Multifunctionality, agricultural trade and WTO negotiations : a review of interactions and issues

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A REVIEW OF INTERACTIONS AND ISSUES

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When the Doha Round was undertaken in November 2001, non-trade concerns (NTCs) were specifically recognised and integrated into the negotiation process, albeit to a limited extent. In a general way, multifunctionality opponents see arguments put forward by the multifunctionality proponents as an attempt by the corresponding countries to resist agricultural trade liberalisation and continue protecting and supporting agriculture. This paper contributes to the debate by considering the broad set of issues associated with the design and implementation of trade, support and multifunctionality policies in the hope providing policy-makers with a notion of the issues and the trade-offs involved.

1. Non-trade concerns and multilateral agricultural negotiations

NTCs in the Uruguay Round

The Uruguay Round Agreement on Agriculture (URAA) was concluded in 1994 and WTO member countries had until 2000–01 to implement it. Although the concrete consequences of the URAA on world agriculture and agricultural support worldwide have only been very modest over the six-year implementation period of 1994–95 to 2000–01, its significance should not be underestimated. The move away from open-ended price support in agriculture and the placement of agriculture on the agenda of the current round of multilateral negotiations, the Doha Round (Vanzetti, 1996) is of major importance. Of equal significance is the definition of a negotiation framework under the form of three main areas (market access, export competition and domestic support) to deal with agricultural issues. In other words, the Uruguay Round (UR) has resulted, if not in much effective agricultural liberalisation, at least in a framework to build on in the next rounds of agricultural negotiations and in particular in the Doha Round (Swinnen, 2001).

The preamble of the URAA stated that NTCs, including food security and the need to protect the environment, had been taken into account in formulating the agreement. Article 20 of the URAA committed WTO member states to pursue the reform process. Under the so-called 'built-in agenda', WTO member countries agreed that negotiations for continuing the reform process would be initiated one year before the end of the implementation period of the URAA with the long-term objective of substantial progressive reductions in support and protection while taking into account NTCs. Preliminary talks were incorporated into the broader negotiating agenda set at the 2001 Ministerial Conference in Doha, Qatar. According to Paragraph 13 of the Ministerial Declaration adopted on 14 November 2001, agricultural

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negotiations aim at substantial improvements in market access, along w ith reductions of (with a view to phasing out), all forms of export subsidies and substantial reductions in trade-distorting domestic support. Paragraph 13 explicitly recognises that special and differential treatment for developing countries shall be an integral part of all elements of the agricultural negotiations and that NTCs shall be taken into account. According to Paragraph 14, modalities for the further commitments on the agricultural dossier should have been established no later than 31 March 2003, and the agricultural negotiations should be included in the conclusion of the negotiating agenda as a whole, i.e. no later than 1 January 2005 (WTO, 2001).

Inclusion of commitments on domestic support in the URAA was an important breakdown, since it explicitly recognised that domestic policies do link to international trade. In practice, the URAA differentiates domestic support policies according to their perceived abilities to impact on production and disrupt trade flows.

- Green box policies correspond to domestic farm programmes that are deemed to be minimally trade-distorting and as a result, are exempted from reduction commitments and expenditure limits. Eleven types of green box policies are distinguished, and for each type, specific guidelines define the eligibility of the programme for the green box.[1] One category refers to decoupled income-support, which is defined by three main requirements, i.e. (i) clearly defined eligibility criteria for a fixed base period; (ii) payments not related to the volume of production, prices or factors of production in any year after the base period; and (iii) no requirement to produce in order to receive payments.
- Blue box policies correspond to direct payments under production-limiting programmes and are also excluded from reduction commitments. To be included in the blue box, direct payments must be based on fixed area and yields, or made on 85% or less of the base level of production or in the case of livestock payments, made on a fixed number of head. The US target price/deficiency payment that was in place before 1996 was a blue box programme. The arable area and livestock payments currently in place in the EU are also blue box programmes. Although blue box payments can potentially distort trade, they are allowed under the premise that supply-limit criteria partially offset the subsidies' incentives to over-produce and disrupt trade (Burfisher, 2001).
- Amber box policies are defined by 'default'. They correspond to all the measures that are not classified as green or blue. The agreement provides for a 20% reduction of countries' aggregate levels of amber domestic support during the six-year implementation period from an agreed base corresponding to the average of the period 1986–88.[2] This commitment applies to the whole of the agricultural sector rather than to just individual products. In addition, within the amber box, some programmes can be exempted from reductions if their amounts are considered too small to count. These exemptions are referred to as '*de minimis*' exemptions.

[1] The eleven categories are 1) general services; 2) public stockholding for food security purposes; 3) domestic food aid; 4) decoupled income support; 5) government financial participation in income insurance and income safety-net programmes; 6) disaster payments; 7) producer retirement schemes; 8) resource retirement schemes; 9) investment aids; 10) environmental payments; and 11) regional assistance.

[2] Amber box support reduction commitments are 13.3% for developing countries.

NTCs in the Doha Round

The negotiating proposals of WTO member countries as well as the various compromise drafts presented by the WTO Secretariat in February 2003, March 2003 or August 2003 adopted the URAA framework. In a general way, they include specific commitments on market access, export competition and domestic support. On the domestic support dossier, the second draft paper on the modalities for the further commodities presented by the WTO Secretariat in March 2003 (the so-called 'Harbinson 2' paper) proposes:

- a 60% cut in the aggregate measure of support (AMS) for amber box policies over five years, with all amber box support continuing to be aggregated for all products as under the Uruguay Round;
- either a 50% reduction of the blue box support over five years or the abolition of the blue box by including all support of the blue box in the country AMS; and
- the retention of the green box, but with a tightening of conditions for including payments into the green box. These tightened conditions mainly relate to compensation criteria corresponding to government participation in income insurance and income safety-net programmes, payments for relief from natural disasters, resource retirement programmes and structural adjustment assistance. In addition, the draft compromise expands the scope of paragraph 12 of Annex 2 of the URAA (payments under environmental programmes) by explicitly including animal welfare programmes.

European Union (EU) Agriculture Commissioner Franz Fischler and EU Trade Commissioner Pascal Lamy reacted to this paper as follows:

> We fully appreciate Mr. Harbinson's efforts. But we do not see this draft as bringing the WTO Members closer. Harbinson 2 is largely identical to the first draft. Severe imbalances remain. We have tabled substantial and ambitious proposals on all items under the Doha mandate (domestic support, export support, market access). We have moved our domestic policies in the right direction, and we should continue to do so in the future. We do hope that realism will also prevail over unrealistic expectations in Geneva. As Mr. Harbinson himself proposes, technical work on export credits, food aid, special safeguard[s] for developing countries or non-trade concerns must now continue to maintain the dynamic process of the negotiations. We also believe that tariff preferences, crucial to many developing countries, and the rationale of the domestic support classification (the 'boxes') have to be further examined. The EU remains fully committed to a substantial outcome of the negotiations on agriculture within the parameters of the Doha Declaration.[3]

A few days later, while regretting that WTO members failed to meet the 31 March 2003 deadline to agree on the modalities for the WTO agriculture negotiations and noting that the EU had done its homework to move the WTO agriculture talks forward, the EU Agriculture Commissioner criticised the notable absence of NTCs in the Harbinson draft: "For societies from Mauritius to Malta, from Bangladesh to Sri Lanka, farming is also about concerns about the environment, food safety, safeguarding the supply of food and protecting the rural way of life. The Doha Declaration clearly states that they have to be an integral part of these negotiations" (European Commission, 2003c).

Although there is still considerable confusion within WTO member states about what is really meant by the term 'NTCs' or its synonym 'multifunctionality', all countries agree that agriculture and agricultural producers provide food and non-food outputs. Some non-food

[3] See European Commission (2003b)

outputs are not (or only very partially) valued by market transactions and hence, can be under-produced (in the case of positive non-food outputs) or over-produced (in the case of negative non-food outputs) relative to what society may desire. Multifunctionality proponents claim that production-linked payments are necessary to obtain socially desired non-food benefits because of the jointness relationships between agricultural production and non-food benefits. They also argue that countries should have more flexibility in the design of domestic policy relative to what is currently provided by the provisions of the URAA green box. On the other hand, multifunctionality opponents argue that the current green box provides sufficient flexibility to address non-food benefits with the least distortions on trade. Multifunctionality is not a sufficient basis for continuing to pursue production-linked policies, i.e. trade-distorting policies according to the URAA classification of support policies. In their view, non-food benefits are better addressed through specific instruments directly linked to public goods or positive externalities (targeting principle) or both.[4]

As noted by Bohman et al. (1999), the WTO (or more precisely, the URAA) does not make judgements about countries' agricultural policy objectives under the condition that the policy instruments implemented to achieve these objectives have no, or at most minimal, trade distortion effects or effects on production. So far, analysis of policy design for multifunctionality has mainly been conceptual, even if the analytical framework developed by the Organisation for Economic Cooperation and Development (OECD) can be helpful to provide some preliminary policy guidance (Lankoski, 2003). According to the OECD (2001), the simultaneous analysis of supply and demand aspects of multifunctionality is necessary in order to arrive at appropriate policy guidance for multifunctionality. On the supply side, the issues are the degree of jointness between the commodity and non-commodity outputs and the way this degree of jointness can (or could/should) be modified. After all, if commodity and non-commodity outputs are non-joint, the latter can be supplied independently of the former. This does not mean that there is no rationale for government intervention, in particular if non-commodity outputs are positive/negative externalities or public/bad goods, but in that case, domestic NTCs can be pursued largely irrespective of trade considerations. On the demand side, the issues are the externality and public good aspects of non-commodity outputs (such as problems of their measure and valuation or problems exacerbated by the fact that non-commodity outputs are generally demanded simultaneously). Building on this analytical framework, the three questions to be addressed are thus, according to the OECD (2001):

- "Is there a strong degree of jointness between commodity and non-commodity outputs that can not be altered, for example, by changes in farming practices and technologies or by pursuing lower cost non-agricultural provision of non-commodity outputs?"
- "If so, is there some market failure associated with the non-commodity outputs?"
- "If so, have non-governmental options (such as market creation or voluntary provision) been explored as the most efficient strategy?"

The OECD clearly recognises that "the information requirements implied by answering this series of questions may be onerous, and that completely unambiguous answers may not always be forthcoming. Availability of information could itself affect policy choices."

[4] On this point, see OECD (2001), Paarlberg et al. (2002), Burrell (2002) or Lankoski (2003).

Multifunctionality as a sufficient basis to pursue trade-distorting agricultural policies?

In practice, the main question to be answered may thus be expressed as follows: is support to farmers justified as remuneration for the non-marketed services that society expects farmers to provide? An intimately related question is: are trade policies or production-linked support policies or both efficient tools to address NTCs?

Multifunctionality opponents do not contest that agricultural producers provide commodity and non-commodity outputs. They also do not contest that countries have the full sovereign right to choose the domestic policy objectives they wish to pursue. They only contest the choice of policy instruments used to meet these objectives, rejecting those policy instruments that have significant trade distortion effects.

Trade and domestic support policies can have a negative impact on other countries by increasing domestic production, reducing domestic consumption, increasing export supplies, reducing import demands and depressing world prices. In addition, insulation of the domestic market transmits domestic supply and demand variability to greater variability in world markets and prices (ABARE, 1999). The welfare enhancing effects of trade liberalisation are often invoked by the opponents of agricultural protection in general and of the multifunctionality argument in particular. For multifunctionality opponents, countries promoting trade policies or production-linked support or both on a multifunctionality basis are close to their AMS bindings and the multifunctionality argument ultimately amounts to hidden or disguised protectionism (Bohman et al., 1999).[5] They see no reason not to follow the 'standard' policy recommendations, which consist of letting market forces freely determine the level of production, consumption and trade of private goods while simultaneously addressing externality and public goods provision through targeted policy instruments, decoupled from production of commodity outputs and coupled to the provision of non-commodity outputs. In other words, trade liberalisation is welfare-improving, provided optimal domestic policies are in place to deal with positive and negative externalities. This assessment of course raises the questions of the identification, measurement and valuation of positive or negative externalities. To put it another way, this raises the question of policy design in a second-best world where positive and negative externalities are very unlikely to be fully addressed, i.e. internalised.

2. What lessons can be drawn from economic theory?

Multifunctionality proponents identify three main NTCs associated with agricultural production, namely food security, the viability of rural areas, and environmental and natural resource protection. They also state that these three NTCs are not only positive externalities, but also public goods.

An externality corresponds to a situation where the action of one economic agent influences either the well-being of another consumer or the production possibilities of another producer in an indirect way, i.e. in a way that is not transmitted by market prices. An externality can be positive (for example, when the action of an agricultural producer increases the well-being of some consumers or decreases production costs of other producers) or negative (for example, when the action of an agricultural producer decreases the well-being of some consumers or

[5] As noted by Burrell (2002), the proponents of multifunctionality have certain characteristics in common: they are developed countries where agriculture represents a small share of the gross domestic product (GDP) but where agriculture is still the largest land user; agricultural production is intensive and organised in small to medium-sized family farms, where agricultural support policies are important.

increases production costs of other producers). As the economic agent does not reap all the benefits of positive spillovers and does not support all the costs associated with negative spillovers, positive externalities tend to be under-supplied relative to what society desires and negative externalities tend to be over-supplied. There is a market failure owing to the fact that market prices do not include all the benefits and costs of externalities. As a result, there is room and legitimacy for a government intervention in order to enhance positive externalities and to reduce negative externalities. Pure public goods are defined by two characteristics: they are non-rival (consumption of the good by one person does not reduce the consumption available to another person) and non-excludable (once the good has been provided to one consumer, it is not possible to prevent other people from consuming it). All public goods are externalities, but all externalities are not public goods. Furthermore, a public good can increase or decrease the well-being of agents. In the first case, it is really a public 'good'. In the second case, it is a public 'bad'.

Identification, measurement and valuation issues

The previous paragraph immediately raises the question of identifying the externalities associated with agricultural production. Negative side effects associated with agricultural production essentially correspond to environmental effects. They include odour, nutrient runoff, pollution from herbicide and pesticide use, soil erosion, biodiversity loss, wildlife habitat loss, etc. Positive side effects associated with agricultural production include food security (availability of food at the national level and for all the people within the country), viability of rural communities and positive environmental spillovers such as watershed protection, flood control, soil conservation, biodiversity, wildlife habitat, open space, scenic vistas, etc. Sometimes, they also include 'social' elements such as traditional country life or cultural heritage. Are all these side effects really externalities? If so, are they really associated with agricultural production?

Rude (2000) recognises that these are external effects or public goods stemming from both food security and viability of rural areas. These are not, however, external effects associated with agricultural production. For Rude, food security is not a positive externality associated with agricultural production because the externality-generating mechanism lies on the consumption side. Agricultural production is only a substitute for other sources of supply such as imports or stocks. In the same way, although viability of rural areas can be related to agricultural production, it is not an externality associated with agricultural production as the externality-generating mechanism is employment. Agricultural employment is only one source of employment in rural areas. Rude pursues this argument by noting that coupled production subsidies are neither appropriate nor effective intervention tools to address food security and the viability of rural areas. Bohman et al. (1999) arrive at the same conclusion. For these authors, "there is a range of policy instruments that are more appropriate to addressing food security concerns than reliance on domestic production through government support to agriculture". They quote public stockholding, support for research, extension and training, infrastructure services, temporary or emergency income assistance and domestic food aid. In the same way, the viability of rural areas will be more efficiently addressed by direct intervention rather than trade policies, or coupled production subsidies or both. More generally, direct intervention should serve "to upgrade the quality of life in rural areas and help make them attractive to urban-oriented clusters". It particular, it should ensure that rural areas are not disadvantaged in terms of access to public services and facilities (transportation, communication and education) or in terms of activity location, or both.

Of course, multifunctionality proponents reject this analysis and these conclusions arguing, for example, that food security is a by-product of domestic agricultural production, as the latter provides an insurance against possible supply disruptions, particularly in times of crisis or war. Some multifunctionality proponents go one step further by adding that "support coupled to production seems to be the most efficient way of ensuring a sufficient production level of public goods to the extent that these public goods are joint products of the agricultural production" (Lindland, 1998). Unfortunately, this claim is not formally demonstrated.

What the previous discussion clearly shows is that there cannot be an unambiguous resolution to the problem of identification (Bredhal et al., 2003). In that context, cost-benefit analysis can be of some help to choose among alternative regulation mechanisms. This idea implies that it is possible, at least in an approximate way, not only to identify the externality, but also to measure and value it. It also implies that it is possible to measure the benefits and costs for both the generators and the recipients of the externality, including foreign countries. Although economists have developed ways to value externalities, one must immediately recognise that valuation poses serious difficulties. As Randall (2002) notes, the task required exceeds the scope of previous valuation efforts. This problem leads some economists to recommend the use of 'second-best' approaches, such as cost-effectiveness rankings, to select among alternative policies (Bohman et al., 1999).

Externalities and economic theory

In what follows, we assume that the externalities associated with agricultural production can be identified, measured and valued. In that context, what lessons can be drawn from economic theory, more precisely from welfare economics theory?

Glebe and Latacz-Lohmann (2003) use a two-country, two-commodity output and one non-commodity output model, where the non-commodity output corresponds to a positive or negative production externality associated with the production of one of the two commodity outputs. They use this analytical framework to determine the first-best and the second-best trade and environmental policies, initially from a global point of view (maximisation of world social welfare) and then from a domestic point of view (maximisation of domestic social welfare). Trade policy instruments are restricted to tariffs or subsidies while environmental policy instruments are limited to taxes or subsidies.

Let us first consider the results obtained when the objective function is global, social-welfare maximisation. These can be summarised as follows:

i. The globally optimal, first-best trade policy is free trade, where the environmental externality is fully internalised using the standard Pigouvian tax or subsidy.

ii. When the trade policy is fixed, i.e. when trade is not free, the globally optimal environmental tax or subsidy differs from the standard Pigouvian instrument, as it should take into account the distortion induced by the trade policy measure.

iii. In the same way, when the environmental policy is given and different from its Pigouvian value, there is room for a trade policy to take into account the fact that the environmental policy is not necessarily optimal.

Now we consider the results derived under the assumption that only domestic social welfare is maximised. These can be summarised as follows:

i. The domestically optimal, first-best policy is a tariff/subsidy on imports/exports to modify the terms of trade effects and a Pigouvian tax/subsidy in order to fully internalise the environmental externality.

ii. When the trade instrument is predetermined and considered as an exogenous parameter, the second-best Pigouvian tax/subsidy should take into account the fact that the trade policy is not necessarily optimal.

iii. Symmetrically, when the environmental policy is considered as given, the second-best tariff/subsidy on imports/exports should take into account the fact that the environmental policy is not necessarily optimal.

First-best results are well-known.[6] Second-best results are more interesting. They show that free trade is no longer the globally optimal policy when the externality is not fully internalised. Symmetrically, as long as international trade is not fully liberalised, the standard Pigouvian tax/subsidy does not maximise social welfare because it does not take into account distortion effects induced by the trade policy instrument. These results do not, however, question the fact that free trade is optimal when appropriate domestic policies are in place to deal with positive and negative externalities, i.e. when externalities are fully internalised. This last result immediately raises the question of the possibility of implementing the first-best policy, even in this simplified framework, with only two commodity outputs and one non-commodity output.

More generally, it raises the question of the optimality of second-best policies when, for various reasons, the first-best policy cannot be implemented. A well-known result of the second-best theory is that as long as there are distortions in an economy, any attempt to address one particular restriction may in fact reduce social welfare. Applied to the multifunctionality issue, this result means that as long as trade and production distorting agricultural policies remain, any attempt to fix the negative/positive externality problem by a tax/subsidy or another regulation may in fact (at least theoretically) reduce social welfare. The reverse also applies. As long as agricultural positive/negative externalities remain unresolved or only partially and imperfectly resolved, agricultural trade policy reforms may (at least theoretically) reduce social welfare. From a political point of view, this analysis also raises the question of the sequencing of reforms, if for various reasons (political reasons in particular), all necessary reforms from a theoretical point of view cannot be simultaneously implemented. This can be summarised by the following sentence quoted from Burrell (2001): "should trade be liberalised first before optimal policies to internalise externalities are in place or should trade reform wait for optimal policies to protect for the provision of positive externalities [as well as the reduction of negative externalities]".

Paarlberg et al. (2002) confirm the Glebe and Latacz-Lohmann results by showing that multifunctionality never justifies trade policies. They assume that agricultural production generates the non-market outputs that society values. The home country social-utility function depends thus on the consumption of one non-agricultural composite good (the *numéraire*), the consumption of the various agricultural goods and externalities (E_j, j from *1* to k) linked to agricultural outputs (q_i, i from *1* to n). They assume that each externality increases social welfare, but the effect of a particular agricultural output on the various externalities is not restricted in sign. Several conclusions can be derived from first-order conditions that define the Pareto outcome (maximisation of domestic social welfare).

[6] See, for example, Krutilla (1991), who shows that in the large country case, the optimal trade policy is imposed to reflect international market power, while a tax is levied to correct the pollution externality.

- First, the presence of externalities in the domestic social utility function does not free justify trade policies. International market power is the only justification for a non-zero trade policy. As a result, for a small country, which cannot affect world prices, there is no room for trade policies and free trade is the optimal outcome.
- Second, externalities linked to agricultural outputs justify a price wedge between the marginal rate of substitution in consumption and the marginal rate of transformation for the various agricultural products. This result is obtained without imposing a fixed relationship between one agricultural output and one particular externality.
- Third, policy alternatives can be ranked. In the small country case, these can be ordered as follows: 1) first-best, producer subsidies or taxes reflecting the domestic externalities combined with trade; 2) second-best, no producer interventions combined with free trade; and 3) third-best, trade intervention only. In the large country case, these can be ranked as follows: 1) first-best, producer subsidies or taxes reflecting the domestic externalities combined with trade interventions arising from the nation's international market power; 2) second-best, trade interventions only; and 3) third-best, no producer interventions combined with free trade.
- Fourth, interventions are country-specific because externality valuation is country-specific. As a result, optimal interventions will be at different levels in each country.

In addition, Paarlberg et al. define a strategy to 'practically' address agricultural externalities in WTO negotiations. The strategy they propose mimics the approach adopted in the UR on the domestic support dossier, by following a three-step approach: the definition of a conceptual framework (the AMS); multilateral negotiations on policies to be included in this support measure; and agreement on reduction commitments. For dealing with multifunctionality in WTO negotiations, they also propose a three-step approach consisting in, first, the identification of externalities associated with agricultural production, second, the valuation of these externalities and third, the measurement of the specific linkage between each externality and each agricultural output.[7] They argue that "payments determined this way would be counted as green box even if production-related". It is clear that such a strategy will be very difficult to implement in practice. As shown in the previous section, there is clearly no consensus among countries about the definition of the positive or negative externalities associated with agricultural production. Valuation is difficult and controversial, as well as the measurement of the relationship between one specific externality and agricultural production.

Fullerton (2001) develops a very simple analytical framework that can be used to compare efficiency (measured here in terms of the optimal amount of pollution) and distributional effects of eight types of environmental policies, including command and control (CAC) instruments as well as incentive instruments. He shows that the eight instruments can be designed to have the same efficiency effects but that they have very different distributional consequences. The model used by Fullerton corresponds to a closed economy. Nevertheless, his main conclusion (in reality, a very well-known result) immediately relates to the case of an open economy: different environmental policies can be used to achieve the same results on pollution, but they generally differ in terms of distributional effects. This conclusion raises two questions in the context of the debate on trade-multifunctionality interactions and the various instruments that can be used to address NTCs. The first is that agricultural trade reform is welfare-improving for each participant in each country only if there are

[7] In a more recent paper, Bredhal et al. (2003) provide further discussion on these three steps (conditions), i.e. issues of identification, measurement and valuation, and the linkage to output.

compensating transfers from gainers to losers. The second is that Fullerton's conclusion, more generally the optimality of free trade (providing that optimal domestic policies are in place to deal with NTCs), rests on several assumptions, in particular one time period, perfect certainty, perfect competition and no transaction costs. In that context, the second part of Fullerton's paper is particularly interesting since it discusses other criteria outside the simple models that have to be taken into account for further evaluation of policy choices. These criteria include:

i. economic efficiency measurement (Fullerton measures economic efficiency in terms of the optimal amount of pollution while economic efficiency also requires minimising the cost of achieving the optimal abatement);

ii. administrative efficiency (minimising administrative costs to government and compliance costs to firms and taxpayers);

iii. monitoring and enforcement (measurement of the regulated pollutant in a way that discourages evasion);

iv. information and uncertainty (characterisation of efficient policy in an imperfect world with information asymmetry and uncertainty);

v. political and ethical considerations, in particular political feasibility;

vi. equity and distributional effects (net effects on different demographic categories, for example young and old, rural and urban or rich and poor);

vii. other distortions, in particular because markets are far from being perfect; and

viii. flexibility and dynamic adjustments. This point is particularly relevant in the context of trade-multifunctionality interactions. It relates to the 'flexibility' criterion, i.e. the flexibility of the government to adjust policy rules as information, measurement and valuation improve as well as the flexibility of the economy to adjust production of commodity and non-commodity outputs.

3. Conclusion

From the previous discussion, it is possible to summarise as follows what economic analysis says about first-best and second-best policies when governments are welfare-maximising and there is perfect information and competition. Provided corrective policies properly internalise positive and negative externalities, trade liberalisation benefits all countries. If externalities are not adequately addressed, trade liberalisation may not 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 (Sturm and Ulph, 2002). According to the policy-targeting principle, 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.

These normative conclusions rest on several assumptions. In particular, in the context of the multifunctionality dossier, they rest on the assumptions that there is an unambiguous identification of externalities associated with agricultural production and that these externalities can be properly measured and valued. Assigning monetary values to externalities is necessary to assess the full costs and benefits of trade policy reforms, as well as domestic policy reforms or corrective mechanisms aiming at decreasing external effects or increasing the provision of amenities. Yet one must clearly recognise that research on this point is still in

the early stages. As a result, normative research must be completed by positive approaches. Quantitative analyses should be developed to assess the potential impacts of agricultural policy reforms on NTCs and inversely, the potential impacts of 'multifunctionality' policies on agricultural production and trade. Cooper et al. did this exercise for the United States by first evaluating the environmental effects in the US of a trade liberalisation scenario involving the elimination of all agricultural policy distortions in all trading countries (Cooper, Peters and Claassen, 2003), then by quantifying the effects of US agri-environmental payment policies on US agricultural trade (Cooper, Johansson and Peters, 2003b).[8] Many environmental effects, however, are not included in these analyses. More generally, they do not consider other aspects of multifunctionality related to food security and rural development.

[8] The second analysis shows in particular that US agri-environmental programmes have very small effects on trade. In other words, they are minimally trade-distorting and hence can rightfully be considered as green box measures.

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ENARPRI is a network of European agricultural and rural policy research institutes formed for the purpose of assessing the impact of regional, bilateral and multilateral trade agreements concluded by the European Union or currently under negotiation, including agreements under the WTO, EU accession, Everything But Arms (EBA), EuroMed and Mercosur. It also addresses the wider issues of the multifunctional model of European agriculture and sustainable development of rural areas. Participants in the project include leading national institutes and research teams from 13 countries (11 EU member states and 2 accession countries).

AIMS

- Creation of an institutional structure linking key research institutes with major benefits for improved exchange of information and policy analysis both in the short and long run,
- Development of improved tools for impact assessment,
- More effective impact assessment of trade agreements on a variety of important social, economic, and environmental indicators and an assessment of multi-functionality, and
- Clearer analysis of the need for EU policy adjustments.

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- **FAL**, Federal Agricultural Research Centre (Germany)
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