less on the farm due to the “pull” process of work off the farm as well as the “push” process attributed to the adoption of labour saving technology and declining returns to domestic producers as a result of increased market competition across the EU and with producers outside Europe. It seems very likely that decoupled support, in the form of SFPs, will reinforce existing trends in this respect, thus leading to a further reduction of total work hours in agriculture. The introduction of decoupled support will probably leave larger commercial farms’ use of labour fairly unaffected, and similarly, those already highly pluriactive smallest farms, for whom agricultural income is now a minor share of total household income, seem unlikely to shed significantly more labour as a result of the SFP. It seems most likely that labour losses will be concentrated in those middle sized holdings where there is still scope to make cost savings through the adoption of less labour intensive farming systems or through economies of scale gained through farm enlargement.

3. Overview of policy effects on multifunctionality indicators

In general terms, the models used for the ENARPRI network predict significant structural and production (pattern) changes for agriculture under many scenarios, but this doesn’t always mean big changes for multifunctionality indicators, or much change by comparison with underlying trends.

The **French** work estimated that the June 2003 reform as it is now applied to France should not substantially change the past trends relative to the decrease in the number of farms and the concomitant increase on the economic size of farms. It should slightly increase farm and regional agricultural specialization, as well as off- farm employment. Its impact on land abandonment, voluntary set aside and extensification (except for in meat production) should be very small, as the reform includes several ‘correction mechanisms’ for these sectors and issues. By contrast, a fully decoupled CAP reform scenario should, relative to the first scenario, accelerate the decrease in the number of farms and increase in economic size of farms. It should also lead to more significant land abandonment and voluntary set aside, notably in intermediate areas and LFAs. Extensification in beef production, farm and regional agricultural specialization, as well as off-farm work should also increase. Full decoupling extended to the dairy and sugar sectors, without export subsidies and with increased access to EU markets for foreign products, is likely to amplify these impacts. This is because of (i) the free transferability of production quotas and (ii) the likely decrease in domestic prices induced by lower exports (due to the ending of export subsidies) and increased imports (from improved access to the EU market). If, in addition, decoupled income support subsidies are reduced by 50%, all these impacts would be still more important. In that case the main determinant (of what?) would be the reduction in farm profits.

The **Irish** work suggested that pollution levels, input usage and income all decline as total agricultural output volume falls with the decoupling of subsidies from production. Declines were expected under the baseline scenario (agenda 2000) but these all become more significant with full decoupling. For example, fertiliser usage is projected to decrease by 8 percent by 2012 relative to the level recorded in 2002. Under the alternate scenario, i.e. with the advent of full decoupling, animal numbers decline further, livestock production is set to become more extensive and there is a

further decline in fertiliser usage. Relative to 2002 it is projected that by 2012 it will fall by 12 percent, or a further 4 percent below the predicted level in 2012 under the Agenda 2000 Baseline.

The **Finnish** work indicated that under the 2003 CAP reform, milk production in northern Finland would reduce substantially and extensify, and beef production and grassland area would decline across the whole country. At the same time, the cropped area is predicted to decline significantly as more land is put into 'green' set-aside (ie fallow), particularly in the centre of the country (in the north it grows slightly and in the south declines only a little). These effects all reduce pesticide usage and lower nitrogen and phosphorous surpluses in the short term, but a strong regional concentration of beef and dairy production under the 2003 reforms in central Finland will lead to increased nutrient loading in these regions by 2015. The growth in fallowed land is positive for habitat biodiversity across the country but biodiversity as measured by the Shannon index is negative in all but northern Finland because land use diversity in most regions is reduced by the reforms. Cross compliance is predicted to increase both biodiversity measures relative to the 2003 reform scenario, while reducing decoupled support by 20% apparently has little impact. Farm incomes per farm are predicted to increase under all scenarios, but total farm income will decline in the north as the incidence of agriculture in this region declines. Farm employment will decline slightly more than the baseline, under all scenarios.

The **Czech** work, examining eight categories of farm in three regions, suggests a trend towards more extensive production in all scenarios. Labour input falls, particularly on more productive farms which are more profit-orientated, about 75% of the total. Output is expected to fall and there is a risk of land abandonment, although this could be tempered by a well designed LFA policy.

The **Greek** work focuses both at a national level and a region in Crete. Decoupling appears to lead to a reduction in output and in labour but relatively little land abandonment. Some of the environmental projections are negative, especially where there are major reductions in decoupled payments.

Considering first the environmental indicators and their responses to the scenarios, the predictions of the models indicate some positive and some negative impacts of decoupling. Lower market prices, *ceteris paribus*, will tend to lead to extensification (especially in livestock sectors), thus this would imply environmental benefits for water, greenhouse gases, biodiversity and landscapes in intensively farmed situations/regions. However, the same trend would imply greater environmental risks in extensive (marginal) habitats where loss of stock could threaten the viability of traditional management systems and thus implications for biodiversity and landscapes could be negative. However, the models also suggest marked inter-regional shifts and indicate that some effects are only temporary (eg with regard to input use levels in Finland). In sum, the models suggest a highly complex environmental story in relation to the impacts of decoupling – this is also the view of experts in this area (eg GFA-RACE/IEEP, 2004).

On the socio-economic side, the models tend to indicate some trends towards reduced levels of farm employment and lower farm incomes (only in some models) but there are very different eventual implications of these changes, depending upon other

sectors' abilities to respond. For example, in an otherwise buoyant rural economy a shrinkage in farm employment can be positive because it signifies redeployment of labour into more profitable uses, whereas in an otherwise stagnant rural economy it can be a problem because labour lost from farming may simply increase unemployment. The story is different for the Czech republic (and probably other New Member States) because in these countries the phasing in of pillar 1 support may well stimulate an expansion in the farm sector, leading to both positive and negative impacts upon sector employment, depending on the precise nature of this expansion. This effect is likely to dwarf the effect of decoupling because in most of these countries, governments have been operating a simplified Pillar 1 payment system rather than the sector-specific direct payments under the main regimes, and in those few countries which had implemented the P1 system in full (including the Czech republic), this experience will have been relatively short-lived.

When considering the multifunctionality impacts of scenarios which include the expansion of pillar 2 type supports alongside decoupling, the indicators are for potentially better results, but only if these measures are targeted to meet anticipated needs. It should be noted that relatively few teams were able to model this pattern, though. An expansion in agri-environment schemes (as modelled in Finland and the Czech republic) generally tends to imply positive environmental benefits, but in the case of Greece where most current pillar 2 aid is devoted to enhancing agricultural competitiveness, an expanded pillar 2 implies negative environmental impacts. In both cases, where farm employment was examined, the impacts of expanded pillar 2 were negative for this indicator; however it is known that this is highly dependent upon the precise design of pillar 2 measures and that some, including agri-environment schemes, are known to have positive impacts upon farm employment (Dwyer and Kambites, 2005).

These are perhaps the main messages, in considering the likely impacts of the Doha round on multifunctionality. **THIS NEXT PARAGRAPH NEEDS EXPANSION with more detail from the papers.**

An increase in market access combined with lower market prices in the EU for many commodities would tend to suggest a contraction in the domestic farm sector – ie fewer farmers in EU producing lower levels of agricultural output. At the same time, there are likely to be both pros and cons for the quality and diversity of the rural environment, the pattern of which will be highly dependent upon the farming systems currently in place in different regions and subregions of Europe, as well as broader factors such as rural demography and non-farm economic opportunities. In respect of broader social implications of the trade round, it seems clear that there will be adjustments as a result of Doha which could lead to locally negative and positive effects, the balance of which will again be highly dependent upon the nature of the local economy in each particular region or subregion. It also seems likely that the trade round will take place against a background of continuing accelerated structural change in the New Member States which is largely the result of accession to the EU rather than primarily about international factors.

The findings of the modelling work in relation to Pillar 2 policies are inconclusive, largely because these policies vary considerably between different areas and many are difficult to model in a precise way because the causal relationships between measures

and impacts are only partially understood and generally cannot be reduced to basic production, price and input responses (as with pillar 1 measures). However, from the limited results of the relevant modelling exercises and from wider literature review, the implications of the Doha round would tend to be that there is a need for policymakers to seek to use the resources available for P2 actions in a clearly targeted way in future, designed to promote the positive and minimise the negative impacts predicted as a result of P1 decoupling. However, these findings have to be seen in the context of current and perhaps more significant domestic issues as regards the future scale and direction of P2 support in Europe. These issues include the agreement on the EU budget 2007-13 in December 2005, and the impact of planned enlargement to embrace Bulgaria and Romania in 2007.

4. Issues that call for consideration and analysis

The conclusions that we can draw from this exercise might be as follows:

- Current models which seek to predict the response of agriculture in particular countries to likely changes in policy as a result of the Doha round, can examine impacts upon a broad range of potential indicators of multifunctionality.
- In overview, the majority of predicted results in relation to multifunctionality indicators are plausible from the point of view of informed expert understanding, as measured by the predicted direction and scale of change. However in some instances there can be unexpected anomalies which appear to be due to shortfalls in the modelling process rather than real-life challenges to the expert views. In sum, the models tend to adopt rather simplistic, standardised relations between farm sector change and the variety of multifunctionality indicators and, as with most modelling of this kind, the predicted outcomes are very dependent on the assumptions made in defining these relations.
- The models tend to pick up simple functional relationships – for example where certain environmental impacts can be portrayed as negative externalities such that more farming generally means less environment in a simple trade-off relationship – but they do less well where impacts are more complex than this. They are also more able to deal with linear relationships that can be objectively defined than with context-sensitive relationships where the perception of impacts is contested. Finally, the national-level modelling approaches have limited ability to pick up spatially differentiated responses whereas the regional ones tend to suggest that regional and even subregional variability of responses will be highly significant for multifunctionality.
- Because the models that we have examined here are mainly nationally or regionally defined with their own unique methods, their results not strictly comparable across Member States or regions. Nevertheless, some comparisons may be valid in the context of expert interpretation of their overall findings.

Notwithstanding these points, it would seem worth developing more sensitivity to these issues in future trade modelling / policy analysis work, so that the EU's international negotiators can draw upon these resources in considering options and negotiating details of agreements.

This suggests a need to improve multifunctionality models at the country or regional level so that their predictions can more fully inform wider debates. At least three areas of improvement would seem particularly worthwhile: firstly introducing spatial variation into the national models so that differential impacts on regions and subregions can be explored, and secondly attempting to build in dynamic representations of impacts upon other sectors beyond the farm gate, in examining

wider socio-economic aspects of multifunctionality. Finally, as pillar 2 policies start to become a more significant feature of the CAP at national and regional levels within EU Member States, there will be an important need to identify better means to incorporate the impacts of these policies upon sectoral and wider changes, within the models used, if multifunctionality issues are to be adequately examined.

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