



# CAP reform and development

Introduction, reform options and suggestions for  
further research

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14 May 2011

## Acknowledgements

This paper is funded by the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the Bill & Melinda Gates Foundation.

This note has been written by Nicola Cantore, Jane Kennan and Sheila Page and includes comments and suggestions by Alan Matthews, Dirk Willem te Velde, Chris Stevens and Katherine Foy. The note forms part of a wider research programme on CAP reform funded by the Gates Foundation. The paper was discussed at a workshop on 31 March 2011 in Brussels.

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## Abbreviations

ABBREVIATION	Description
CAP	Common Agricultural Policy
CGE	Computable General Equilibrium
DG Agri	Directorate-General for Agriculture and Rural Development
EC	European Commission
EU	European Union
FAO	Food and Agriculture Organization
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GE	General Equilibrium
GEM	World Economy Group
GTAP	Global Trade Analysis Project
IFOAM	International Foundation for Organic Agriculture Movements
ITC	International Trade Centre
LDC	Least-developed Country
MFN	Most-favoured Nation
OECD	Organisation for Economic Co-operation and Development
PCD	Policy Coherence for Development
PE	Partial Equilibrium
PPP	Purchasing Power Parity
PSE	Producer Support Estimate
RASE	Royal Agricultural Society of England
RoW	Rest of World
SAPS	Single Area Payment Scheme
SOM	Soil Organic Matter
SPS	Single Payment Scheme
TFA	Tenant Farmers' Association
TSE	Total Support Estimate
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
US	United States
WTO	World Trade Organization



## Executive summary

This paper reviews the European Union's (EU's) [Common Agricultural Policy](#) (CAP), considers how current CAP reform options might affect development and suggests a range of activities that might be helpful to gain a better understanding of how the CAP, and its reform, may affect development.

The CAP is an EU policy created to protect agriculture throughout the EU by influencing prices, output and farmers' incomes. Some payments, albeit a minority, are intended to support the production of public goods. Currently, the CAP is based on a two-pillar structure – [Pillar 1](#) and [Pillar 2](#). The CAP is funded from the EU (European Commission (EC)) budget and accounts for roughly 40% of total EU budgetary expenditure. Pillar 1 support includes both [direct payments](#) to farmers and [market management measures](#). Pillar 2 support focuses on improving the structural and environmental performance of agriculture and on promoting local/rural development. Pillar 2 also requires Member State co-financing.

The EC's Communication on 'The CAP towards 2020' (EC, 2010a) outlined three options for the future CAP and launched the formal debate with the other European institutions, with Member States, with farmers and with other members of the public. CAP reform will be happening at the same time as negotiations on the multiannual financial framework for 2014-2020 and at a time when World Trade Organization (WTO) negotiations are addressing agricultural protection. The legislative proposals on CAP will be tabled by the EC in November 2011, accompanied by an impact analysis which will also cover any effects on development under the mandate for Policy Coherence for Development (PCD).

### Past CAP reform

The CAP has been reformed considerably over the past two decades. The 1992 [MacSharry reforms](#) reduced the level of market price support and introduced direct support and gave prices a stronger role in determining production. The [Agenda 2000](#) reforms made a small further reduction in market distortions and introduced an environmental focus. The 2003 reform was marked by decoupling most direct payments from production to give clearer market signals to farmers. It also strengthened [rural development](#) policy, including a 5% reduction in direct payments — modulation — to fund an increase in spending on rural development. Decoupled payments are now the most important direct payments. The most recent reform was the 2008 [Health Check](#), which introduced short-term adjustments in the European regulations.

These reforms have led to some major changes in practice. While the CAP budget has remained at around €50 billion over the past 15 years, it decreased as a percentage of the EU budget from 70% in 1985 to around 40% in 2009. The wider estimate of agricultural support used by the Organisation for economic Co-operation and Development (OECD), the [total support estimate](#) (TSE), was around €100 billion per annum over the period 1986-2009; the [producer support estimate](#) (PSE) decreased as a percentage of agricultural output from 40% in 1986 to 25% in 2009. Coupled direct payments decreased from 77% of total CAP payments in 2004 to 15% in 2008; decoupled payments grew from 3% to 68% and rural payments from 15% to 18%.

### Current CAP reform options

Any discussion on the development implications of CAP reform will need to start by identifying and quantifying the CAP reform policy options. As these options have not yet been spelt out in detail, we need to discuss possible interpretations before we examine the impact of these options on developing countries.

- Key decisions to be made about CAP reform include:

- The level of overall CAP payments: it is likely there will be no major change to total payments, but this depends on the multiannual financial framework discussions for 2014-2020;
- The redistribution of direct payments (Pillar 1) across Member States: we discuss different types of criteria for this;
- Whether there should be greater targeting of the Pillar 1 payments at environmental objectives;
- The extent of any stronger focus on environmental and climate change objectives, which could be achieved by moving away from income support and most market measures (increases in Pillar 2 support at the expense of Pillar 1);
- Extension of the menu of Pillar 2 measures to include, for example, climate change mitigation and risk management instruments.

## Effects of CAP and other agricultural policy instruments

Different CAP-related instruments have different effects on different types of countries and products.

- **Import tariffs.** Most-favoured nation (MFN) tariffs are still high, e.g. 54.6% for milk, 34.6% for grains and 32.5% for meat. This is a key measure of protection not covered by CAP reform but it is being negotiated in the Doha trade negotiations and is affected by EU free trade agreement (FTA) negotiations. Lower tariffs would help developing country exporters that face MFN tariffs, depending on the elasticity of supply, but hurt consumers depending on imports of food and increase preference erosion for countries that have trade preferences (e.g. least-developed countries (LDCs)). The net effect of reducing these would be positive for the rest of the world (RoW), but could be negative for some countries or groups.
- **Export subsidies.** The EU paid €1.0 billion in export subsidies in 2008 and €650 million in 2009. These have been used most recently for dairy products; they remain a policy option, although the EU has offered to end them as part of its Doha offer. Developing country consumers would lose from a reduction in export subsidies, but producers and exporters whose products have been displaced by EU exports would gain. The net effect of removing them would be negative, but could be positive for some countries or groups.
- **Intervention price.** Public intervention at fixed prices remains in principle for cereals, beef and veal, and butter and skim powder, but only for quantities fixed in advance or at very low prices. Since 2009-2010, cereals apart from soft wheat have not been eligible for intervention.
- **Coupled payments.** These are an addition to the price received for EU products and EU production will increase. The increase in demand for EU production represents a shift from imports (because of the reduction in the EU price relative to imports). The effects on developing countries are a reduction in net exports and income, with an increase in real income for consumers not offsetting the fall in income to suppliers.
- **Direct payments.** Approximately 80% of CAP payments are made to farmers without a direct link to current production, but with conditions which require that the land remain usable for farming. The criteria for distribution of these payments vary among EU countries. Direct payments will increase EU supply, but the form of the relationship depends on farm costs. This will lead to a reduction in net EU imports, and hence a decrease in developing country exports and lower world prices, and hence lower costs for developing country importers of CAP-affected products.
- **Pillar 2 payments.** The economic effects on developing countries are unclear, as this depends on how much these payments are related to extra spending by farmers; the environmental implications may be positive for developing countries.



- **Switch of CAP payments from old to new EU Member States.** If there is just a shift between producers of the same product, there might be little effect on the RoW, unless the amount of production affected by farm payments (the region of the supply curve for which the farm payments determine production) varies between old and new Member States. For this, we would need evidence on the distribution of costs of production in each region.
- **Where to look for major effects of EU agricultural policy on developing countries.** The products most affected by the principal agricultural policy instruments are dairy, meat and grains, so it is countries for which exports or imports of these are important that will be most affected. But tracing the effects by country and by group within country would require knowing which products see changes and their supply and demand elasticities in the EU and in the RoW.

## Suggestions for further research

- 1 A useful study and one that needs to be done quickly would be a literature review of assessments of the impact of different CAP instruments on non-EU countries, to identify how different methodologies have been used to analyse effects on EU output, trade and prices and then the impact of these on world prices, output and income. This review would need to cover case studies and partial equilibrium and general equilibrium models. It could also identify any general conclusions from studies on how developing countries are affected by changes in EU trade volumes and prices; how this might affect their production, consumption and other economic structures; and how countries respond to these effects. It could build on the recent general review of studies of agricultural liberalisation by Anderson et al. (2011).

More detailed studies will be needed in the next few months on some issues. The first step would be to agree **a set of CAP reform options** for simulations. Two options seem particularly important: 1) redistribution of CAP payments from East to West; and 2) redistribution from Pillar 1 to Pillar 2 payments.

We should then undertake a series of studies in two areas. First we need a set of specific assessments of the development effects of CAP reform options taking into account previous changes to CAP. And secondly, we need to examine CAP in the light of a changed context of food price variability, food security, climate change, Europe 2020, Policy Coherence for Development and the multi-year financial framework for EU spending over 2014 -2020.

Specific studies on development effects of CAP:

- 2 In order to assess the possible development effects of CAP reform options, one approach could be to model the impact of the current CAP and of different CAP reform options on income, growth and the environment in order to perform a quantitative evaluation of the impact of CAP reform options on EU and developing countries. Computational general equilibrium (CGE) models and/or econometrics could allow us to identify where there may be significant effects, both in the EU and in developing countries. Modelling studies exist, but these need to be updated and adapted for the current CAP reforms.
- 3 There is a clear need for a more thorough literature review of studies of direct payments, followed by CGE modelling and other types of analysis to identify the nature and size of their effects on EU production. This would mean a mapping of effects of direct payments.
- 4 Because of their direct impact on EU trade and prices, there is a need for a study of EU export subsidies and export refunds (despite their lower size and the EU's offer in the Doha trade negotiations to abolish export subsidies). We could look for changes in the pattern of prices/production following export subsidies (e.g. chicken, dairy).
- 5 The broad agreement that there may be large effects at sector or country level means that studies at this level are needed. Sectoral studies could cover dairy, beef, chicken,

sugar and some grains. Country studies would examine how the range of EU agricultural policies affects a specific country. Countries could be chosen to test for various types of difference, e.g. depending on preference or FTA schemes; composition of imports or exports; or economic structures. Uganda has been suggested, but also Ghana, Cameroon, Malawi or the South and Central American countries most likely to be negatively affected. This could include household-level analysis.

The evolution of CAP in the wider context: contextual studies

- 6 CAP reform does not happen in isolation. We need to understand the CAP in the new context of food security and other possible changes in public perceptions about EU agricultural trade. If Europeans feel less secure, this might imply they want to buy 'local' food. But there is also a range of other issues (e.g. the EU's financial framework) which need to be explored at the same time. This study would provide contextual background to CAP reform.
- 7 It is important to examine links between the CAP and commodity price volatility.
- 8 It could also be useful to undertake some political economy analyses. What are the relationships of CAP reform with Doha (and regional) negotiations? How does the example of allowing European views on the nature of food security to be reflected in the CAP emphasis on European production for European consumption affect policy responses in other countries? What agricultural regime in the EU would contribute most to a good international trading and production regime? Will the new role of the European Parliament in trade policy mean more attention to consumer concerns, such as food quality, or to the interests of well-organised pressure groups, such as farmers, and less emphasis on macroeconomic policy, including trade interests?
- 9 Would there be any effect on developing countries from greater environmental conditionality ('greening') of Pillar 1?
- 10 There is also a suggestion that a monitoring mechanism for future CAP changes is needed to implement policy coherence effectively. What should this look like? How could it identify ways to counter negative effects?

# 1 Introduction

This note reviews the European Union's (EU's) Common Agricultural Policy (CAP), considers current CAP reform options and suggests a range of activities that might be helpful to gain a better understanding of how the CAP, and its reform, may affect development. The European Commission's (EC's) proposals on the CAP do not deal with EU tariffs on agricultural goods, but support measures under the CAP are linked inextricably to the structure of tariffs. These are now the principal tool of agricultural policy and, by restricting entry to the EU market, they determine the size of internal market interventions and subsidies required to attain the objectives of the CAP. This note therefore includes these as part of existing agricultural policy.

The Europe 2020 strategy aims to offer a new perspective, and the EU must therefore pay attention in its impact assessments to the development implications of changes in the CAP – although it is not clear whether Policy Coherence for Development (PCD) requires the EC to consider the impact of the CAP as a whole on development or just changes in it, or whether it requires the EC to adjust policies on agriculture or on development assistance to respond to any costs to development that are identified. European agricultural policy is a complex mix of interventions on a range of products, and both the nature of the sector and the importance of food purchases to different groups are changing in developing countries. As such, identifying the impact on developing countries as a group, on individual countries and on particular groups or sectors within each country is likely to give a range of answers as to the size and even the direction of effects on economic welfare.

There may also be indirect effects (Matthews, 2011). Any impact of CAP policies on the EU's position in multilateral or bilateral negotiations or on the success of these negotiations may have effects on developing countries. The way in which the EU defines its objectives in agriculture may also influence what other countries consider to be suitable policy approaches. This note can describe only some of these paths without knowledge of how wide the scope of the assessment is likely to be.

The CAP must be reformed by 2013, and any new policy must fully incorporate the most recent EU Member States. The EC's Communication on 'The CAP towards 2020' (EC, 2010a) outlines three options for the future CAP and launches the debate formally with the other European institutions, with Member States, with farmers and with other members of the public. The EC is currently engaged in scenario analysis and is likely to present legislative proposals for reform by November 2011. CAP reform will be happening while negotiations on financial perspectives for 2014-2020 are ongoing (to be decided around mid-2011), with implications for its budget.

The current discussion on CAP reform covers many issues that might affect developing countries, including size and distribution of the CAP budget; balance between Pillar 1 and Pillar 2 funds; and types of policy instrument that will be included following CAP reform.

Any discussion on the development implications of CAP reform starts out by identifying policy options for reform. But as these options have not yet been spelt out in detail, we need to discuss possible interpretations before we examine their impact on developing countries. While a literature is emerging on the impact of policy reforms on EU countries, there are few recent studies dealing specifically with impacts on developing countries. The current project aims to fill this gap. In this pursuit, this note is a preliminary overview of the CAP, its reform, its potential effects and some options for a future research agenda.

The structure of the note is as follows. Section 2 describes the CAP and past reforms to it. Section 3 explains proposed CAP reform options for the period after 2013. Section 4 presents a conceptual framework for analysing the impact of CAP reform options and wider agriculture trade measures on developing countries. Section 5 provides a preliminary guide to data analysis, with the aim of informing future research on the quantitative impact of CAP reform on developing countries. Section 6 concludes with a number of possible research avenues for the future.

## 2 The CAP: a historical description

### 2.1 The pillars of CAP

The CAP<sup>1</sup> is an EU policy created to protect agriculture throughout the EU by influencing prices, output and farmer incomes, including subsidies to protect the rural/agricultural community. It accounts for roughly 40% of total EU budgetary expenditure. Currently, the CAP is based on a two-pillar structure, with each pillar funding different policies in different ways.

Pillar 1 support includes both direct payments to farmers and market management measures. Expenditures are predetermined and funded fully by the EU; Paying Agencies are reimbursed by the EU on an annual basis. Pillar 1 measures are set centrally and apply across the EU as a whole. Direct payments account for around 80% of the CAP budget.

Pillar 2 support focuses on improving the structural and environmental performance of agriculture and promoting local/rural development. It is co-financed by Member States and the EU Budget. Expenditure is programmed at Member State/regional level and involves multiannual commitments to beneficiaries (mainly farmers) based on the programmes that are in place. There are three main axes in this pillar:

- Axis 1: improving the competitiveness of the agriculture and forestry sector (measures for farm modernisation, the setting up and use of advisory services, participation in food quality schemes, adding value to agricultural and forestry products, etc.);
- Axis 2: improving the environment and the countryside (e.g. agri-environmental programmes);
- Axis 3: improving quality of life in rural areas and encouraging diversification of the rural economy (measures for diversification into non-agricultural activities, tourism activities, conservation and upgrading of rural heritage, etc.).

### 2.2 Recent CAP reforms

The CAP has undergone significant reforms since the early 1990s, with the aim of reducing market distortions or making them more acceptable at the international level. The most important recent steps of CAP reform can be summarised as follows.

**1992.** The MacSharry reforms reduced the level of market price support and introduced direct support. These reforms included production limits to address surpluses; rural development measures with an environmental focus; and mandatory land set-aside. The main purpose of the MacSharry reforms was to give prices a stronger role in determining production.

**1995.** The World Trade Organization (WTO) Agreement on Agriculture introduced the first international regulation of agricultural support. This required countries to reduce agricultural support and protection by establishing disciplines in the areas of market access barriers (trade restrictions facing imports); domestic support (subsidies and other programmes that raise domestic agricultural prices and farm income); and export subsidies.

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<sup>1</sup> See Appendix A for a glossary of CAP terminology.

**2000.** The Agenda 2000 reforms made a small further reduction in market distortions and introduced an environmental focus. They encouraged single EU countries to adopt a comprehensive rural development policy, which built on earlier reforms, and further reductions in intervention prices, which were compensated for by direct payments.

Spending on environmental and public goods remains a minor pillar of the CAP, with much less investment than the other pillars. As pointed out by Zahrnt (2011), less than 10% of the CAP budget is being invested in clearly 'green subsidies' during the 2007-2013 period.

**2003.** The 2003 reform was marked by decoupling some direct payments from production to give clearer market signals to farmers. It also strengthened rural development policy, including a 5% reduction in direct payments – modulation – to fund an increase in spending on rural development. The rationale behind the introduction of decoupled payments was that, if direct payments to farmers were not related to production, they would not be distorting (see Appendix B). As noted below, a link remains because the payments can go only to farmers who keep their land in 'good agricultural condition', which is interpreted by the EC to mean ready to produce.<sup>2</sup>

**2008.** The most recent reform was the 2008 Health Check, which introduced short-term adjustments in European regulations. It includes the following elements (the Directorate-General for Agriculture and Rural Development (DG Agri) describes the Health Check reforms in detail)<sup>3</sup>:

- **Phasing out milk quotas:** milk quotas will expire by April 2015. A 'soft landing' is ensured by increasing quotas by 1% every year between 2009/10 and 2013/14.
- **Decoupling of support:** the 2003 CAP reform 'decoupled' most direct aid to farmers, i.e. payments were no longer linked to the production of a specific product. However, some Member States chose to maintain some 'coupled' – i.e. production-linked – payments. These must now be decoupled and moved into the [Single Payment Scheme](#) (SPS), with the exception of suckler cow, goat and sheep premia, for which Member States may maintain current levels of coupled support.
- **Assistance to sectors with special problems (so-called Article 68 measures):** currently, Member States may retain by sector 10% of their national budget ceilings for direct payments for use for environmental measures or improving the quality and marketing of products in that sector. This possibility will become more flexible. Funds will no longer have to be used in the same sector: they may be used to help farmers producing milk, beef, goat and sheep meat and rice in disadvantaged regions or carrying out vulnerable types of farming; they may also be used to support risk management measures such as insurance schemes for natural disasters and mutual funds for animal diseases. Countries operating the [Single Area Payment Scheme](#) (SAPS) system will also become eligible for the scheme.

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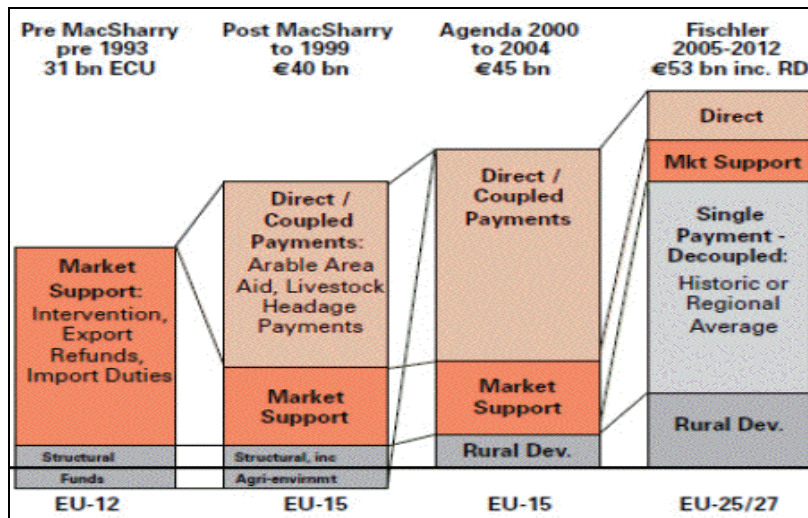
<sup>2</sup> To claim under the SPS farmers must hold SPS entitlements. They must also have an eligible hectare of land for each entitlement they decide to claim payment on and this land must be at their disposal on 15 May of the scheme year. They do not need to undertake any agricultural production in order to receive the SPS payment but, whether or not they produce, they will still need to comply with EU standards covering public, animal and plant health, environmental and animal welfare (known as 'cross-compliance') on all agricultural land (whether they claim on this land or not). SAPS is a simplified scheme and was proposed for the new Member States, ten of which have implemented it. It involves the payment of uniform amounts per eligible hectare of agricultural land, up to a national ceiling laid down in the Accession Agreements.

<sup>3</sup> [http://ec.europa.eu/agriculture/healthcheck/index\\_en.htm](http://ec.europa.eu/agriculture/healthcheck/index_en.htm)).

- **Extending SAPS:** EU members applying the simplified SAPS will be allowed to continue to do so until 2013 instead of being forced into the SPS by 2010.
- **Additional funding for EU-12 farmers (traditional Member States):** €90 million will be allocated to the EU-12 to make it easier for them to make use of Article 68 until direct payments to their farmers have been fully phased in.
- **Using currently unspent money:** Member States applying the SPS will be allowed either to use currently unused money from their national envelope for Article 68 measures or to transfer it into the Rural Development Fund.
- **Shifting money from direct aid to rural development:** Currently, all farmers receiving more than €5,000 in direct aid have their payments reduced by 5% and the money is transferred into the rural development budget. This rate will be increased to 10% by 2012. An additional cut of 4% will be made on payments above €300,000 a year. The funding obtained this way may be used by Member States to reinforce programmes in the fields of climate change, renewable energy, water management, biodiversity, innovation linked to the previous four points and accompanying measures in the dairy sector. This money will be co-financed by the EU at a rate of 75% and 90% in convergence regions where average gross domestic product (GDP) is lower.
- **Abolition of set-aside:** The requirement for arable farmers to leave 10% of their land fallow has been abolished. This will allow them to maximise their production potential.
- **Two conditions ('cross compliance') related to environmental protection:** Under Good Agricultural and Environmental Condition, all farmers claiming direct payments, whether or not they actually produce from their land, must abide by standards to be established by the Member States. Under Statutory Management Requirements, farmers must comply with EU Directives and Regulations relating to the protection of the environment; public, animal and plant health; and animal welfare.
- **Intervention mechanisms:** Market supply measures should not slow farmers' ability to respond to market signals. Intervention will be abolished for pig meat and set at zero for barley and sorghum. For wheat, intervention purchases will be possible during the intervention period at the price of €101.31/tonne up to 3 million tonnes. Beyond that, it will be done by tender. For butter and skimmed milk powder, limits will be 30,000 tonnes and 109,000 tonnes, respectively, beyond which intervention will be by tender.
- **Other measures:** A series of small support schemes will be decoupled and shifted to the SPS from 2012. The energy crop premium will be abolished.
- **Investment aid for young farmers:** Investment aid for young farmers under rural development will be increased from €55,000 to €70,000.

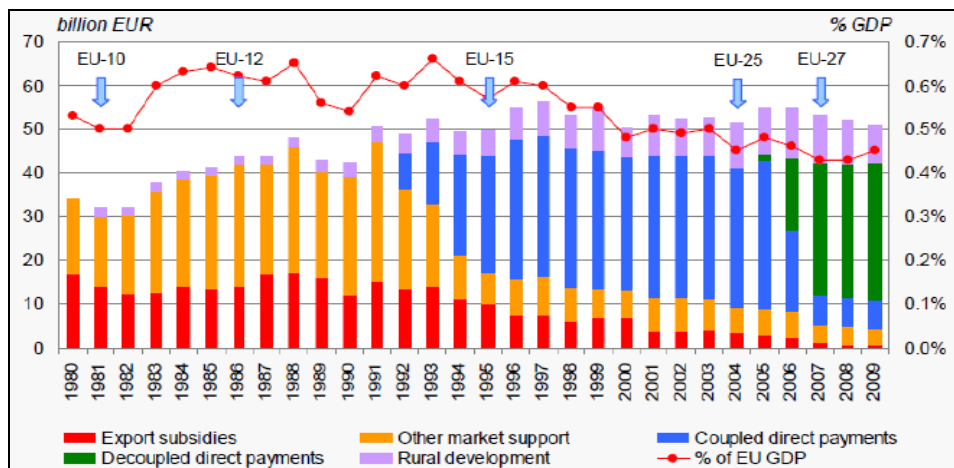
The above reforms have made substantial changes in the structure of the CAP. Figures 1, 2 and 3 show respectively changes in the CAP's structure, the fall in the importance of market mechanisms in Pillar 1 and the ways in which different member countries have chosen to distribute Pillar 1 and Pillar 2 funds. Table 1 shows the change in direct payments from coupled to decoupled support.

Figure 1: Changes in CAP support relating to major reforms



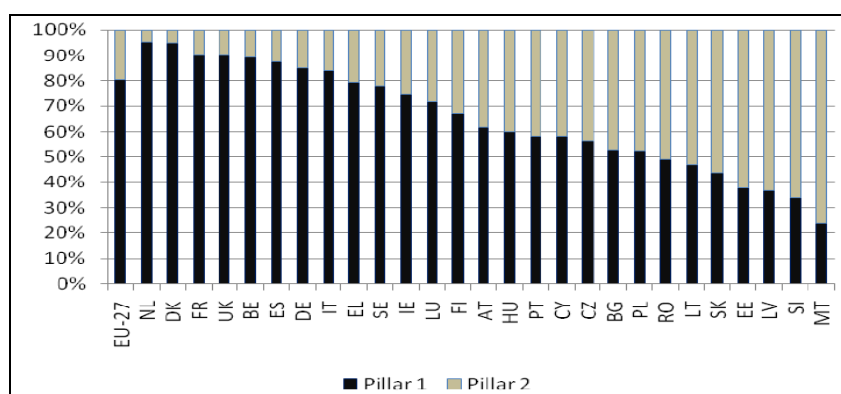
Source: HSBC Forward Planning 2010 ([www.hsbc.co.uk/](http://www.hsbc.co.uk/)), also summarised in RASE (2010)

Figure 2: Moving from CAP market support to direct payments



Source: DG Agri



**Figure 3: Distribution of CAP payments between Pillars 1 and 2, by country**

Source: DG Agri

**Table 1: Type of direct payments granted in the EU-25 - evolution 2004-2008**

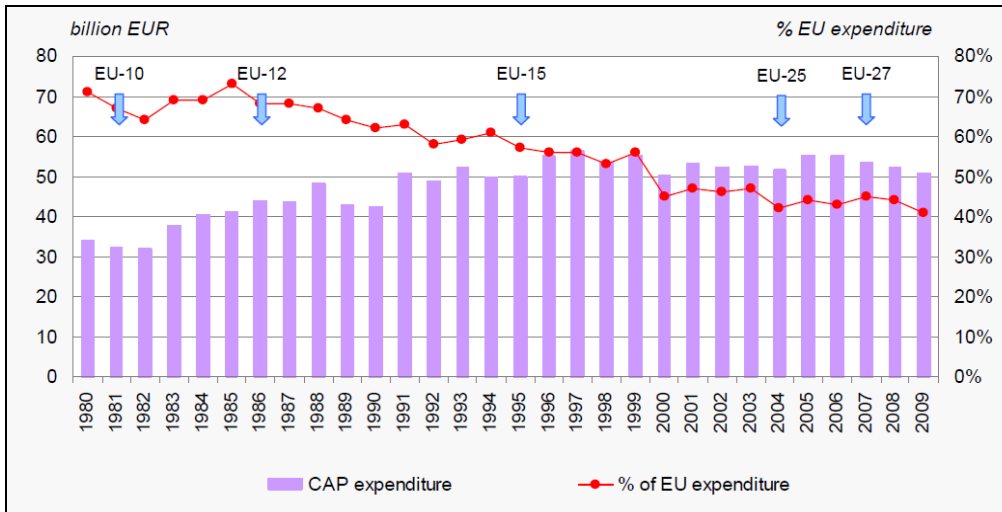
	Share of total subsidies		
	2004	2006	2008
Coupled direct payment	77.35%	18.22%	15.42%
Decoupled direct payment	2.81%	71.22%	67.59%
Rural development measures	15.02%	20.27%	17.86%

Source: DG Agri EU Farm Accountancy Data Network.

In spite of reforms in the CAP, the size of the CAP budget has been more or less flat over the past 15 years (Figure 4). The wider estimate of agricultural support used by the Organisation for Economic Co-operation and Development (OECD), the total support estimate (TSE), was around €100 billion over the period 1986-2009; the producer support estimate (PSE) decreased as a percentage of agricultural output from 40% in 1986 to 25% in 2009.

By 2008, it argued that the CAP no longer 'encourages overproduction of unwanted commodities', with surpluses 'a thing of the past'. The CAP is now held to be much market-friendlier, with 90% of direct aid payments classified in the WTO as non-trade-distorting.

Figure 4: CAP expenditures, path over time



Source: DG Agri

## 3 Current CAP reform options

### 3.1 The Europe 2020 Communication: summary of CAP reform options

In 2010, the EC issued a memorandum setting out its perspectives on the external effects of the CAP (EC, 2010a). This discusses possible CAP reform options concerning Pillar 1 and Pillar 2. Table 2 summarises the reform options.

**Table 2: Different options for CAP policy reform**

	Direct payments	Market measures	Rural development
<b>Option 1</b>	Introduce more equity in the distribution of direct payments between Member States (while leaving unchanged the current direct payment system).	Strengthen risk management tools. Streamline and simplify existing market instruments where appropriate.	Maintain the Health Check orientation of increasing funding to meet the challenges related to climate change, water, biodiversity and renewable energy and innovation.
<b>Option 2</b>	<p>Introduce more equity in the distribution of direct payments between Member States and a substantial change in their design.</p> <p>Direct payments would be composed of:</p> <p>A basic rate serving as income support; Compulsory additional aid for specific 'greening' public goods through simple, generalised, annual and non-contractual agri-environmental actions based on the supplementary costs for carrying out these actions; An additional payment to compensate for specific natural constraints; and A voluntary coupled support component for specific sectors and regions.<sup>1</sup></p> <p>Introduce a new scheme for small farms.</p> <p>Introduce a capping of the basic rate, while also considering the contribution of large farms to rural employment.</p>	Improve and simplify existing market instruments where appropriate.	<p>Adjust and complement existing instruments to be better aligned with EU priorities, with support focused on environment, climate change and/or restructuring and innovation, and to enhance regional/local initiatives.</p> <p>Strengthen existing risk management tools and introduce an optional WTO green box compatible income stabilisation tool to compensate for substantial income losses.</p> <p>Some redistribution of funds between Member States based on objective criteria could be envisaged.</p>
<b>Option 3</b>	<p>Phase out direct payments in their current form.</p> <p>Provide instead limited payments for environmental public goods and additional specific natural constraints payments.</p>	Abolish all market measures, with the potential exception of disturbance clauses that could be activated in times of severe crisis.	The measures would be focused mainly on climate change and environment aspects.

Source: EC (2010a).

## 3.2 Interpreting the CAP reform options

There are challenges in interpreting the CAP reform options. The EC's Communication (2010a) and the Background Paper to the EC paper on CAP reform (2010b) indicate what DG Agri considers to be the assumptions and objectives that will guide any reform, and can therefore be used to guide expectations about what the effects of the reform will be – whatever option is chosen and whatever policy instruments are used to implement it. The EC assumes there is some 'share' of world food demand which the EU should meet (**'the EU should be able to contribute to world food demand'**, emphasis in the original, Communication p4). It also argues for preserving farming in order 'to maintain viable rural communities' (Communication p2) and because it assumes that 'the agri-food value chain' must be protected and that only agricultural production within the EU can be a basis for this (Communication p3). In order to achieve total agricultural production at the level necessary for these objectives, it assumes (probably correctly) that some support must still be given to farmers 'who really need it' (Background Paper p2), and its three reform options are all intended to provide this. This implies that, under any of them, the EC wants and expects production in the EU to be maintained above the level that would be consistent with a market, no-intervention, outcome, and therefore that production outside the EU will be lower than in the absence of the CAP.

In addition to the inefficiency at world level this implies, the DG Agri documents accept inefficiency in the distribution of agriculture within the EU. They emphasise that food production must take place throughout the EU (Background Paper p2 'maintaining agriculture throughout Europe', Communication p2 'food production [...] throughout the EU', p6 'across the whole European Union', 'throughout Europe'), and one argument used against reducing total support for agriculture is that this 'would lead to greater concentration of agricultural production in some areas with particularly favourable conditions' (Communication p4). An outcome which supports food production in areas that are not suitable for it, even relative to other areas within the EU (Communication p7 'in areas with specific natural constraints'), does not directly reduce production in the rest of the world (RoW) but, reinforcing the inefficiency created by excess agricultural production, it reduces EU income and therefore aggregate EU demand for RoW products with further negative effects on RoW income.

Previous reforms introduced direct payments on the basis of historical and/or regionalised options, with the aim of avoiding directly distorting decisions on the total production or choice of product by farmers. The Communication implies some reversal of this, with payments to be only to 'active farmers' (undefined, but intended to exclude some current recipients), basing this partly on the argument that it is necessary to preserve rural communities on farms. This argument also suggests a willingness to accept continued distortions in production.

The sections in the EC documents on rural development or environmental practices are much less precise than those on maintaining production and the income of farmers (Background Paper p2 'there is as yet no exhaustive list of agricultural practices which will be supported under the "green" component of direct payments', for example), further confirming the impression that the principal objectives are food production and farmer income.

Another motive for intervention (EC, 2010b, p1) is 'combating the excessive volatility of the prices of agricultural raw materials'. The Background Paper does not define 'excessive' and does not explain why it considers intervention in just one part of world production likely to reduce volatility.

A final motivation for agricultural support in the EU relates to food security concerns, but this is economically illiterate (see Box 1).

### Box 1: CAP and food security

One argument sometimes used for the CAP is the need to preserve food production potential in EU. Food security is certainly important, but the real question relates to how to achieve it. The term 'food security' is sometime confused with self-sufficiency at sub-regional, national or regional level. However, food security can better be achieved globally. So if a rural community in one of the EU Member States needs food, it does not follow that food should be produced in that community, that region, that country or the EU. Food security depends on efficient production and access facilitated by open trading systems.

Zahrnt (2011) suggests that the real food security challenge affects the poor in developing countries. He suggests that the EU should respond to this challenge by promoting an open and stable trade regime for agricultural products, so world markets can handle geographically dispersed fluctuations in production and structural balances across world regions. A major step would be the removal of its own agricultural tariffs and all subsidies that are not targeted efficiently at clearly defined public goods (namely the environment). This should be accompanied by additional support to enhancing agricultural productivity in developing countries

Matthews (2010) reviews the CAP reform options. He points out the following:

*The first option would continue the status quo apart from a correction to the distribution of direct payments across member states. The second option, which is widely seen as the Commission's preferred option, contains proposals for some greater targeting of the Pillar 1 payments plus an extension of the menu of Pillar 2 measures to include, for example, climate change mitigation and risk management instruments. The third option would be a more far reaching reform of the CAP with a strong focus on environmental and climate change objectives, while moving away gradually from income support and most market measures.*

And,

*Despite the rhetoric around food security and the need to maintain EU production capacity, the Communication does not reverse the move to a greater market orientation of previous EU reforms. However, the current architecture of market management tools would be maintained.*

And further,

*Little change is foreseen in the Communication in Pillar 2 although a greater focus on the environment, climate change and innovation is promised.*

However, there is still ambiguity on the role that Pillar 1 and Pillar 2 will play in the future. If Pillar 1 seems to be oriented in the future (even if it is very uncertain to what extent) towards a 'greener' distribution of funds, it is not fully clear to what extent Pillar 1 and Pillar 2 will overlap. The distinction between Pillar 1 and Pillar 2 'green' measures seems to be that, whereas the Pillar 1 umbrella would include 'minimum standards', Pillar 2 measures would include more substantial green practices.

Tangermann and Adinolfi (2011) state,

*It is, therefore, not really clear how this new component of direct payments would be implemented and to what extent, and in which way, it would be different from existing [Pillar 2] measures.*

Tangermann and Adinolfi (2011) also point out that,

*Good agricultural and environmental condition is an obligatory minimum requirement for all farmers to attain. It should not be confused with the higher standards ('good agricultural practices') involved in voluntary agri-environment schemes (within rural development measures), where farmers may receive a payment for providing environmental services which go beyond basic mandatory legal standards*

Matthews (2010) also points out that the reforms would introduce environmental and other compliance standards in the new Member States:

*The Communication also proposes greater targeting: basic income support would be provided by a uniform decoupled direct payment to all farmers in a Member State or region, based on transferable entitlements that need to be activated by matching them with eligible agricultural land, and with eligibility also dependent on fulfilling cross-compliance requirements. The current EU direct payments financing mechanism includes the SPS operating in 15 EU Member States and Slovenia (which feeds the EC Communication proposal) and the SAPS operating in new Member States which does not require cross-compliance requirements.*

As Options 1 and 2 provide for a shift of payments from old to new Member States, any such effect would be magnified.

The EU has not yet reached a decision on the reforms. Appendix C provides some indications of Member States' negotiating positions.

## 4 Impact of the CAP reform: what do we know?

### 4.1 Introduction

The EU's interventions under the CAP are intended, on balance:

- To increase the incomes of European farmers;
- To keep farmers and farms which would otherwise be uneconomic in production;<sup>4</sup>
- To promote environmental or rural development objectives; and
- To stabilise the European food market.

Achieving the second objective necessarily implies raising European output above the level in the absence of policy intervention; most policies for the first in practice keep European output above non-intervention levels. Interventions for non-farming objectives could be designed to have no effect on output, but in practice may affect it, and this is the subject of major debate.

European production is therefore raised to a level higher than in the absence of intervention. Some of this may be consumed in Europe (if the increase in supply is associated with a reduction in prices), but most policy interventions affect supply more than demand, and thus reduce net imports or increase net exports, leading to effects on the RoW. Although there are some positive economic effects on the RoW (e.g. if lower net EU demand leads to lower prices, this will increase consumers' real income), the balance of effects of most of the policies is negative because effects on production, and therefore income, of lower demand are greater than those of lower prices. The effects will vary by country depending on their trade structures. How these effects are distributed within the EU and among different non-EU countries depends on supply and demand patterns for each product and then on the total effects of all product interventions on each country.

These direct effects are not the only ones on the RoW: interventions which are variable (to meet the objective of reducing the effect of world fluctuations on EU farmers) will increase the size of fluctuations in the RoW.

This section identifies the paths through which each type of intervention acts on EU production and prices for an individual product, and therefore on production, prices and income for that product in the RoW, and indicates what determines the size of these effects. The total effect on the RoW would be the sum of the effects for all products and all interventions.

The direction and distribution of effects within the EU can also be traced. In aggregate, increases in income for farmers reduce the income of the rest of the population, through higher prices for EU or imported production; through higher taxation to make the CAP payments (significant, at 40% of total EU spending); and through efficiency costs to the EU and to the RoW as a result of the interventions. The CAP reduces output and income in non-agricultural sectors of the EU, including manufacturing and services. These effects also affect the RoW, and a general model could estimate them.

The EU countries with the highest rural populations<sup>5</sup> in 2007 were France, Germany, Italy and Poland (all above 10%), followed by Romania at 8%; all others had 5% or lower. The countries with the highest income from CAP expenditure were the first four plus Spain and the UK (Table 3). Any reduction in the use of CAP policy instruments could decrease these effects, and any change in the composition of CAP spending could affect different products or regions

<sup>4</sup> 'OBJECTIVES OF THE FUTURE CAP [...] *Objective 1: Viable food production* [...] to compensate for production difficulties in areas with specific **natural constraints** because such regions are at increased risk of land abandonment' (EC, 2010a: 7) . Emphasis in original.

<sup>5</sup> If we consider as a relevant variable agricultural employment share, those with the highest shares in 2004 were Poland (20%), Greece (15%), Romania (12%), Portugal (11%) and Latvia (11%) according to the World Resource Institute dataset.

differently. A switch to Pillar 2 payments could reduce net effects, if they do no more than meet extra environmental or rural development costs.

**Table 3: Distribution of CAP expenditures across EU countries in 2009**

	Value (€ '000s)	Share of total (%)
Belgium	958,185.5	1.6
Bulgaria	684,725.2	1.1
Czech Republic	966,485.6	1.6
Denmark	1,142,567.2	1.9
Germany	7,579,784.6	12.6
Estonia	155,351.1	0.3
Ireland	1,681,996.4	2.8
Greece	3,139,214.1	5.2
Spain	7,544,263.0	12.5
France	10,445,075.0	17.4
Italy	6,332,433.0	10.5
Cyprus	62,709.9	0.1
Latvia	260,610.1	0.4
Lithuania	484,976.8	0.8
Luxembourg	48,569.9	0.1
Hungary	1,504,905.0	2.5
Malta	14,877.7	0.0
Netherlands	1,268,347.6	2.1
Austria	1,358,127.3	2.3
Poland	4,008,617.7	6.7
Portugal	1,311,939.0	2.2
Romania	2,105,593.3	3.5
Slovenia	241,049.7	0.4
Slovakia	556,870.5	0.9
Finland	922,241.0	1.5
Sweden	1,046,855.2	1.7
UK	4,264,956.3	7.1
EU	60,120,352.9	100.0

Source: EC (2011).



The following subsections examine the effects of different types of trade-related policy intervention in EU agriculture on developing countries:

- Import tariffs;
- Export subsidies;
- Net safety price;
- Coupled payments;
- Farm payments;
- Pillar 2 payments.
- The allocation of payments between old and new Member States.

All the instruments are designed to meet the EU's objectives of assisting EU agriculture sector and therefore all potentially reduce the net income of the RoW, although some individual countries or groups may gain.

## 4.2 Import tariffs

Tariffs are not considered part of the current CAP reform debate. Most-favoured nation (MFN) tariffs would be subject to reduction in any Doha settlement, and their effective level depends on the EU's complex system of preferences and free trade agreements (FTAs). The marginal level and thus the way in which effects work out within the EU depend on the supply capacity in the countries with different levels of preferential access. This also determines the distribution of effects among different non-EU countries. MFN tariffs remain extremely high, e.g. 54.6% for milk, 34.6% for grains and 32.5% for meat, with peaks over 200%. Table 4 shows EU import tariffs on agricultural goods.<sup>6</sup>

**Table 4: Distribution of agricultural EU tariffs**

Tariff	Below 20%	Above 20% Below 50%	Above 50% Below 75%	Above 75%
Meat and offal	127	50	22	34
Dairy products	33	44	44	54
Vegetables	109	7	2	4
Edible fruits and nuts	140	61	0	0
Cereals	19	23	7	6
Oilseeds	78	0	1	1
Sugar	30	6	2	9
Other products	1569	352	134	149

Source: Sébastien et al. (2008).

A tariff increases the cost of importing from the RoW, and therefore reduces competition for EU producers, allowing higher-cost producers access to the market: the EU price is higher and EU production is higher – the size of the effect depending on the EU elasticity of supply and total supply. There is some reduction in EU demand (because of the higher price): the size is determined additionally by EU demand elasticity and total demand. With EU supply higher and EU demand lower, net demand for imports is reduced (or net supply of exports is increased).

<sup>6</sup> A detailed overview of EU tariffs is included in Appendix D.

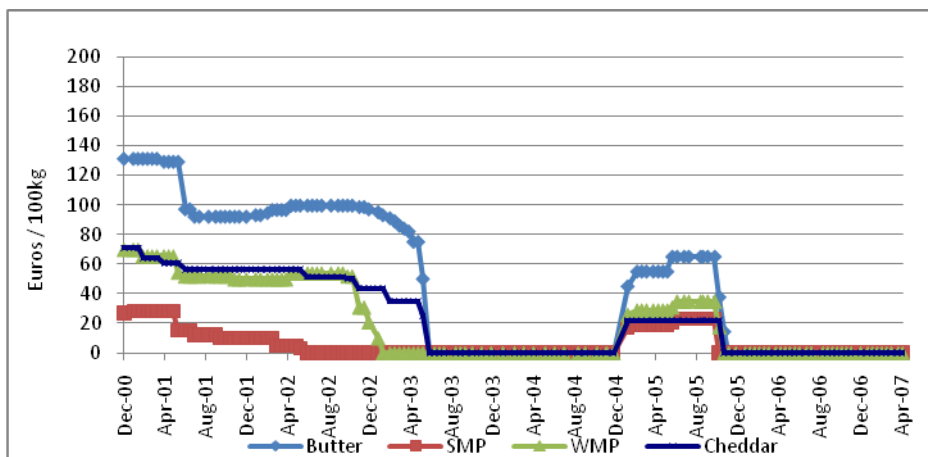
RoW suppliers therefore supply less because they face reduced demand both in the EU (because of the tariff) and outside the EU, with the amount determined by RoW supply elasticity and level; while the lower price will cause some increase in demand in the RoW, depending on the demand elasticity, the effect will be lower income (supply multiplied by price), partially offset by an increase in real income (at the lower price) for consumers. There is a reduction in EU income because of the redistribution of production to farming from more efficient sectors and because of a redistribution towards farm income from other income.

Lower tariffs would help developing country exporters that face MFN tariffs depending on the elasticity of supply, but they would lead to preference erosion for those countries which already have trade preferences (e.g. least-developed countries (LDCs) or signatories to FTAs – see Appendix D). The increase in world prices from any reform could have negative effects on consumers.

### 4.3 Export Subsidies

The EU paid €1.0 billion in export subsidies in 2008 and €650 million in 2009. These have been used most recently for dairy products (Figure 5), chicken and pork; they remain a policy option, although the EU has offered to end them as part of its Doha offer.

**Figure 5: Export refunds for the dairy sector**



Source: DairyCo Datum

The price available to producers is increased, so (unless, as may be the case for dairy, production is constrained by other measures) EU supply is increased (the amount depending on EU supply elasticities and quantity). The consequent market price reduction generates a reduction in the RoW supply. The EU subsidy, however, increases the real income of consumers of the product. The net effect on the RoW is positive (excluding long-term negative effects from lower EU income as a result of inefficient allocation), but some countries and some groups could lose because income from production would be lower.

### 4.4 Net safety price

The intervention price interpreted as administratively determined price arrangements for farmers has been abolished. Public intervention at fixed prices remains in principle for cereals, beef and veal, and butter and skim powder, but only for quantities fixed in advance or at very low prices. Since 2009-2010, cereals apart from soft wheat have not been eligible for intervention. Private storage aid also can be paid for some commodities. Farmers producing sugar beet still benefit from a safety net price, i.e. a minimum floor price designed not to have an influence on routine price formation. This means that, under normal market circumstances,

the minimum price no longer determines the market price of the affected commodity (e.g. rice). In this context, market prices are determined by the play of managed market forces in the sector concerned.

## 4.5 Coupled payments

Couple payments are a subsidy to the price of EU products. They apply to cotton (subject to a maximum area limit), beef and sheep meat at the discretion of those Member States which maintained coupled payments for these products in the Fischler reform in 2003 (Table 5). Both EU production and EU demand are increased, demand because of the lower EU price, with the change in the price depending on the elasticities. The effects on the RoW are thus reduced net exports for producers and higher real income for consumers, with the latter not offsetting the former. The net effect for each country depends on its trade patterns for each commodity.

The 2003 CAP reforms allow Member States some flexibility in implementing the non-distorting farm payments, including the scope to retain a proportion of commodity-specific payments. In the 2007 financial year, around 20% of direct payments made in the EU-15 remained commodity-specific, but with large differences in shares across the EU-15 Member States. The 2008 CAP Health Check introduced measures to move most payments that remain commodity-specific into farm payments by about 2012. According to the EC, this will increase the level of 'decoupled' support as a percentage of all direct payments to over 90% (Costa et al., 2009).

**Table 5: Share of total commodity specific payments by country**

	<i>Aus</i>	<i>Bel</i>	<i>Den</i>	<i>Fin</i>	<i>Fra</i>	<i>Ger</i>	<i>Grc</i>	<i>Ire</i>	<i>Ita</i>	<i>Lux</i>	<i>Net</i>	<i>Por</i>	<i>Spa</i>	<i>Swe</i>	<i>UK</i>	<i>EU15</i>
Cereals, oil seeds & protein crops	1.2	0.9	1.6	3.4	50.3	9.6	3.7	16.9	9.4	16.7	0.4	0.2	29.5	1.7	26.8	27.3
Beef	47.2	98.9	73.9	51.2	38.1	0.9		70.8	4.6	33.3	19.8	37.4	21.8	29.5	2.8	27.2
Sheep & goats			1.6	1.6	3.4		0.1	5.8	0.2			11.0	14.8		0.4	5.3
Dairy	50.0	..	..	..	..	..	4.2	0.6	0.1	..	75.5	25.6	..	62.3	..	10.1
Potatoes	1.4		19.5	7.8	0.7	43.1					4.2			2.6		1.4
Rice					0.4		2.2		17.1			4.4	3.2			2.8
Olive groves					..		2.3		..			0.2	7.2			1.9
Tobacco					1.9	24.4	4.8		31.9			2.8	4.3			5.4
Hops	..				..	2.8										..
Nuts	..				0.1	0.1	0.9		2.7		..	1.7	4.2		..	1.4
Energy crops	0.3	0.2	3.4	1.4	0.7	19.1		5.8	..	50.0	..	..	0.6	1.6	14.8	0.9
Silkworms							0.1						..			..
Dried grapes							22.2					..	0.1			1.8
Bananas					3.3		0.1					1.0	2.9			2.0
Sugar beet & cane									3.1							0.3
Cotton							38.4						4.0			4.1
Country specific payments				34.6			18.7		31.1			3.8	6.6	2.3	55.2	6.7
POSEI <sup>b</sup>					1.1		2.7		..			11.8	0.9			1.3
Other					..		..						..			..
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: Costa et al. (2009).

## 4.6 Farm payments

Approximately 80% of CAP payments to farmers are made with no direct link to current production, but with conditions which require the land remain usable for farming. Criteria for distributing these payments vary among EU countries. There are two basic farm payments models (Table 6):

- An historic model, in which payments to each farm are based on the amount of payments it received during a reference period (2000-2002), divided by the number of hectares farmed in the reference period.
- A regional model, in which a flat rate of entitlement per hectare is paid based on the total amount of payments received in the region during the reference period, divided by the total number of eligible hectares declared in that region in the year the farm payments were introduced (Costa et al., 2009).

Hybrid models have also been implemented, in which a part-historic, part-regional model is used. These can be static or dynamic. In the static version, the entitlements remain the same over time. In the dynamic version, a proportion of the entitlement is based on an historical reference period, which is then phased out over time.

**Table 6: Farm payment implementation models**

Historic	Regional	Static hybrid	Dynamic hybrid
Austria	Malta	Denmark	Finland
Belgium	Slovenia	Luxembourg	Germany
France		Sweden	UK
Greece		Uk - Northern Ireland	
Ireland			
Italy			
Netherlands			
Portugal			
Spain			
UK - Scotland			
UK - Wales			

Source: Costa et al. (2009).

If the payment level were entirely independent of farmers’ current production decisions, they would be fully reflected in higher rents and would not affect output. In fact, there are conditions, as noted above: payments are to ‘active farmers’ who are following good farming practices and keeping the land in good agricultural condition, and thus incur the entry costs for farming. The alternative is to stop producing. Farm payments are a high share of agricultural factor income in total (29% in 2007-2009) and very high in some EU countries: 60% in Denmark and over a third in the Czech Republic, France, Germany, Greece, Ireland, Luxembourg and Sweden; the shares will of course be higher for individual farmers. Therefore, the level is likely to be significant relative to the costs of farming for a high proportion of farmers. If a farmer is not able to cover costs without the subsidy, and if the subsidy is greater than the difference between these costs and potential income, then the subsidy will keep that farmer in production. The costs include whatever income the farmer requires, given the opportunity cost of alternative possible sources of income. In two cases, if a farmer is able to produce without the subsidy, or if the subsidy is not sufficient to cover the farmer’s costs, then the direct payment has no effect on production and is just an income transfer from non-farmers to farmers in the EU.

For farmers in the affected group, the supply curve is (as it would be without intervention) flat at 0 for prices too low for production even with the subsidy, then steps up from 0 to the level necessary to meet the criteria for receiving the subsidy up to the point at which the subsidy again becomes irrelevant; above the price at which the subsidy plus farming income covers the farmer’s costs, the supply curve may have a normal upward slope determined by the elasticity. Taking all farmers in the EU for a particular product together, the subsidy shifts the supply curve up at lower prices and probably flattens its shape (depending on the distribution of farmers’ costs). Some land may merely be transferred from less to more efficient farmers; some may be farmed only because of the subsidy. The intersection with demand will be a lower price, so some of the extra supply will be consumed in the EU, but there will be some reduction in net EU imports, with the usual effects on the RoW.

As direct payments will increase EU supply (depending on output elasticity with respect to payments), this will lead to a reduction in net EU imports, and hence a decrease in developing country exports and lower world prices. The effect on net income is offset partially by lower costs for developing country importers of CAP-affected products.

The exact effects on supply require detailed examination of farm costs. For example Vrolijk et al. 2010, found the level of subsidies (as a percentage of farm output) is the highest in the grazing livestock sector followed by field crop (or arable) farms, mixed farms and dairy farms. Subsidies on other types of farms, including horticulture, permanent crop and wine, as well as intensive livestock are much lower.<sup>7</sup>

Area payments are currently used in the new EU Member States, made to individual producers on the basis of area (acres or hectares) of eligible land. As they are generally based on the same criteria as coupled payments, they will have the same effect, but currently, as they are at a generally lower rate, the effects will be smaller. They do not include the cross-conditionality requirements, but it is uncertain whether these in fact influence or are enforced for farmers in the old EU Member States.

Boxes 2 and 3 review a number of studies on the impact of direct payments.

### Box 2: The effects of direct payments on EU production

A number of studies suggest that direct payments increase EU production. The lack of surpluses is not sufficient proof that there is no 'overproduction' because, under market conditions, the EU would be a net importer of many of the products. An analysis by the World Economy Group at the French National Foundation for Political Science (GEM, 2010) of the external effects of the CAP argues that the CAP: 'still biases production towards products and activities that benefit from strong assistance'; promotes 'higher output of the farm- and food-processing sectors in the EU of about 8% and 6% respectively'; leads to 'production of cereals in parts of Africa' that is 'smaller than it would be without the CAP'; and reduces 'global welfare by about US\$45 billion', at the expense of 'mostly developing and least developed economies which protect their farm sector much less than the EU'.

Monge Arino and Gonzales-Vega (2007) point out that direct payments, even when disentangled from current production choices, increase agricultural output through transmission channels related to the credit market. First, when a single corn farming household faces imperfections in the credit market that limit its access to credit, access to additional liquidity through decoupled payments (liquidity effect) increases its landholdings and output temporarily. Second, the increased farming household's creditworthiness, brought about by the decoupled payments, may shift the supply of credit, reducing the cost of access to debt (creditworthiness effect). This not only accelerates and reinforces the transitory direct impact of decoupled payments, but also increases farm size and output permanently. Third, when the actions of the representative farming household are replicated by all of them, there may be an increase in land prices (land price effect). This price effect leads the representative corn farming household to reduce its holdings of land and output, both along the optimal path and in the steady state, thereby mitigating somewhat the expansionary impact of the other two effects.

De Gorter (2006) points out that decoupled payments can reduce risk by reducing farm income variability (the insurance effect) or the increased wealth created by payments may make farmers less risk averse. A way decoupled payments affect trade distortion is through expectations about future policies and dynamic considerations. Producers will develop expectations of future assistance based on past government actions, thereby affecting current production decisions.

Vrolijk et al. (2010) examine the dependency of farms on European subsidies. In particular, they run simulations and they analyse the abolition of direct payments in European countries. They classify five categories of farms representing different financial situations of farms, as follows:

<sup>7</sup> If some farms have high costs only because they are small, then the effect on supply from farm payments might be lower (in the absence of payments, some of the small farms would be absorbed by larger payments), but if land markets are working efficiently, this should happen even with the direct payments, so the difference in effect may be small.

1. Family farm income is higher than opportunity cost of own labour and own assets.
2. Absolute level of family farm income is above zero.
3. Family farm income is negative after policy change but postponing depreciation is an option.
4. Family farm income cannot be compensated for by postponing depreciation.
5. Family farm income is already negative before change.

This classification implies that Categories 1 and 2 represent farms in a good financial condition after the abolition of farm payments and Categories 3-5 those in a bad financial condition.

Interestingly, the authors find that countries showing the highest percentage of farms which might turn from a positive to a negative income after the abolishment of farm payments (Categories 3 and 4) are generally based in Northern Europe (UK, Ireland, Denmark, Germany, Finland, France, Sweden, Slovenia, Slovakia).

**Countries with the highest percentage of farms**

Category 1	Category 2	Category 3	Category 4	Category 5
Lithuania	Spain	UK	UK	Denmark
Latvia	Italy	Sweden	Slovakia	Cyprus
Luxembourg	Austria	France	Ireland	Sweden
Belgium	Poland	Denmark	Denmark	Slovakia
Estonia	Estonia	Finland	Germany	Slovenia

Source: Vrolijk et al. (2010).

The authors conclude that CAP type of farms (arable, dairy, other grazing cattle and mixed) comprise the majority of farms and use a very large part of the agricultural land in the EU (95%). Therefore, deterioration of the viability of these farms as a result of the abolition of decoupled subsidies may have a serious impact on the structure of the farm sector as well as on the vitality of rural areas.

Offerman et al. (2009) point out that distortions deriving from direct payments can be even more severe for niche markets such as those related to organic farming. They use the well known concept of 'policy dependency' and calculate the ratio of total payments and farms output for farms in Austria, Denmark, Germany, the Czech Republic, Estonia, Hungary, Poland and Slovenia. They find that Poland and Hungary stand out, with comparably low values. In all other countries, the importance of direct payments appears to be substantial, reaching levels of up to 75%. This finding raises the issue of to what extent farms providing environmental public goods can depend on state interventions and on the modalities by which it is possible to reconcile farms' efficiency and social goods.

The magnitude of the direct payments' impacts on European production will depend on parameters such as the slope of the supply and the demand curve (see previous section). Sipilainen and Kumbhakar (2010) estimate the elasticity of production to subsidies in regions of Finland and Sweden. While this elasticity is negative in central Sweden, for all the other regions it is positive, at around 0.1.

Bhaskar and Beghin (2007) acknowledge the existence of five main major coupling channels of decoupled payments:

- 1. They affect the risk facing farmers.
- 2. They ease credit constraints facing farmers.
- 3. They affect the labour allocation decision of farm households.
- 4. They alter land values.
- 5. They influence forward looking farmers' decisions.

In spite these mechanisms in place, the authors outline, 'Although decoupled payments are not fully "decoupled" as the research suggests that they influence farmers' decisions through the channels identified above, the magnitude of these impacts was found to be small in most cases.'

### Box 3: The effects of direct payments on developing countries

Conforti (2005) examines the effects of the removal of decoupled and decoupled + coupled direct payments in the EU through partial (PE) and general (GE) equilibrium models. He finds that the removal of both coupled and decoupled forms of support implies, as expected, a larger impact on supply, particularly for oilseeds – whose production would diminish in the US with both the PE and the GE closures – but also for cereals, rice and the group of plant-based fibres. As a consequence, output growth in non-OECD countries would be far more substantial and far more widespread. For instance, production of oilseeds in China would be 3% higher in the GE approach and paddy production would be almost 2% higher in India. Output of plant-based fibres would increase substantially in a number of developing countries, including in Sub-Saharan Africa and Southern Asia.

Stevens et al. (2008) analyse the impact of decoupling on developing countries. They argue there is unlikely to be a significant effect across the board on developing countries as a result of purely agricultural policy change by the EU until it reaches the point at which support to farmers is very substantially decoupled from production and the overall subsidy is very low.

Other studies try to investigate a broad range of CAP policy interventions. Another modelling exercise comes from Costa et al. (2009), who investigate the impact of direct payments, border tariffs and export to subsidies for Africa. Using the Global Trade Analysis Project (GTAP) model, they find the whole package of measures can reduce by 0.05% Africa's GDP (\$560 million). A negative effect for Africa is also registered when single measures are considered contextually.

	% variation in welfare	Value (2007 \$ millions)
Direct payments	Between -0.005 and 0	-16
Border protection	-0.07	-834
All CAP measures	-0.05	-560

Source: Costa et al. 2009.

A recent study from Boulanger et al. (2010) analyses the impact of the removal of distorting CAP instruments on single African agricultural sectors:

	Crops	Livestock	Food processing	Forestry and fishing	Manufacturing	Services
Africa	0.81	2.93	-0.18	6.13	-1.02	-0.02

Source: Boulanger et al. (2010).

Interestingly, Boulanger et al. (2010) can separate the pure 'allocative efficiency effects' from welfare effects. The allocation effect comes as production is reallocated across the world and resources are reallocated within the world's economies in response to these changes in relative returns. Welfare effects derive from changes including consumption and investments which are a result of the effects of variations in terms of trade. Their conclusion is that, whereas the allocative efficiency effect coming from a removal of distorting CAP instruments generates a negative effect for Africa, the welfare effect is positive because of the improved terms of trade effect.

	% welfare	% GDP
All CAP measures	-0.05	-0.01

Source: Boulanger et al. (2010).

## 4.7 Pillar 2 payments

Pillar 2 payments are intended to go to farmers or communities in order to benefit the environment or local rural development. Their economic effects on developing countries are unclear, as this depends on how much they affect the level of production. The environmental implications may be positive for developing countries. They are classified into three axes: farm modernisation, environment and rural conditions.

As stated in a recent International Foundation for Organic Agriculture Movements (IFOAM) (2009) publication, there is strong complementarity between the different axes. Measures devoted to promoting organic farming as part of initiatives aimed at improving touristic packages (Axis 3) or to incentives for investment by organic farmers (Axis 1) would meet environmental goals represented by Axis 2. Axis 2 is currently the most funded across EU Member States, as Table 7 shows. In other words, complementarities across Pillar 2 axes and across pillars makes it very difficult to forecast the impacts of the CAP budget sharing across different options.

**Table 7: Distribution of Pillar 2 rural development budget on Axis 1, 2 and 3 (%)**

Share Axis 1		Share Axis 2		Share Axis 3	
Member State	Axis 1	Member State	Axis 2	Member State	Axis 3
Belgium	49.2	Ireland	79.7	Malta	33.6
Latvia	48.7	Finland	74.0	The Netherlands	30.0
Portugal	46.8	Austria	73.7	Bulgaria	29.7
Hungary	46.5	UK	72.9	Romania	27.4
Spain	45.3	Sweden	70.4	Germany	24.9
Greece	44.0	Denmark	64.6	Poland	19.7
Cyprus	44.0	Luxembourg	58.9	Latvia	19.5
Romania	44.0	Czech Republic	55.5	Czech Republic	17.0
Lithuania	41.7	Slovenia	52.5	Greece	14.1



Poland	41.4	Slovakia	51.0	Slovakia	13.8
Bulgaria	40.8	France	50.6	Hungary	13.6
Italy	38.2	Italy	44.7	Estonia	13.0
Estonia	38.0	Cyprus	44.2	Lithuania	12.4
France	37.7	Portugal	42.3	Slovenia	11.1
Malta	34.9	Germany	41.1	Finland	9.5
Slovenia	33.4	Spain	39.4	Cyprus	9.1
Slovakia	32.1	Lithuania	39.4	UK	9.0
The Netherlands	30.1	Estonia	39.0	Belgium	8.9
Luxembourg	28.4	Belgium	36.7	Italy	8.7
Germany	28.0	Greece	35.7	Sweden	8.2
Czech Republic	22.5	Hungary	34.2	Luxembourg	6.9
Denmark	20.2	Poland	34.1	Austria	6.6
Sweden	15.5	The Netherlands	29.9	France	6.6
Austria	14.1	Latvia	29.2	Denmark	5.3
UK	11.9	Malta	27.2	Spain	3.8
Finland	11.2	Bulgaria	27.0	Portugal	0.4
Ireland	10.3	Romania	26.0	Ireland	0.0

Source: IFOAM (2009)

The issues in Axis 2 represent an important portion of Pillar 2. Whereas for the typical CAP economic instruments the link between EU policy and developing countries is more intuitive and involves short-term transmission channels, for environment the connection is much more difficult to elaborate and explain. In principle, payments for environment results could benefit developing countries, and the amount available is sufficient to have major effects. But there is no evidence on whether the effects are arising.

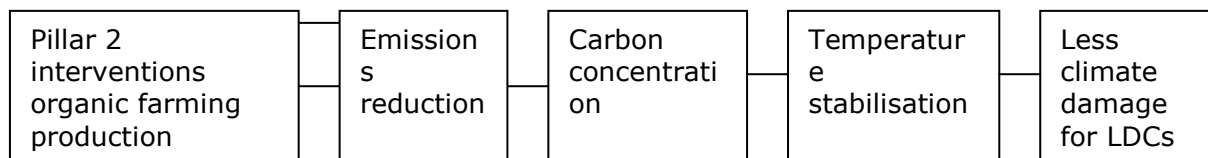
Figure 6 and Table 8 illustrate the transmission channel to developing countries. Environment-friendly agricultural practices reduce greenhouse gas emissions, and a lower level of greenhouse gas emissions reduces atmospheric carbon concentration and temperature. A reduction of temperature reduces in the medium/long term environmental damages for developing countries. As Tol et al. (2004) emphasise, the scientific literature agrees on the fact that developing regions and in particular Africa will be those suffering most from global warming.

**Table 8: The impact of soil management practices on soil organic matter (SOM) and long-run productivity**

	Decrease of biomass production	Decrease in organic matter supply	Increased decomposition rates	Increased biomass production	Increased organic matter supply	Increase d organic matter supply
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Impact on SOM	- SOM	- SOM	- SOM	+ SOM	+ SOM	+ SOM
Practices	Replacement of perennial vegetation	Burning of natural vegetation and crop residues	Tillage practices	Increased water availability for plants	Protection from fire	Reduced or zero tillage
	Monoculture of crops and pastures	Overgrazing	Drainage	Balanced fertilisation	Crop residue management	
	High harvest index	Removal of crop residues	Fertiliser and pesticide use	Cover crops	Forage by grazing rather than by harvesting	
	Use of bare fallow			Improved vegetative stands	Integrated pest management	
				Agroforestry and alley cropping	Manure and compost	
				Reforestation and afforestation		

**Figure 6: Transmission channel from environment Pillar 2 interventions to developing countries**



According to a Food and Agriculture Organization (FAO) report (2002) focused specifically on organic farming, CO<sub>2</sub> emissions per hectare of organic agriculture systems are 48-66%<sup>8</sup> lower than in conventional systems. Haas and Köpke (1994) calculated the CO<sub>2</sub> emissions of German organic farms to be 0.5 tonnes per hectare whereas in conventional agriculture the amount was 1.3 tonnes, a difference of 60%. If production in the EU is reduced, however, some may be transferred to the RoW, reducing or eliminating the global gain for the environment (and possibly transferring any environmental damage to developing countries).

The national co-financing of Pillar 2 makes it more likely that it will target nationally and locally accepted objectives, and therefore have more favourable effects on the environment than the 'cross-conditionality' from Pillar 1 payments. These are too blunt an instrument to be effective. Theory suggests, however, that regulation would be more effective than transfer payments to achieve environmental objectives (Harvey, 2010).

<sup>8</sup> Relevant literature (see among the others Acs et al. 2007) highlights that the production of emissions depends on the intensity of production and land management practices (rotation, residuals management, tillage) rather than the number of hectares. However, calculations of emissions based on hectares represent a useful simplification to express (roughly) the magnitude of the impact of organic farming on emissions reduction and the relative monetary environmental gain.

## 4.8 Switch of CAP payments from old to new EU Member States

If there is just a shift between producers of the same product, there might be little effect on the RoW, unless the amount of production affected by farm payments (the region of the supply curve for which the farm payments determine production) varies between old and new Member States. For this, we would need evidence on the distribution of costs of production in each region.

Data on harvested land suggest that a shift from old to new Member States might also mean a shift among products (Table 9).

**Table 9: Agricultural land harvested in southern countries of Western and Eastern Europe by product (ha)**

	Cereals	Fibres	Fruits	Roots and tubers	Vegetables
Eastern Europe	83,928,698	185,723	2,302,575	4,820,862	2,085,631
Southern (Western) Europe	15,488,862	306,999	4,382,833	406,184	1,480,389

Source: FAOSTAT

## 4.9 Where to look for major effects of EU agricultural policy on developing countries?

The interventions which have the most significant effects are now, and are likely to remain, import tariffs and direct farm or area payments. Export subsidies, intervention prices and non-decoupled payments are used for a small and falling number of products; Pillar 2 payments for rural development and environmental protection are much smaller in terms of absolute amount than direct payments and some proportion of this is non-distorting. Some of the effects of any transfer of direct payments from old to new countries would be offsetting.

The products most affected by the principal instruments are dairy, meat and grains. Those for which tariffs are highest are dairy, meat and grains. The types of farms found to be most dependent on farm payments to stay in production are livestock and mixed farms. If we included the other types of intervention, the list would not be modified greatly: export subsidies now go mainly to dairy products; intervention prices have been used most recently for dairy, sugar and some grains; non-decoupled payments go to cotton and beef. A shift to new Member States is likely to mean more support to grains.

While it is impossible to know without doing more detailed analysis and calculations what the market level of production in the EU of each product would be, and therefore whether the EU should be a net importer or net exporter, Table 10 shows that, contrary to EC assertions (EC, 2008), the EU remains a major net exporter, to the world and to developing countries, of some of the products of highest intervention, including dairy, cereals and meat. In terms of the objective of the EU contributing to world supply, therefore, it is more than meeting its own needs for these products. Of the countries with the highest surpluses, France and Germany are also among the major recipients of CAP money. There is therefore *prima facie* evidence to support analysing and estimating in more detail how production of dairy products, cereals and meat is affected by CAP policy instruments.

**Table 10: EU trade balance (exports minus imports), 2009**

	Trade with all Extra-EU-27					Trade with developing countries				
	Cereals <sup>a</sup>	Fruit <sup>b</sup>	Veg. <sup>c</sup>	Dairy <sup>d</sup>	Meat <sup>e</sup>	Cereals	Fruit	Veg.	Dairy	Meat
EU-27	1,094	-9,700	-1,352	4,642	611	1,687	-8,685	-1,428	3,517	204
Austria	4	-211	-72	42	97	-7	-212	-76	42	46
Belgium	-168	-1,732	-42	315	-16	-77	-1,526	-28	294	104
Bulgaria	56	-27	-87	19	-1	56	-28	-87	4	-1
Cyprus	-17	-7	-3	12	-11	-17	-1	-2	8	-3
Czech Republic	-0	-37	-13	44	-1	-5	-32	-8	43	-2
Denmark	11	-75	15	434	873	-10	-58	1	273	171
Estonia	-1	-4	-2	22	0	-1	-4	-1	21	0
Finland	5	-31	-1	211	55	-1	-19	-1	176	25
France	1,484	-709	-384	834	362	1,460	-696	-433	475	307
Germany	869	-1,276	-206	445	-62	807	-1,049	-214	482	16
Greece	32	-38	-60	34	-30	34	-19	-45	4	-11
Hungary	74	-10	-2	24	110	67	-10	-4	23	26
Ireland	-3	-58	-13	184	-1	-2	-50	-6	153	-10
Italy	-594	-651	-313	355	-218	-187	-686	-307	51	-195
Latvia	103	-7	-2	12	2	101	-7	-2	11	2
Lithuania	104	99	83	117	24	99	103	81	113	24
Luxembourg	0	-45	0	-2	-2	0	-5	0	0	-0
Malta	-6	-4	-0	-1	-4	-5	-3	-0	0	-1
Netherlands	-208	-2,285	432	1,091	-128	-171	-2,108	241	965	-150
Poland	128	164	92	163	151	125	153	78	150	104
Portugal	-116	-135	-27	35	-16	-98	-133	-22	28	-6
Romania	244	-55	-33	4	-16	182	-54	-33	3	-16
Slovak Republic	0	-7	-8	5	-0	-0	-7	-8	5	-0
Slovenia	-7	-21	-49	19	5	-7	-11	3	19	3
Spain	-509	-350	-158	94	21	-410	-328	-228	24	-46
Sweden	-1	-157	-16	67	-22	-6	-128	-16	63	-19
UK	-390	-2,031	-482	63	-560	-240	-1,768	-311	84	-164

Notes: a) HS Chapter 10; b) HS Chapter 08; c) HS Chapter 07; d) HS Codes 0401-06; e) HS Codes 0201-04 and 0207.

Source: Derived from data obtained from Eurostat COMEXT database.

The developing countries most likely to be affected by the CAP are those for which exports of any of these products are (or could be) important (they suffer reductions in their real income because of price and/or volume effects), while those for which imports of any of them are important could see positive real income effects. Appendix E shows the CAP-affected products which are most important for developing countries in terms of exports (Table E1) and imports (Table E2). Table 11 shows the principal developing countries exporting these products to the EU. EU intervention will affect all markets for these goods.

Significant agricultural exporters to the EU of CAP-affected products include Morocco, China and South Africa (dairy); Argentina, Brazil, Uruguay, Chile, Namibia and Botswana (meat); and Ukraine, Thailand, India, Argentina, Chile, Pakistan, Mexico, Uruguay and Brazil (grain). Some small countries which are not themselves major suppliers may also be affected if the product accounts for a significant proportion of their exports, so this is not a complete list of potentially significantly affected countries. Countries for which CAP-affected products are a high share of total exports are, for dairy, Nicaragua, Djibouti and Uruguay; for meat, Uruguay, Paraguay and Nicaragua; and for grains, Belize, Paraguay, Uruguay, Guyana, Pakistan, Ukraine and St Vincent. On the import side (i.e. countries where CAP-affected products constitute an important part of their total imports and which could hence suffer if world prices in that product increased owing to a removal of CAP support), countries affected include: meat (Tonga, Samoa), dairy (Somalia, Cape Verde, São Tomé & Príncipe, Senegal), grains (Yemen, Côte d'Ivoire, Guinea-Bissau, Haiti, Gambia, Senegal), vegetables (Somalia, Bangladesh) and fruits and nuts (Niue, Djibouti).

Some of those exporting to the EU have special trading arrangements (preferences, FTAs, potential accession countries), so for these the effects of protection against other countries may be positive, or the preferences may offset losses from the intervention.

But to trace the effects by country and by group within country it would be necessary to know which products see changes and what their supply and demand elasticities are in the EU and in the RoW.

**Table 11: Main developing country suppliers of product groups with the highest EU intervention levels**

CAP product group <sup>a</sup>	Developing country	Share of total EU-27 imports, 2009	CAP product group <sup>a</sup>	Developing country	Share of total EU-27 imports, 2009
Dairy	Croatia	70.5%	Fruit and nuts	Turkey	11.6%
	Belarus	10.8%		South Africa	10.6%
	Morocco	5.0%		Chile	9.6%
	China	3.0%		Costa Rica	9.0%
	FYR Macedonia	2.1%		Colombia	8.1%
	South Africa	1.8%		Ecuador	7.9%
	Russian Federation	1.6%		Brazil	5.3%
	Congo	1.1%		Argentina	4.7%
	United Arab Emirates	1.0%		Morocco	2.9%
Meat	Argentina	34.4%	China	2.5%	
	Brazil	31.8%	Egypt	2.3%	

	Uruguay	19.5%		India	2.1%
	Chile	7.1%	Vegetables	Morocco	21.9%
	Namibia	2.3%		China	15.1%
	Botswana	2.3%		Turkey	12.1%
	FYR Macedonia	0.9%		Egypt	8.7%
Grain	Ukraine	19.1%		Kenya	6.2%
	Thailand	14.2%		Peru	4.8%
	India	12.2%		Argentina	4.4%
	Serbia	9.9%		India	3.0%
	Argentina	4.8%		Mexico	2.4%
	Chile	4.7%		Thailand	1.7%
	Pakistan	4.7%		Russian Federation	1.5%
	Croatia	3.7%		Serbia	1.3%
	Mexico	3.6%		Chile	1.3%
	Kazakhstan	3.3%		Ecuador	1.0%
	Uruguay	3.2%			
	Brazil	3.0%			

Note: a) Imports in HS codes noted in Table 10.

Source: Derived from data obtained from Eurostat COMEXT database.

## 5 Preliminary analysis of CAP reform options

This section discusses how we could approach a quantitative interpretation of the CAP reform options. There are a number of key choices, which will affect the development effects of the 2013 CAP reform options:

- 1 Any change in the focus in Pillar 1 and in particular the criteria for direct payments;
- 2 The total size of CAP spending;
- 3 The distribution of CAP spending across countries and products.

We examine a number of scenarios, as follows:

- 1 BASELINE in which CAP expenditures and the weight of direct payments in the total CAP expenditures are constant for each EU country until 2013.
- 2 SIZE – the size of the CAP decreases and the weight of direct payments across countries remains constant over time. We assume CAP expenditures will be €35 billion in 2013.
- 3 EQUALGDP where the size of the CAP is the same as in the baseline, but funds are distributed in inverse relation to GDP per capita. This is a scenario already outlined in some contributions by the previous literature, such as Zahrnt (2009).
- 4 EQUALDPPERHA, where the size of the CAP is the same as in the baseline, but direct payments per hectare are equalised across countries.

### Box 4: Possible basis for redistribution of CAP payments within the EU

All CAP reform options accept that the current allocation of direct payments between Member States is no longer tenable and should be replaced by a more equitable distribution, which might take into account both economic and environmental criteria. There is no accepted basis for redistribution. Kauppi and Widgren (2005) argue that the EU budget allocations across Member States are addressed mainly towards regions in rich Western regions. Among the objectives of the CAP are:

1. An adequate level of agricultural production, ensuring a fair standard of living for the agricultural community; and
2. Equal economic and social progress across Member States.

Kauppi and Widgren propose a number of other criteria for distributing CAP funds across countries:

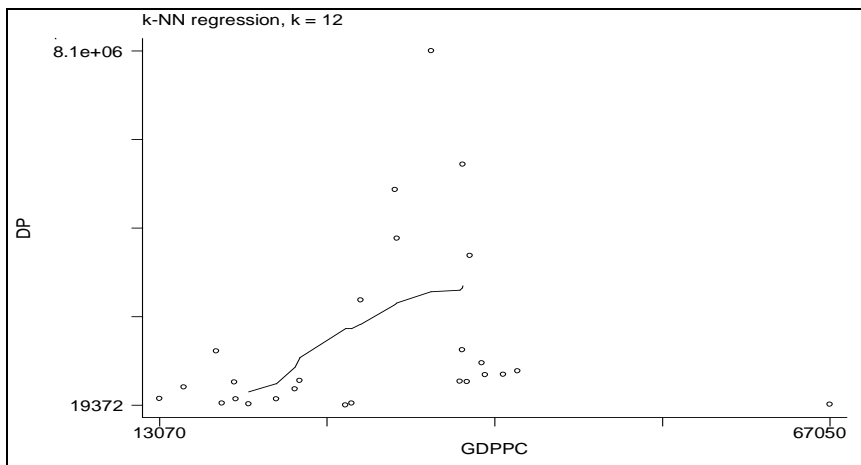
1. The agriculture share in value added;
2. Ratio of the country GDP *per capita* and EU average GDP *per capita*;
3. Number of farmers.

Zahrnt (2009) examines various ways of distributing CAP expenditures. If funds are distributed according to different criteria such as GDP per capita or the country's provision of public goods, there are winners and losers. Countries that defend the status quo would – surprisingly – win from reform. This is especially striking in the case of Spain, which would see funds increased under any reform scenario and which would reap the greatest absolute gains of all Member States.

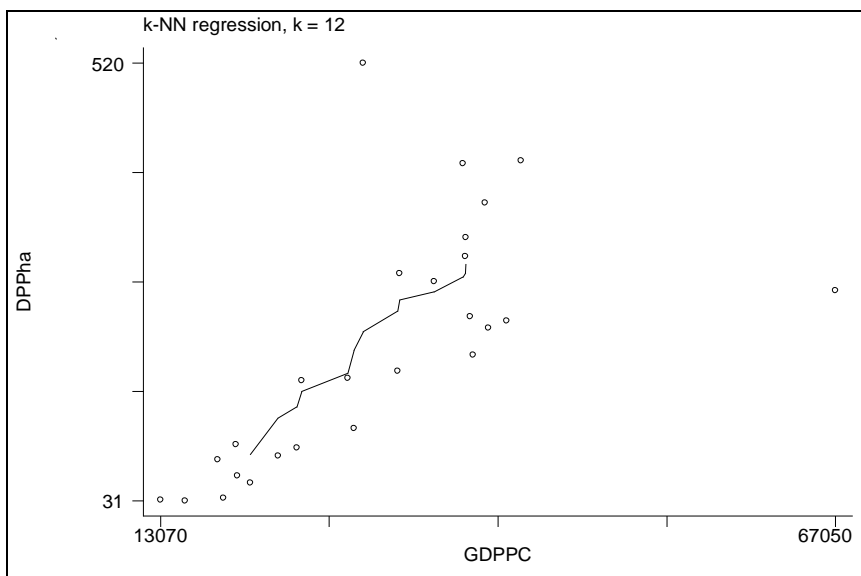
A non parametric approach confirms the correlation between GDP per capita of EU Member States and the level of direct payments (Table 3 and Figure 7). We notice that the current distribution of direct payments appears to be biased towards Western rich countries. Similar findings are noticed when we consider the relationship between GDP per capita and direct payments per hectare (Figure 8). The dataset includes all EU countries except Malta. To

calculate direct payments per hectare we calculate the ratio between direct payments (DG Agri) and hectares of agricultural land (FAOSTAT). GDP per capita data are taken from the World Bank World Development Indicators.

**Figure 7: GDP per capita (2000 PPP \$) vs. direct payments (€ '000s) - a kernel non-parametric estimation across EU Member States**



**Figure 8: GDP per capita (2000 PPP \$) vs. direct payments per arable ha (€/ha) - a kernel non-parametric estimation across EU Member States**



What budgetary consequences could derive from the implementation of different scenarios for each EU Member State?

The SIZE scenario is quite straightforward. In this, we use the same proportional decrease in direct payments for all EU Member States; the distribution remains unchanged and biased towards rich Western countries. In this scenario, the impact on developing countries can be easily understood on the basis of the transmission channels for different policy channels, as described previously. The decrease of direct payments decreases EU supply, increases the



world price and increases the income of the RoW. The size of the effect depends on the supply and demand elasticities, and in particular the range over which the supply elasticity with respect to direct payments is flat.

To examine the consequences of a redistribution of direct payments on the receipts of EU Member States and on developing countries, we compute the inverse of GDP per capita for each country ( $\text{Pop}_i/\text{GDP}_i$ ), then the sum of the inverses of GDP per capita ( $\sum_i \text{Pop}_i/\text{GDP}_i$ ) across countries. Finally, we assume that each country receives an amount of funding proportional to the ratio between ( $\text{Pop}_i/\text{GDP}_i$ ) and  $\sum_i \text{Pop}_i/\text{GDP}_i$ .

Under this scenario, the countries with the highest percentage of CAP funds would be Bulgaria, Romania, Poland, Latvia and Hungary. Eastern European countries would replace Western countries as the main recipients of EU CAP funds, and it would be necessary to examine what changes this means for the composition of EU agricultural production.

A scenario in which all EU Member States receive an equal amount of direct payments per hectare would mean that France and Germany would experience a decrease in CAP funds and Spain and the UK an increase. Poland would replace Italy in the set of countries with the highest level of direct payments funding.

To understand the impact of each of these changes on developing countries would require a more in-depth investigation of trade relationships between EU and developing countries. The redistribution of funds may generate a change in trading relationship patterns between EU and the RoW.

When we have done the first step (identifying CAP reform options), we need to go through the causal chain analysis as presented in Section 4 (so effect on EU production, effect on world prices, effect on developing country importers and exporters, etc.). World price effects are important; once these have been estimated, we need to make assumptions on the price pass-through onto domestic prices. This will have wider economic and social implications in developing countries depending on economic structures and elasticities.

As emphasised by Bhir et al. (2003), a transfer of CAP expenditures towards Eastern European countries could lead to a structural change towards the agriculture sector, even where this shift may be inefficient. The agriculture sector in most of the Central and Eastern European countries is more fragmented, inefficient and traditional than in the current Member States. In a computable general equilibrium (CGE) modelling analysis, the authors show that an increase of CAP expenditures could generate a welfare loss for Baltic countries. These market distortions may generate a negative impact on developing and emerging economies, also when East European production takes the place of Western.

## 6 Suggestions for further research

We suggest there is a need for further work on CAP reform.

- 1 A useful study and one that needs to be done quickly would be a literature review of assessments of the impact of different CAP instruments on non-EU countries, to identify how different methodologies have been used to analyse effects on EU output, trade and prices and then the impact of these on world prices, output and income. This review would need to cover case studies and PE and GE models. This could also identify any general conclusions from studies on how developing countries are affected by changes in EU trade volumes and prices; how this might affect their production, consumption and other economic structures; and how countries respond to these effects. It could build on the recent general review of studies of general agricultural liberalisation by Anderson et al. (2011).

More detailed studies will be needed in the next few months on some issues. The first step would be to agree a set of CAP reform options for simulations. Two options seem particularly important: 1) redistribution of CAP payments from East to West; and 2) redistribution from Pillar 1 to Pillar 2 payments.

We should then undertake a series of studies in two areas. First we need a set of specific assessments of the development effects of CAP reform options taking into account previous changes to CAP. And secondly, we need to examine CAP in the light of a changed context of food price variability, food security, climate change, Europe 2020, Policy Coherence for Development and the multi-year financial framework for EU spending over 2014 -2020.

Specific studies on development effects of CAP:

- 1 In order to assess the possible development effects of CAP reform options, one approach could be to model the impact of the current CAP and of different CAP reform options on income, growth and the environment in order to perform a quantitative evaluation of the impact of CAP reform options on EU and developing countries. Computational general equilibrium (CGE) models and/or econometrics could allow us to identify where there may be significant effects, both in the EU and in developing countries. Modelling studies exist, but these need to be updated and adapted for the current CAP reforms.
- 2 There is a clear need for a more thorough literature review of studies of direct payments, followed by CGE modelling and other types of analysis to identify the nature and size of their effects on EU production. This would mean a mapping of effects of direct payments.
- 3 Because of their direct impact on EU trade and prices, there is a need for a study of EU export subsidies and export refunds (despite their lower size and the EU's offer in the Doha trade negotiations to abolish export subsidies). We could look for changes in the pattern of prices/production following export subsidies (e.g. chicken, dairy).
- 4 The broad agreement that there may be large effects at sector or country level means that studies at this level are needed. Sectoral studies could cover dairy, beef, chicken, sugar and some grains. Country studies would examine how the range of EU agricultural policies affects a specific country. Countries could be chosen to test for various types of difference, e.g. depending on preference or FTA schemes; composition of imports or exports; or economic structures. Uganda has been suggested, but also Ghana, Cameroon, Malawi or the South and Central American countries most likely to be negatively affected. This could include household-level analysis.

The evolution of CAP in the wider context: contextual studies

- 5 CAP reform does not happen in isolation. We need to understand the CAP in the new context of food security and other possible changes in public perceptions about EU agricultural trade. If Europeans feel less secure, this might imply they want to buy 'local' food. But there is also a range of other issues (e.g. the EU's financial framework) which need to be explored at the same time. This study would provide contextual background to CAP reform.

- 6 It is important to examine links between the CAP and commodity price volatility.
- 7 It could also be useful to undertake some political economy analyses. What are the relationships of CAP reform with Doha (and regional) negotiations? How does the example of allowing European views on the nature of food security to be reflected in the CAP emphasis on European production for European consumption affect policy responses in other countries? What agricultural regime in the EU would contribute most to a good international trading and production regime? Will the new role of the European Parliament in trade policy mean more attention to consumer concerns, such as food quality, or to the interests of well-organised pressure groups, such as farmers, and less emphasis on macroeconomic policy, including trade interests?
- 8 Would there be any effect on developing countries from greater environmental conditionality ('greening') of Pillar 1?
- 9 There is also a suggestion that a monitoring mechanism for future CAP changes is needed to implement policy coherence effectively. What should this look like? How could it identify ways to counter negative effects?

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## Appendix A

Term	Description
The Common Agricultural Policy (CAP)	The CAP is an EU policy created to protect agriculture throughout the EU by controlling prices, levels of production and issuing subsidies to protect the rural/agricultural community. Currently the CAP is based on a two-pillar structure – Pillar 1 and Pillar 2; the separation of the CAP into these two different pillars is not based on the policies that each pillar funds but is more importantly based on the different budgets and different rules that are used to fund each pillar. The CAP is funded from the EU budget and accounts for roughly 40% of total EU budgetary expenditure.
Pillar 1 (product/producer support)	Includes both direct payments to farmers and market management measures. Pillar 1 expenditures are predetermined and fully funded by the EU; the Paying Agencies are reimbursed by the EU on an annual basis. Pillar 1 measures are set centrally and apply across the EU as a whole. In 2002, the Brussels Ceiling put a limit that spending on Pillar 1 (but not Pillar 2) should not rise more than 1% in cash terms until the end of the next Financial Perspective – effectively freezing Pillar 1 expenditure until 2013.
Pillar 2 (rural development policy)	Focused on improving the structural and environmental performance of agriculture by promoting local/rural development. It is co-financed by the Member States as well as from the EU Budget. Pillar 2 expenditure is programmed at the Member State/regional level and involves multi-annual commitments to beneficiaries (farmers) based on the programmes in place.
Direct Payments	Direct payments are under the category of Pillar 1. They account for around $\frac{3}{4}$ of the CAP Budget. They are a direct subsidy to farmers allowed to EU Member States based on historic criteria. Direct payments replaced previous coupled payments and market measures that were phased out when levels of production in the EU became too high. Direct payments can either be classified as coupled (production-linked) payments or decoupled (unrelated to production) payments. The Single Payment Scheme (SPS), a decoupled payment introduced in 2003, is now the most important system of direct payments. In addition to SPS, farmers can still receive coupled aid under other specific support schemes linked to the land used for their crops or to their production, depending on whether the Member State concerned implements the scheme. These production-linked (coupled) aid schemes are supposed to end by 2012 at the latest and their funds are to be allocated to SPS. Direct payments are administered through Paying Agencies appointed by national authorities.
Single Payment Scheme (SPS)	The single payment falls under Pillar 1 as a form of direct aid that is allocated to farmers unrelated to their production (decoupled). The main aim is to support farmers' incomes in return for them respecting standards of environmental protection, animal welfare, food safety and keeping the land in good condition. To be eligible for SPS a farmer requires payment entitlements. These are calculated in a Member State by the historic/basic approach where the payments received by the farmer during a reference period (normally 2000, 2001, and 2002) are divided by the number of hectares farmed during the reference years. Or they can also be calculated by the regional/flat rate approach where the reference amounts are calculated at the regional level and not at the individual farmer level. Member States may also mix these two methods of entitlement calculation. SPS support can be reduced to any farmer if the farmer does not comply with standards on environmental protection, animal welfare and product quality; this is known as 'cross-compliance'.
Single Area Payment Scheme (SAPS)	A simplified version of the SPS support scheme within the CAP. SAPS is a different type of direct aid scheme and only offered to new members in the first years of their accession (not on offer for the EU-15). Involves payment of uniform amounts per hectare of agricultural land in the concerned Member State, up to a national ceiling determined during the accession agreements.
Market Management Measures	These measures fall under Pillar 1 of the CAP. The EU uses these tools to control the market of agricultural goods in and out of the EU. These measures include safety net intervention, export subsidies, recourse to private storage and the use of market disturbance clauses responding to periods of price crises. Specific support schemes have been introduced or maintained for a number of products such as durum wheat, protein crops, rice, nuts, energy crops, starch potatoes, milk and milk products, seeds, cotton, tobacco, olive groves, grain and legumes. Traders and processors can, under certain conditions, receive export refunds as well as processing and

transformation subsidies. These funds are administered through Paying Agencies appointed by national authorities.

Rural Development	Rural development is part of Pillar 2 of the CAP. It provides assistance for farmers and others in rural areas with policies such as modernising farm buildings and machines, assisting young farmers to set up farms, assisting farmers to meet EU standards, improving product quality, support for farming in mountainous areas and other areas with handicaps, measures to improve the environment, and training in new farming techniques and rural crafts. Member States choose how to spend their rural development funds depending on regional needs, but are required to spend at least 25% on improving the environment and countryside, 10% on the competitiveness of agricultural/forestry sector and 10% on the quality of life in rural areas and encouraging diversification.
European Agricultural Guarantee Fund (EAGF)	One of the two funds for agricultural expenditure in the EU. EAGF finances direct payments to farmers and measures to regulate agricultural markets such as intervention and export refunds, basically covering Pillar 1 expenditures. The Commission reimburses these expenditures within Member States on a monthly basis.
European Agricultural Fund for Rural Development (EAFRD)	One of the two funds for agricultural expenditure in the EU. EAFRD finances the rural development programmes of the Member States, basically covering Pillar 2 expenditure. The Commission reimburses the expenditures within Member States on a quarterly basis.
MacSharry Reforms of 1992	The reforms extended milk quotas but also made the first significant reductions in the level of institutional prices for cereals and beef. The core of the MacSharry reforms was a cut of 30% in the cereal intervention prices as well as smaller cuts in the institutional prices for beef and butter. In another aspect of the reforms, cereal farmers had to leave a portion of their land out of cultivation – known as the “set-aside programme”. To compensate for these cutbacks in price support, farmers were given direct payments per head of livestock and hectare of crops. The reforms also made funds available for programmes to assist with the development of rural areas.
The Agenda 2000 Reform	Extended the MacSharry reforms with additional compensation for cuts in institutional prices of commodities and reinforced rural development/agri-environmental schemes, more clearly forming Pillar 2 of the CAP.
The Fischler Reforms 2003 (Mid-term Review of Agenda 2000)	Continued the reductions in support prices with changes to the policies for problem commodities such as durum wheat, rice and rye. Introduced the Single Payment Scheme (SPS), which was intended to break the link between farm aid and production (decoupling), and created the related policy of ‘cross-compliance’.
CAP Health Check 2008	Determined by the EU agricultural ministers on 20 Nov. 2008. The agreement abolished the ‘set-aside programme’, increased milk quotas gradually until the abolition in 2015, further transferred production-linked direct aid payments to the Single Payment Scheme, extended SAPS until 2013, simplified the ‘cross-compliance’ policy, and stated that “all farmers receiving more than €5,000 in direct aid have their payments reduced by 5 percent and the money is transferred into the Rural Development budget. This rate will be increased to 10 percent by 2012. An additional cut of 4 percent will be made on payments above €300,000 a year” (known as modulation). In addition, these 2008 reforms maintained assistance to sectors with special problems under ‘Article 68’ measures.
‘Annex I goods’	Along with ‘Non-Annex I goods’, ‘Annex I goods’ comprise the basic products and commodities that are covered by the CAP. ‘Annex I goods’ include meat and poultry products; sugar; fish and dairy products; cereals and rice products; products of the milling industry (flour); fruit and vegetables, nuts, grains and seeds; wine and spirits; live trees and other plants; bulbs and roots; cut flowers; un-manufactured tobacco; cork; and flax and hemp.
‘Non-Annex I goods’	These are goods covered by the CAP that are manufactured from the basic products of ‘Annex I goods’ listed above. Includes glycerol, sugar confectionery, preparations of malt extract, pasta products, tapioca and sago, puffed rice and similar products, bread, pastries, biscuits, sauces and soups.
Total Support Estimate (TSE)	TSE ‘is the overall annual monetary value of transfers arising from all policy measures that support agriculture. It is calculated by adding together the PSE, the GSSE and the taxpayer cost of consumption subsidies.’



Producer Support Estimate (PSE)

Most important indicator of agricultural support produced by the OECD, developed to monitor and evaluate progress of agricultural policy reform. The PSE 'is an accounting of the monetary value of the support arising from many different types of policy measures that can be broadly grouped into the categories of budgetary transfers, Market Price Support (MPS), or revenue forgone.' The PSE is the monetary value of transfers from consumers and taxpayers to producers and can be influenced by the size and structure of the country's agricultural sector, inflation and the exchange rate.

Consumer Support Estimate (CSE)

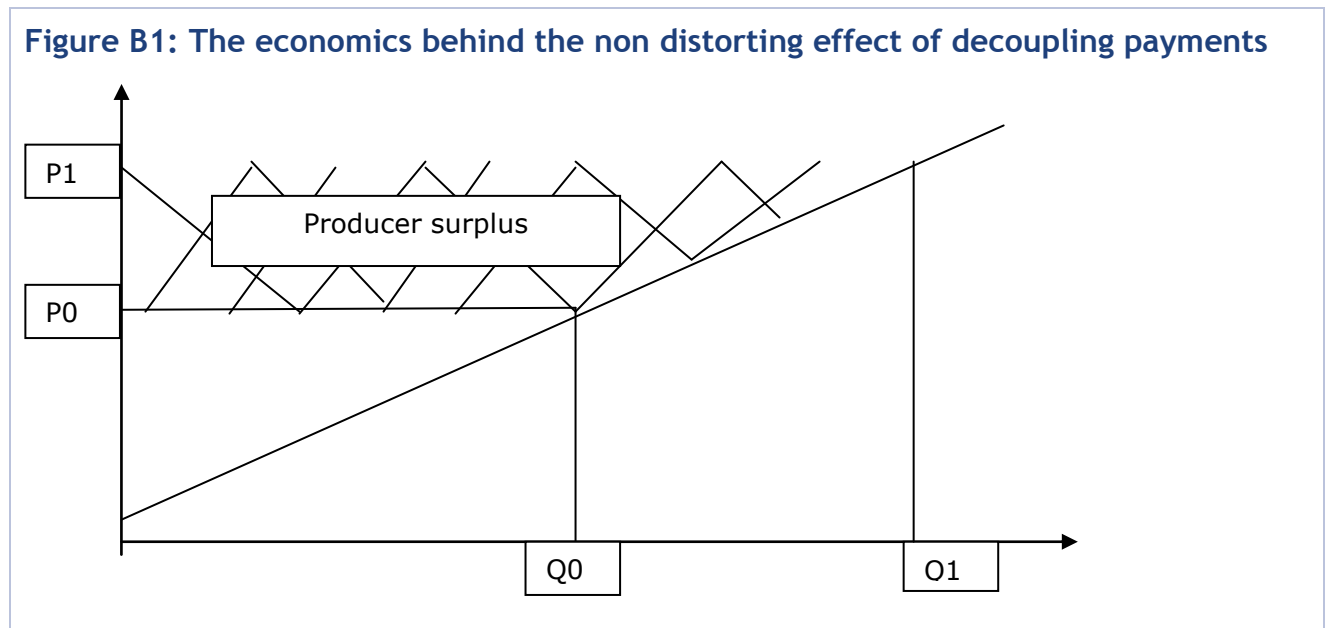
CSE is the 'annual monetary value of transfers from/to consumers from policy measures that: maintain domestic prices paid for by the first consumers at levels higher (sometimes lower) than those on world markets at the country's border, which is an implicit tax on consumers resulting from market price support to farmers; and provide subsidies to keep prices of commodities consumed by certain groups in the economy lower than would otherwise be the case (i.e. cheap food for poor people).' CSE tends to be negative because the implicit tax on consumers normally outweighs the consumer food subsidies.

Aggregate Measurement of Support (AMS)

The AMS is an indicator developed by the WTO as the basis for a legal commitment within the WTO Agreement on Agriculture to reduce domestic agricultural support. The AMS includes only those domestic policies that are classified under the 'Amber Box'. It is frequently used in comparison with the PSE. Like the PSE, the AMS is measured annually and includes MPS (but each indicator calculates it differently), budgetary transfers and revenue forgone.

## Appendix B: The economics behind the choice to leave the intervention price to introduce decoupled payments

The economics behind this statement is simple. Given a standard supply function  $S$  and being  $p_1$  the government minimum regulated minimum producer price, then  $q_1$  is the quantity supplied at the minimum price. The shaded area represents the gain of the producer surplus resulting from the producer price support. The idea of direct payments is to eliminate the price support by providing producers the value of the producer surplus.



Von Witzke et al. (2010) also stress that in many cases the reality does not match predictions of standard textbook theory, because in reality a wide share of subsidies is still coupled and because it does not incorporate other important factors such as the farmers' risk aversion.

## Appendix C: Different CAP negotiation positions

France	<p><b>France has not yet delivered a comprehensive position paper of its own, but the Ministry of Agriculture has expressed the French position at various occasions. Priorities are: the preservation of a large CAP budget, of a large, fully EU-financed first pillar, and of current distribution criteria for subsidy allocation across Member States; the continuation of market management and the introduction of new subsidies for risk management; support to ailing sectors, especially livestock; enhancing production as a means to ensure European and global food security; preference for EU products through tariffs and labels; maintenance of agriculture across the entire territory; and the promotion of territorial balance/rural through agriculture</b></p>
Germany	<p>The two-pillar system with a strong first pillar, centred on direct income support, should be maintained, together with the current distribution of subsidies across Member States. The CAP should be further simplified and remaining market interventions be reduced to a safety net. Socio-economic objectives should remain central.</p>
Uk, Sweden, Denmark, The Netherlands and Malta	<p>Led by Uk, the reform narrative of this coalition accentuates more the competitiveness of EU agriculture: it supports removing the distortions arising from current intervention and notes the need for investments in research, development and extension and reductions in the regulatory burden on farmers. The UK negotiating position is also shaped by the rebate on UK contributions to the EU budget</p>
France, Germany, Uk, the Netherlands and Finland	<p>In a public letter addressed to José Barroso, heads of state from France, Germany, the UK, the Netherlands and Finland insisted on budget discipline. In particular, they wrote that 'payment appropriations should increase, at most, by no more than inflation over the next financial perspectives' and that 'commitment appropriations over the next multiannual financial framework should not exceed the 2013 level with a growth rate below the rate of inflation</p>
Poland and the new member States	<p>Led by Poland, the Eastern European mainstream credo consists in a large CAP budget with a strong EU-financed income support component, redistribution of subsidies to the benefits of the new Member States, centralised spending with as little co-financing and national top-ups as possible, and investments in rural development and agricultural productivity</p>
Farmers and land owners	<p>The European farmer federation Copa-Cogeca takes a hard line.<sup>57</sup> It wishes to maintain, and in many cases strengthen, most elements of the CAP, including export subsidies (until trading partners agree to eliminate their own export support mechanisms) and intervention buying (with higher intervention prices and broader product coverage). Direct income support shall be limited to active farmers and rural development be refocused on agriculture</p>
Agricultural economists	<p>Agricultural economists from across Europe have issued two declarations on the post-2013 CAP. The 2009 declaration on 'A Common Agricultural Policy for European Public Goods' provides a five-page blueprint for a better CAP. It concludes that 'the future role of the CAP should be to give farmers appropriate incentives to deliver European public goods demanded by society, particularly in the environmental realm' and that 'a future CAP in line with these objectives would differ fundamentally from the current CAP</p>

Source: Zahrt (2011).

## Appendix D: EU tariffs

Regime	Butter	Cheese	Beef & veal	Cotton	Tobacco	Sugar	Wheat	Soya beans	Poultry meat	Bananas	Rice
<b>Bound rates</b>	189.6 or 231.3 €/100kg	6.58 to 221.2 €/100kg /net	12.8% + 141.4 to 304.1 €/100kg /net	0	10-74.9% or 11.2% min. 22/max. 56 €/100 kg/net or 18.4% min. 22/max. 24 €/100 kg/net	8 or 12.8% or 0.4 €/100kg to 16%+50.7 €/100kg/net mas	12.8% or 95 or 148 €/t	0	0 or 6.4% or 18.7 to 128.3 €/100kg /net	680 €/1000kg /net	7.7% or 128 to 416 €/t
<b>MFN<sup>a</sup></b>	189.6 or 231.3 €/100kg	7.7% to 221.2 €/100kg	12.8% + 141.4 to 304.1 €/100kg /net	Duty free	10-74.9% or 10-11.2% min. 22/max. 56 €/100 kg/net	8 or 12.8% or 0.4 €/100kg to 16%+50.7 €/100kg/net mas	12.8% or 95 or 148 €/t	Duty free	0 or 6.4% or 18.7 to 128.3 €/100kg /net	176 €/1000kg /net	7.7% or 65 to 211 €/t
<b>Preferential</b>											
Standard GSP <sup>b</sup>	n/a	n/a	n/a	n/a	6.5-52.4% or 3.9-7.7% max. 56 €/100 kg/net	8 or 8.9% or 0.4 €/100kg to 12.5%+50.7 €/100kg/net mas	n/a	n/a	2.9% on 3 lines which are 6.4% under MFN, otherwise no pref.	n/a	n/a
GSP+ <sup>c</sup>	n/a	n/a	n/a	n/a	Duty free	0 or 8% or 0.4 €/100kg to 50.7 €/100kg/net mas	n/a	n/a	0% on 3 lines which are 6.4% under MFN, otherwise no pref.	n/a	n/a
EBA <sup>d</sup>	Duty free	Duty free	Duty free	n/a	Duty free	Duty free	Duty free	n/a	Duty free	Duty free	Duty free
EPA <sup>e</sup>	Duty free	Duty free	Duty free	n/a	Duty free	Duty free (subject to an 'automatic volume safeguard clause' until 2015)	Duty free	n/a	Duty free	Duty free	Duty free
Albania	Duty free	Duty free	n/a	n/a	Duty free	n/a	Duty free	n/a	Duty free	Duty free	Duty free
Algeria	n/a	n/a	n/a	n/a	0% or 3.9-7.7% max. 56 €/100	0 or 8% or 0.4 €/100kg to 50.7 €/1	n/a	n/a	n/a	n/a	n/a

					kg/net	00kg/net mas						
Bosnia / Herze govina	Duty free	Duty free	n/a	n/a	Duty free	0 or 8% or 0.4 €/100kg to 50.7 €/100kg/net mas	Duty free	n/a	Duty free	Duty free	Duty free	Duty free
Chile	n/a	0% to 221.2 €/100kg	n/a	n/a	0-6.5% or 3.9-7.7% max. 56 €/100 kg/net	0 or 8.9% or 0.4 €/100kg to 12.5% + 50.7 €/100kg/net mas	1.6% or 95 or 148 €/t	n/a	0% or 18.7 to 128.3 €/100kg /net	n/a	0% or 65 to 211 €/t	
Croatia	Duty free	Duty free	n/a	n/a	Duty free	n/a	Duty free	n/a	Duty free	Duty free	Duty free	Duty free
Egypt	n/a	n/a	n/a	n/a	0% or 3.9-7.7% max. 56 €/100 kg/net	0 or 8% or 0.4 €/100kg to 50.7 €/100kg/net mas	n/a	n/a	n/a	n/a	n/a	n/a
<b>Regime</b>	<b>Butter</b>	<b>Cheese</b>	<b>Beef &amp; veal</b>	<b>Cotton</b>	<b>Tobacco</b>	<b>Sugar</b>	<b>Wheat</b>	<b>Soya beans</b>	<b>Poultry meat</b>	<b>Bananas</b>	<b>Rice</b>	
Gaza Strip	n/a	n/a	n/a	n/a	0% or 3.9-7.7% max. 56 €/100 kg/net	0 or 8% or 0.4 €/100kg to 50.7 €/100kg/net mas	n/a	n/a	n/a	n/a	n/a	n/a
India	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0 or 7.7% or 65 to 211 €/t	
Jordan	Duty free	Duty free	Duty free	n/a	Duty free	Duty free	Duty free	n/a	Duty free	Duty free	Duty free	Duty free
Lebanon	Duty free	Duty free	Duty free	n/a	Duty free	0% or 33.9 €/100kg to 50.7 €/100kg/net mas	Duty free	n/a	Duty free	Duty free	Duty free	Duty free
Macedonia FYR	Duty free	Duty free	n/a	n/a	Duty free	n/a	Duty free	n/a	0% or 26.9 €/100kg /net	Duty free	Duty free	Duty free
Mexico	n/a	n/a	n/a	n/a	Duty free	n/a	n/a	n/a	0% or 18.7 to 128.3 €/100kg /net	n/a	n/a	n/a
Moldova	n/a	n/a	n/a	n/a	Duty free	0% or 41.9 €/100kg /net	0% or 95 or 148 €/t	n/a	n/a	Duty free	Duty free	Duty free
Montenegro	Duty free	Duty free	n/a	n/a	Duty free	n/a	Duty free	n/a	Duty free	Duty free	Duty free	Duty free
Morocco	n/a	n/a	n/a	n/a	0% or 3.9-7.7% max. 56 €/100 kg/net	0 or 8% or 0.4 €/100kg to 50.7 €/100kg/net	n/a	n/a	n/a	n/a	n/a	n/a

						mas					
Pakistan	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0 or 7.7% or 65 to 211 €/t
Serbia	Duty free	Duty free	n/a	n/a	Duty free	n/a	Duty free	n/a	Duty free	Duty free	Duty free
South Africa	n/a	7.7% to 188.2 €/100kg	n/a	n/a	0% or 1.7€/100 kgnet	8 or 9.4% 0.4 €/100kg to 13%+50.7 €/100 kg/net mas	1.5% or 16.1 or 25.1 €/1000kg/net	n/a	0% or 3.1 to 28.8 €/100kg	n/a	n/a
Syria	n/a	n/a	n/a	n/a	0% or 3.9-7.7% max. 56 €/100 kg/net	0 or 8% or 0.4 €/100kg to 50.7 €/100kg/net mas	n/a	n/a	n/a	n/a	n/a
Tunisia	n/a	n/a	n/a	n/a	0% or 3.9-7.7% max. 56 €/100 kg/net	0 or 8% or 0.4 €/100kg to 50.7 €/100kg/net mas	n/a	n/a	n/a	n/a	n/a
Turkey	n/a	0% to 221.2 €/100kg	141.4 to 304.1 €/100kg /net	n/a	Duty free	0% or 0.4 €/100kg to 50.7 €/100kg/net mas	0% or 95 or 148 €/t	n/a	0% or 18.7 to 128.3 €/100kg /net	n/a	0% or 65 to 211 €/t

Regime	Butter	Cheese	Beef & veal	Cotton	Tobacco	Sugar	Wheat	Soya beans	Poultry meat	Bananas	Rice
<b>New FTAs</b>											
Colombia	No offer	DF 7 yrs after EIF (42 lines) No offer (2 lines)	DFQ 5,600t with annual increase of 560t (4 lines) No offer (10 lines)	DF on EIF	DF on EIF	DF 3 yrs after EIF (1 line - maple syrup) AV zero on EIF (1 line - fructose) DFQ of 62 000t, with annual increase of 1,860t (5 lines) No offer (24 lines)	DF on EIF	DF on EIF	DF on EIF (9 lines) No offer (83 lines)	Reduction from €145/t to €75/t in annual stages to 2020	DF on EIF (1 line - in husk for sowing)
Peru	DFQ of 500t, with annual increase of 50t DF 7 yrs after EIF	DFQ of 2,500t, with annual increase of 120t DF 7 yrs after EIF	DFQ of 2,150t, with a yearly increase of 215t	DF on EIF	DF on EIF	DF on EIF (1 line - maltose) DF 3 yrs after EIF (1 line - maple syrup) DFQ of 22,000t, with a yearly increase of 660t (20 lines - 1 o/w has elimination of AV element on EIF) No offer (9 lines)	DF on EIF	DF on EIF	DF on EIF (9 lines) DF 3 yrs after EIF (1 line) DFQ of 7,500t, with a yearly increase of 750t (31 lines)	Reduction from €145/t to €75/t in annual stages to 2020	DF on EIF (1 line - in husk for sowing)

**General notes:**

In most cases there are numerous different rates applying to goods within the broad tariff headings used for the CAP product group in question. The ranges shown are intended to indicate the lowest and highest, but in the case of specific or compound duties relative magnitude is very hard to gauge.

'n/a' denotes that there is no preference for the regime/country in question. In the case of Standard GSP and GSP+, MFN rates will apply. In the case of FTAs, the rate applicable will be that shown for Standard GSP (if product covered/country eligible) or MFN - see specific notes below.

Where preferences are available on some but not all goods within the broad CAP product group, the range takes account of rates applying under the next most favourable regime (see notes below) for goods not covered.

Where preferences exist, but are less good than Standard GSP, it is the preferential rate that is shown here - even though the country probably claims the GSP rate. (e.g. South Africa/sugar).

**Specific notes:**

(a) The most favourable regime available for: Belarus and North Korea.

(b) The most favourable regime available for: Argentina, Bahrain, Brazil, Brunei, China, Congo, Cook Islands, Cuba, Gabon, India, Indonesia, Iran, Iraq, Kazakhstan, Kuwait, Kyrgyzstan, Libya, Malaysia, Marshall Islands, Micronesia, Nauru, Nigeria, Niue, Oman, Pakistan, Palau, Philippines, Qatar, Russian Federation, Saudi Arabia, Sri Lanka, Tajikistan, Thailand, Tonga, Turkmenistan, Ukraine, United Arab Emirates, Uruguay, Uzbekistan, Venezuela, Viet Nam. (Although India and Pakistan receive a preference on two rice items, and Brazil is not eligible for any GSP preference on sugar and tobacco.) MFN rates apply to goods not covered by the GSP.

(c) The most favourable regime available for: Armenia, Azerbaijan, Bolivia, Colombia, Costa Rica, Ecuador, El Salvador, Georgia, Guatemala, Honduras, Mongolia, Nicaragua, Panama, Paraguay and Peru. MFN rates apply to goods not covered by GSP+.

(d) The most favourable regime available for: Afghanistan, Angola, Bangladesh, Benin, Bhutan, Burkina Faso, Cambodia, Cape Verde, Central African Republic, Chad, Congo DR, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Lao PDR, Liberia, Malawi,

Maldives, Mali, Mauritania, Myanmar, Nepal, Niger, Samoa, Sao Tome and Principe, Senegal, Sierra Leone, Solomon Islands, Somalia, Sudan, Timor-Leste, Togo, Tuvalu, Vanuatu, Yemen. All CAP goods are covered.

(e) The most favourable regime available for: Antigua/Barbuda, Bahamas, Barbados, Belize, Botswana, Burundi, Cameroon, Comoros, Côte d'Ivoire, Dominica, Dominican Rep., Fiji, Ghana, Grenada, Guyana, Jamaica, Kenya, Lesotho, Madagascar, Mauritius, Mozambique, Namibia, Papua New Guinea, Rwanda, St Kitts/Nevis, St Lucia, St Vincent/Grenadines, Seychelles, Suriname, Swaziland, Tanzania, Trinidad/Tobago, Uganda, Zambia, Zimbabwe. All CAP goods are covered.

Sources: EU 2010 tariff schedules from UNCTAD's TRAINS database; Official Journal L211 of 6 August 2008; European Commission Taxation and Customs Union Taric Consultation (online at: [http://ec.europa.eu/taxation\\_customs/dds2/taric/geographical\\_consultation.jsp?Lang=en&SimDate=20110324&Code=&Description=&Group=SPGL&Expand=true](http://ec.europa.eu/taxation_customs/dds2/taric/geographical_consultation.jsp?Lang=en&SimDate=20110324&Code=&Description=&Group=SPGL&Expand=true)).



## Appendix E : Developing country exporters and importers for which highest EU intervention product groups are most important

Table E1: Developing country exporters for which highest EU intervention product groups are most important<sup>a</sup>

CAP product group <sup>b</sup>	Developing country exporter	Exports of product group to world	Total exports to world	Product group share in total exports to world
Meat	Uruguay	747,907	3,861,604	19.4%
	Paraguay	399,359	2,270,868	17.6%
	Nicaragua	165,716	998,870	16.6%
	Brazil	6,510,894	109,702,736	5.9%
	Somalia	10,248	180,356	5.7%
	Botswana	82,301	2,477,870	3.3%
	Argentina	1,303,036	39,916,724	3.3%
	Namibia	43,423	1,503,344	2.9%
	Belarus	330,946	15,260,124	2.2%
Dairy	Nicaragua	91,946	998,870	9.2%
	Djibouti	21,107	260,792	8.1%
	Uruguay	263,189	3,861,604	6.8%
	Gambia	2,766	47,343	5.8%
	Belarus	726,347	15,260,124	4.8%
	Sao Tome And Principe	171	5,820	2.9%
Grains	Belize	245,021	1,390,850	17.6%
	Paraguay	327,599	2,270,868	14.4%
	Uruguay	520,827	3,861,604	13.5%
	Guyana	60,593	523,553	11.6%
	Pakistan	1,307,312	12,587,351	10.4%
	Ukraine	2,549,919	28,463,210	9.0%
	Saint Vincent and the Grenadines	3,085	35,181	8.8%
	Argentina	2,304,616	39,916,724	5.8%
	Moldova	50,815	923,235	5.5%
	Serbia	234,575	5,983,720	3.9%
	Lao PDR	27,390	781,863	3.5%
	Thailand	3,802,021	109,345,984	3.5%
	Viet Nam	1,406,271	43,100,084	3.3%
	Senegal	35,866	1,446,538	2.5%
	Uganda	25,159	1,052,974	2.4%
	Djibouti	5,481	260,792	2.1%
Myanmar	84,156	4,253,367	2.0%	
Vegetables	Tonga	2,056	10,657	19.3%
	Ethiopia	210,827	1,160,283	18.2%
	Myanmar	721,510	4,253,367	17.0%
	Saint Vincent and the Grenadines	3,765	35,181	10.7%
	Nepal	56,973	635,293	9.0%
	Jordan	270,463	4,564,468	5.9%
	Nicaragua	55,540	998,870	5.6%
	Kenya	161,221	3,200,449	5.0%
	Kyrgyzstan	32,695	844,865	3.9%
	Niger	9,556	260,613	3.7%
	Morocco	345,121	9,993,940	3.5%
	Egypt	479,956	16,031,634	3.0%
	Afghanistan	8,495	289,282	2.9%
	Tajikistan	18,416	644,691	2.9%

CAP product group <sup>b</sup>	Developing country exporter	Exports of product group to world	Total exports to world	Product group share in total exports to world
	Malawi	23,489	851,779	2.8%
	FYR Macedonia	52,240	1,929,923	2.7%
	Palestine	1,380	52,630	2.6%
	Guatemala	127,280	5,168,816	2.5%
	Syrian Arab Republic	101,803	4,141,629	2.5%
	Fiji	10,482	450,783	2.3%
	Tanzania	45,931	2,138,492	2.1%
	Bhutan	7,267	355,539	2.0%
Fruit and nuts	Guinea-Bissau	61,414	66,879	91.8%
	Afghanistan	146,655	289,282	50.7%
	Dominica	22,581	57,678	39.2%
	Benin	69,522	238,134	29.2%
	Panama	106,922	437,644	24.4%
	Saint Vincent and the Grenadines	5,968	35,181	17.0%
	Ecuador	1,496,171	9,840,807	15.2%
	Saint Lucia	20,916	147,435	14.2%
	Tajikistan	89,270	644,691	13.8%
	Costa Rica	721,153	6,245,878	11.5%
	Moldova	89,937	923,235	9.7%
	Honduras	180,165	1,884,588	9.6%
	Guatemala	458,366	5,168,816	8.9%
	Cameroon	217,250	2,534,370	8.6%
	Gambia	3,758	47,343	7.9%
	Georgia	63,149	817,016	7.7%
	Chile	2,502,297	38,527,584	6.5%
	Ghana	112,426	2,349,331	4.8%
	Belize	61,117	1,390,850	4.4%
	Suriname	41,199	996,419	4.1%
	Mali	6,183	149,630	4.1%
	Uzbekistan	156,676	3,839,126	4.1%
	Serbia	230,506	5,983,720	3.9%
	Palestine	1,909	52,630	3.6%
	Egypt	573,564	16,031,634	3.6%
	Burundi	2,803	80,976	3.5%
	Tonga	347	10,657	3.3%
	Morocco	323,038	9,993,940	3.2%
	Dominican Republic	107,183	3,365,239	3.2%
	Côte d'Ivoire	230,802	7,371,186	3.1%
	Tanzania	66,200	2,138,492	3.1%
	South Africa	1,160,998	38,622,352	3.0%
	Kyrgyzstan	25,189	844,865	3.0%
	Turkey	2,152,420	73,237,000	2.9%
	Namibia	43,957	1,503,344	2.9%
	Colombia	635,097	23,556,774	2.7%
	Swaziland	15,029	593,120	2.5%
	Haiti	9,729	471,749	2.1%
	Bhutan	7,283	355,539	2.0%

**Note:**

(a) All developing countries for which exports in the product group account for 2% or more of total exports to the world.

(b) Exports in HS codes noted in **Error! Reference source not found.**

**Source:** Derived from data obtained from ITC Trade Map. Includes both own-reported and mirror data.

Table E2: Developing country importers for which highest EU intervention product groups are most important<sup>a</sup>

CAP product group <sup>b</sup>	Developing country exporter	Imports of product group from world	Total imports from world	Product group share in total im-ports from world
Meat	Tonga	8,883	71,170	12.5%
	Samoa	12,964	165,305	7.8%
	Comoros	10,454	139,590	7.5%
	Cuba	144,177	3,380,811	4.3%
	Gabon	57,794	1,431,636	4.0%
	Montenegro	62,002	1,610,771	3.8%
	Grenada	5,395	144,575	3.7%
	Saint Vincent and the Grenadines	7,871	239,124	3.3%
	Russian Federation	3,843,566	122,488,816	3.1%
	Benin	117,573	3,792,874	3.1%
	Congo	69,781	2,252,040	3.1%
	Kuwait	339,864	11,287,207	3.0%
	Micronesia	2,818	93,669	3.0%
	Cook Islands	2,167	76,794	2.8%
	Venezuela	701,370	27,732,540	2.5%
	Bahamas	47,837	1,934,940	2.5%
	Kiribati	975	40,123	2.4%
	Dominica	3,703	154,976	2.4%
	Congo DR	52,674	2,206,650	2.4%
	Palau	888	38,751	2.3%
	Sao Tome and Principe	1,697	74,058	2.3%
	Angola	258,018	11,479,337	2.2%
	Saint Kitts and Nevis	3,264	146,715	2.2%
FYR Macedonia	78,943	3,616,095	2.2%	
Iraq	350,122	16,187,980	2.2%	
Papua New Guinea	51,127	2,461,846	2.1%	
Dairy	Somalia	36,218	733,030	4.9%
	Cape Verde	18,529	481,151	3.9%
	Sao Tome and Principe	2,437	74,058	3.3%
	Senegal	99,309	3,379,318	2.9%
	Grenada	4,197	144,575	2.9%
	Djibouti	12,816	464,363	2.8%
	Tonga	1,890	71,170	2.7%
	Samoa	4,339	165,305	2.6%
	Mauritania	30,903	1,299,621	2.4%
	Niger	20,514	908,401	2.3%
	Maldives	15,547	702,624	2.2%
	Algeria	615,310	28,149,634	2.2%
	Mauritius	57,844	2,673,756	2.2%
	Yemen	136,058	6,585,866	2.1%
	Haiti	33,010	1,612,384	2.0%
Montenegro	32,294	1,610,771	2.0%	
Grains	Yemen	828,043	6,585,866	12.6%
	Côte d'Ivoire	527,374	4,990,524	10.6%
	Guinea-Bissau	21,851	207,858	10.5%
	Haiti	163,939	1,612,384	10.2%
	Gambia	21,869	217,937	10.0%
	Senegal	334,753	3,379,318	9.9%
	Comoros	13,628	139,590	9.8%
	Benin	324,136	3,792,874	8.5%
	Somalia	57,940	733,030	7.9%
	Mauritania	99,994	1,299,621	7.7%
	Kenya	537,226	7,315,202	7.3%
	Mozambique	197,612	2,699,072	7.3%
	Zimbabwe	158,275	2,528,828	6.3%
Cuba	211,037	3,380,811	6.2%	

CAP product group <sup>b</sup>	Developing country exporter	Imports of product group from world	Total imports from world	Product group share in total im-ports from world
	Eritrea	13,708	226,766	6.0%
	Sierra Leone	25,942	434,756	6.0%
	Algeria	1,658,902	28,149,634	5.9%
	Syria	595,395	10,462,387	5.7%
	Cape Verde	26,457	481,151	5.5%
	Iran	2,083,973	38,378,092	5.4%
	Cameroon	140,629	2,611,824	5.4%
	Egypt	1,734,580	33,827,972	5.1%
	Sudan	313,386	6,159,251	5.1%
	Burkina Faso	67,671	1,341,059	5.0%
	Iraq	800,107	16,187,980	4.9%
	Nigeria	1,133,876	24,312,024	4.7%
	Ethiopia	264,014	5,717,559	4.6%
	Niger	41,347	908,401	4.6%
	Saint Vincent and the Grenadines	10,584	239,124	4.4%
	Sao Tome and Principe	3,259	74,058	4.4%
	Malawi	63,253	1,454,871	4.3%
	Micronesia	4,064	93,669	4.3%
	Philippines	1,424,240	32,895,988	4.3%
	Papua New Guinea	103,843	2,461,846	4.2%
	Uganda	128,091	3,051,505	4.2%
	Bangladesh	545,547	13,170,512	4.1%
	Fiji	41,276	1,030,394	4.0%
	Jordan	377,869	10,092,495	3.7%
	Peru	578,959	15,681,388	3.7%
	Azerbaijan	159,897	4,387,587	3.6%
	Colombia	846,199	23,588,816	3.6%
	Saudi Arabia	2,425,681	68,514,360	3.5%
	Tanzania	165,590	4,682,836	3.5%
	Swaziland	6,761	193,378	3.5%
	Armenia	78,429	2,276,325	3.4%
	Honduras	146,463	4,268,895	3.4%
	Jamaica	123,276	3,631,254	3.4%
	Morocco	795,602	23,685,394	3.4%
	Grenada	4,765	144,575	3.3%
	Mali	47,757	1,455,168	3.3%
	Nicaragua	81,639	2,494,289	3.3%
	Sri Lanka	219,195	6,762,977	3.2%
	Bhutan	12,216	379,605	3.2%
	Burundi	7,862	247,231	3.2%
	Guinea	42,273	1,341,943	3.2%
	Mauritius	82,581	2,673,756	3.1%
	El Salvador	160,070	5,201,906	3.1%
	Kyrgyzstan	63,309	2,132,370	3.0%
	Ghana	167,993	5,842,828	2.9%
	Tajikistan	51,790	1,857,271	2.8%
	Guatemala	227,787	8,261,232	2.8%
	Rwanda	24,262	902,018	2.7%
	Georgia	83,312	3,169,901	2.6%
	Palau	1,003	38,751	2.6%
	Dominican Republic	222,095	8,643,467	2.6%
	Libya	349,058	13,647,402	2.6%
	Gabon	35,282	1,431,636	2.5%
	Tunisia	335,370	13,692,644	2.4%
	Congo DR	53,873	2,206,650	2.4%
	Korea PDR	48,673	2,055,276	2.4%
	Togo	47,110	2,061,978	2.3%
	Kuwait	257,327	11,287,207	2.3%
	Samoa	3,460	165,305	2.1%

CAP product group <sup>b</sup>	Developing country exporter	Imports of product group from world	Total imports from world	Product group share in total im-ports from world
Vegetables	Somalia	91,403	733,030	12.5%
	Bangladesh	460,349	13,170,512	3.5%
	Sri Lanka	173,959	6,762,977	2.6%
	Maldives	16,904	702,624	2.4%
Fruit & nuts	Niue	7,485	247,296	3.0%
	Djibouti	13,101	464,363	2.8%
	Russian Federation	3,150,484	122,488,816	2.6%
	Maldives	15,180	702,624	2.2%

**Notes:**

(a) All developing countries for which imports in the product group account for 2% or more of total imports from the world.

(b) Imports in HS codes noted in **Error! Reference source not found.**

*Source:* Derived from data obtained from ITC Trade Map. Includes both own-reported and mirror data.

## Appendix F: Inclusion of agriculture in Emissions Trading Scheme

Another current policy issue is the inclusion of agriculture in the EU emissions trading. Basic environmental economics theory explains that more sectors, agents and countries are involved in emissions trading systems the higher is the environmental gain. The inclusion of agriculture would guarantee a higher level of efficiency in the accomplishment of European emissions reduction targets. Unfortunately up to now, agriculture is just included in voluntary carbon markets and has never been officially introduced in emissions trading schemes.

The inclusion of agriculture in ETS per se would affect the economies of developing countries if it reduced EU production. The effect on the EU production would be negative if emissions reduction abatement costs in agriculture were higher than in other sectors. This would induce farmers to pay costly emissions reduction permits from other sectors which would reduce EU production with a consequent negative effect on EU production, a positive effect on prices and on the farmers' economies in developing countries. However the literature estimating marginal abatement costs in agriculture is still emerging (see Moran et al. 2011).

Much more interesting from a development perspective would be the creation of CDMs and offsetting mechanisms concerning land management practices (crop rotation, residuals management etc.) in developing countries similar to what is currently done for deforestation with REDD. The creation of these offsetting mechanisms involving farmers in poor regions would allow rich countries to reduce emissions reduction costs and would boost incomes in low income areas by contextually inducing farmers to preserve environment.

**Figure F1: Transmission channel from EU emissions trading scheme to developing countries**

