AN EVALUATION OF THE COMMON ORGANISATION OF THE MARKETS IN THE SHEEP AND GOAT MEAT SECTOR

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EXECUTIVE SUMMARY

This evaluation report of the common organisation of the markets (CMO) in the sheep and goatmeat sector was prepared during the last quarter of 1999 and the first quarter of 2000. It considers a number of questions at an EU level but also at the level of the individual Member State, and in particular the principal sheep producing States of the United Kingdom, France, Spain and Ireland. The principal questions addressed are what has been:

- The impact of the premia and their fixation on producers' income?
- The impact of the market organisation for sheep and goatmeat on production? and
- The impact of the CMO for sheep and goatmeat on rural areas and on the environment?

The findings of the report are summarised in the following pages.

The impact of the premia and their fixation on producers' income (Chapter 1)

Analysis of a number of indicators including sheep and goat numbers, the distribution of sheep and goats throughout the European Union, Farm Net Value Added per Agricultural Work Unit and enterprise gross margins have been used to inform the following conclusions.

Around 80% of all ewes benefiting from premiums are to be found in the LFAs of the Community. At the EU level dairy ewes account for around 30% of total sheep numbers and goats make up some 10% of total sheep and goat numbers. Consequently it is relevant to consider a distinction between LFA and non-LFA production and meat, dairy and goat systems, (section 1.4)

Based on the analysis of Farm Net Value Added per Annual Work Unit (FNVA/AWU) is concluded that the calculation and payment of, the sheep and goat premia as a part of the sheep and goatmeat CMO has at a pan European level:

a) Failed to allow specialist sheep producers to obtain a FNVA/AWU comparable to the all farm level,
b) Failed to allow specialist goat producers to obtain a FNVA/AWU comparable to the all farm level,
c) Allowed sheep producers to marginally improve their relative position compared to the all farm average, and
d) Allowed goat producers to maintain their relative position compared to the all farm average.

However, comparing FNVA/AWU for specialist sheep producers and the agricultural industry in total, the operation of the sheep and goatmeat CMO has not been adequate to maintain the income of sheep and goat producers in individual Member States at a level comparable to the industry average. Sheep producers in France, Ireland and the

UK consistently under perform when compared to the entirety of the agricultural sector while the reverse is true for Spain and Greece. Consequently, the existing mechanism for compensating sheep producers for loss of income is not equitable across all Member States. (Section 1.1)

With the possible exception of France, the sheep and goat premium, calculated as a complementary payment compensating for market price fluctuations, has contributed to the conservation of the relative situation of specialist sheep farms vs. average farms in each individual country and the EU. It has not been sufficient to reduce the gap between sheep farms and other farms. (Section 1.2)

Since 1992 specialist sheep producers in the LFA regions of the Community have achieved better FNVA/AWU than those sheep producers outside the LFAs. In LFAs, the income of specialised sheep farms follow the same trend as average farms. This is not only a result of CMO for sheepmeat and the provision of the "rural world" supplement but also of the other specific measures supporting grazing livestock in LFAs. Sheep farmers' income in non-LFA regions of the EU, which was until 1992 similar to all farms, has, between 1992 and 1996, fallen by 20%. (Section 1.2)

Specialised meat sheep farms hold only 31% of total ewes numbers in the EU. Their FNVA/AWU is similar to the all farm average but 11% lower than average farm with grazing animals. Without animal subsidies, their FNVA would be 28% lower than the all farms average. Beef cattle farms with meat sheep hold another 30% of EU ewes numbers. Their FNVA is 25% higher than the average beef cattle farms, and 10% higher than the all farms average. Without subsidies, their FNVA would be 12% lower than average beef cattle farms, and half of the all farms average. The high level of livestock premiums (56% of FNVA) allows mixed farms (meat sheep and beef cattle) to achieve a level of FNVA better than the all farm average. Another 27% of EU sheep and goats are kept in dairy sheep and goats farms, mainly specialised. These farms achieve low levels of FNVA at 66% of the all farms average, and 57% without subsidy. The presence of sheep and goat premiums reduce only a part of the disparity between income levels of sheep producers and the overall agricultural industry. (Section 1.2)

In 1997, as in 1990, half of the ewes in EU are held in medium size farms (8-40 Economic Size Units; ESU). However, between 1990 and 1997, big farms (> 40 ESU) have increased their share of ewe numbers from 30% to 38%, while small farms have decreased from 21% to 13% of the total ewe numbers. This trend is the same in each individual country, although in the UK the growth has been much smaller. The presence of the sheepmeat regime was not sufficient to prevent the decline in sheep husbandry in small size farms. Sheep husbandry has become more and more specialised and less and less a complementary activity in multiple purpose farms. (Section 1.2)

It has been identified that substantial variation in milk sheep and goat enterprise financial performance occurs across Europe. These variances are influenced by differing enterprise mixes on the farms and differing cost structures. Consequently, it is impossible to conclude, on the basis of FNVA/AWU, at what level, or if at all, the differential payment for milk sheep and for goat producers should be set so that parity

is achieved between all sheep and goat producers. A superior indicator of the need for differential payments would be enterprise net margin. It is recommended that further work is needed to establish such an indicator so as to better inform this debate. (Section 1.4)

With regard to the way in which the premium is calculated a number of issues become apparent. Firstly, the CMO is a sheep and goatmeat regime. However, the calculation of the basic price does not take into account goatmeat production. Hence, for countries for which goatmeat production is relatively important the basic price is likely to be less representative of the market for sheep and goatmeat than for countries having no or limited goatmeat production. Secondly, the regulations are not specific as to the detailed method of generating the basic price. Thirdly there is a lack of transparency in determining the basic price. (Section 1.3)

The conversion coefficient for transforming from liveweight to deadweight prices varies between Member States and should be addressed by the Commission, with a view to introducing an objective methodology for calculating the coefficient for each Member State. (Section 1.3 and 1.5)

With regard to collecting market price information a number of weaknesses have been identified bringing into question the extent to which the reported market price is a true measure of the actual market price rather than a fair reflection of market trends. Issues include the extent to which the balance of prices collected truly reflects the market chain in individual Member States and the extent to which the prices collected are gathered on the same technical specification. Particular confusion exists of the extent to which prices for the different categories of lambs are weighted together in individual Member States to truly reflect the market conditions. (Section 1.3 and 1.5)

The weaknesses identified bring into question the extent to which the price reported is a fair and accurate estimate of the average market price for heavy lamb in the EU. To reduce the weaknesses identified would increase the complexity of an already complex system with potentially only a minimal improvement in price estimate. However, consideration should be given to using weekly weightings for each Member State, based on slaughterings, to arrive at the weekly EU market price rather than using a constant weighting throughout the year. Furthermore, clear guidance on the dressing specification from which deadweight prices are quoted should be established. Similarly a standard specification for liveweight price quotes and conversion to deadweight should be explored. (Section 1.3 and 1.5)

Nevertheless, it is concluded that the constituent parts of the calculation of the premium are correct for the complex mechanism as currently devised. (Section 1.3)

Furthermore, the mechanism for collecting the data and calculating the aid is considered to be an effective method of collecting data. Nevertheless, because of the weaknesses identified above, the mechanism is not considered to be efficient because the weakness identified throw doubt as to the accuracy of the calculations made at EU level and their validity from which to make deficiency payments. (Section 1.5).

The impact of the market organisation for sheep and goatmeat on production; (Chapter 2)

Drawing on indictors drawn from the changing numbers of sheep and goats, production volumes and analysis of the CMO regulation a number of conclusions have been drawn about the impact of the CMO on production.

The introduction of individual quotas has contributed to stabilisation of ewe numbers throughout the Community as a whole. However, it is important to note that in those Member States with small sheep populations that significant declines in sheep numbers have occurred. (Section 2.1)

It is also noted that the number of small flocks has declined while larger flocks have expanded suggesting some restructuring of the industry. (Section 1.2)

The goat sector has seen a small decline in numbers since the introduction of individual quotas. However the introduction of quotas in 1992 has stopped a major decline in goat numbers which occurred between 1990 and 1992. Regional differences have however occurred showing a dichotomy between Member States with Spain and Portugal showing a decline in goat numbers since 1992 and Italy a significant increase and consequently no consistent impact can be identified. Individual limits have contributed to a decline in goat and lamb meat production which could lead to a price increase and a reduction of budget expenses at EU level. (Section 2.1)

Individual limits have introduce a fair degree of stabilisation, at least at EU level, in terms of meat production. However, the gap between countries with surpluses (e.g. Ireland) and deficits (e.g. France) has increased. The UK has reduced surpluses and the rest of the Member States have remain more or less in the same situation in terms of meat production as they were in 1989/91. (Section 2.1)

The quota element of the CMO, by providing entitlement to the "deficiency payment" so important to a viable sheep or goat enterprise, has a considerable bearing on the planning of the structure and size of a sheep and goat enterprise. It has considerable potential to distort the efficient allocation of resources to sheep and goat production. It can result in technically inefficient producers remaining in production because the premium is sufficient for them to maintain a positive income. Equally it prevents entrepreneurial and efficient producers expanding. In some Member States quota has gained a capital value which can create a barrier to entry for new or expanding producers. Ring fencing of quota can result in some zones with a shortage of quota and other areas with a surplus. This demonstrates the conflict which exists between trying to provide the basis of an efficient business structure for the industry and the socio-economic challenge of maintaining rural employment within the same instrument. (Section 2.3)

The operation of the retention period as a requirement to qualify for premia payments has a significant impact on the efficient and effective planning and management of a sheep and goat enterprise. In particular it results in extra ewes and she-goats being farmed than would be the case if the retention period did not exist. Alternatively, it

restricts the freedom of a producer to sell ewes and she-goats at the most opportune time from a technical management point of view. The presence of a differentiated heavy and light lamb premium and the option of managing a system to qualify for full rate (heavy lamb) premium impacts on the planning and management of some dairy sheep systems. (Section 2.3)

Nevertheless, it is concluded that the rules of the CMO do not place any physical constraints on producers adapting production to meet consumers through seasonal demand patterns or quality improvement. However, it is concluded that only in France and to a lesser extent in Portugal and Italy do producers try to adapt to seasonal price signals. In the rest of the countries it seems that it is difficult to break down the seasonal and biological production patterns resulting in producers selling most of their production when prices are decreasing. (Section 2.2)

The operation of a deficiency payment results in businesses planning their future activities with a level of uncertainty over the level of support they will receive. It requires a level of judgement to be made between the "market risk" of price changes, associated with for example improving the quality of the lamb, the cost of improving lamb quality to gain higher market prices and the "policy risk" of a level of assured income. This situation is of greatest consequence for the mixed enterprise businesses who need to balance the mix between enterprises and different sectoral policies. Some competing enterprises e.g. beef producers have an assured level of support income making planning slightly easier for this enterprise. (Section 2.3)

Although the CMO has a set of operating rules which may influence the movement of sheep on to or off a holding they do not place any physical constraints on producers adapting production to meet consumer needs, etc. However, the way in which the calculation of the premium is made has the potential to dissuade those flocks which produce less lamb per ewe than the standard (as determined by the technical coefficient) from responding to market signals as they have the real potential to achieve a lower income, even at higher prices per lamb, because of the potential for the premium payment to decline as market prices improve. Although producers are unlikely to deliberately sell product at low prices they will not make a significant effort to change their system to capitalise on higher market prices for different qualities of product or at different times of year. Conversely however, because the premium is equal for all ewes, individual producers who achieve better than average market prices through improved quality or other market initiatives and who produce more lamb per ewe than the standard, will potentially achieve higher margins. Consequently in terms of permitting (allowing) producers' the freedom to respond to market signals and improve the quality of product it is concluded that the sheep and goatmeat CMO is neutral. (Section 2.4)

The impact of the CMO for sheep and goatmeat on rural areas and on the environment (Chapter 3)

It has already been recognised that it is important to consider the location of sheep and goat producers in the development of the CMO, and consequently that the Rural World Premium (RWP) is a mechanism for doing this. Using FNVA/AWU as the

indicator of achievement of objectives it is concluded that at an EU level the RWP supplement is set at an adequate level so that in combination with compensatory allowances under Regulation 950/97 specialist LFA sheep producers achieve a comparable income to the sector average. Indeed non-LFA specialist sheep producers can be considered to be disadvantaged by the lack of a RWP to them. (Section 3.1)

At Member State level considerable variation in the impact of the RWP occurs. In general FNVA/AWU of LFA producers have been better than non-LFA producers since 1993. However, the northern Member States have not been able to achieve parity with overall average industry incomes. Nevertheless, when making a judgement against the objective of the RWP being a compensation for the loss of income resulting from the introduction of stabilisers which would be *"likely to have unfavourable consequences"* for LFAs the evidence leads to the conclusion that it has achieved this objective. This is because in general LFA producers have achieved better incomes than the non-LFA producers since 1992. Indeed against this criteria it could be concluded that the rate of RWP is too high and should be reduced to the levels paid in 1991 when FNVA/AWU were more likely to be comparable with non-LFA producers. (Section 3.1)

Equally however, it is important to recognise that the inequity of the underlying regime as identified above is not ameliorated by the presence of the RWP. That is, while the RWP meets its objectives at Member State level, the achievement of the overarching objective of the sheep and goatmeat CMO to achieve a fair level of income for the sector remains elusive. (Section 3.1)

In considering the impact of the sheep and goatmeat CMO on the environment the principal concern raised is one of over-grazing or under-grazing and the consequent changes on the bio-diversity of the landscape. In southern Member States concern is often expressed about the importance of sheep grazing to fire prevention. Against the criteria of a significant change being a 5% change in stocking density between 1992 and 1997, the European Union of twelve Member States shows no significant change in grazing pressure due to sheep. However, significant regional variations occur, and all Member States with significant sheep populations show a change in sheep stocking density. Greece, France and Ireland all show a reduction in stocking density while the UK and Spain show an increase in stocking density. (Section 3.2)

In spite of the weaknesses stocking density has as an indicator of environmental change (e.g. lack of recognition of seasonality of grazing, balance of herbivores and land quality), one can draw the strong conclusion that the application of a CMO for sheep and goatmeat has contributed to significant regional variations in response to the policy signal. Consequently, the impact of the CMO on grazing pressure is not consistent among Member States. (Section 3.2)

On the basis of the record of the incidence of fire in Mediterranean Member States it is concluded that the incidence of forest fires has increased in some Member States and declined in others since the introduction of the CMO for sheep and goats. The incidence of fire is influenced by a complex mix of animal husbandry and human activity including changes in cultural activities like the cutting of scrub woodlands for fuel. Consequently, it is unclear the extent to which structural changes in the sheep

sector associated with the sheep and goatmeat CMO can be associated with the incidence of fires although, there is an interaction. (Section 3.2)

Recommendations (Chapter 4)

The recommendations detailed in chapter four are repeated in their entirety in this executive summary.

During the course of producing this report a number of research issues have been identified which made it difficult to address the questions being considered. In particular the problems of equating quality with tangible attributes of a carcase that can be rewarded through a support mechanism; demonstrating cause and effect with regard to environmental impact; and understanding the relationships between different commodity polices in an holistic way in gaining an understanding of policy/production/environment interface have been identified along with a shortage of enterprise income data as opposed to full farm income data. Consequently it is recommended that research funding is made available to improve knowledge of these issues.

Following from the evaluation of the sheep and goatmeat regime it is recommended that the European Commission consider the following three options with regard to the sheepmeat and goatmeat CMO:

Option 1: Maintain Status Quo

The analysis within this report shows that the system of calculating the premium is complex and includes many weaknesses. Nevertheless, the current regime broadly meets its objective at an EU level but results in substantial variation in impact between Member States. If the Commission finds that the weaknesses and problems which exist are acceptable within the wider context of providing a workable system and reasonable premium figure, then the first option is to leave the system unchanged. The advantage of this option is continuing with a tried and tested regime which is generally understood by the sheep sector. Nevertheless, it is considered that sufficient weaknesses exist in the current CMO that the following two options should be evaluated more fully.

Option 2: Improve Accuracy of Current System

The report has highlighted several aspects of the various calculations that are not representative of the various Member States' sheep/goat sectors. The second option therefore is to address all of these inaccuracies with the goal of improving scheme representativeness for each Member State. The following changes are recommended:

1. The European Council should adopt a more transparent system of determining the basic price.

2. The Commission should re-assesses the ranges of carcase weights for which prices must be reported. It appears that the current system is less

representative for Southern Member States than Northern Member States.

3. The conversion coefficient for transforming from liveweight to deadweight prices should be addressed by the Commission, with a view to introducing a standard conversion factor for converting liveweight price quotes to deadweight. This would not add to the administrative complexity, but would mean a more accurate figure for specific Member States.

4. Market price reporting structures should be reviewed on a three year basis to make sure that the sample of markets/abattoirs fairly represents the marketing methods used in each Member State.

5. The absence of goatmeat prices within the calculation should be reassessed and they should be incorporated into the representative market price calculation for those countries who benefit from a goat premium being paid.

6. Weekly weightings for each Member State, based on slaughterings, to arrive at the weekly EU market price should be used rather than using a constant weighting throughout the year. Consequently, the EU weekly average price would better reflect the different seasonal marketing patterns which occur.

7. The quality of statistical information relating to production should be improved, particularly in relation to Greece, Spain, Italy and Portugal to enable a reassessment of the 0.131 coefficient figure given to the four Southern European countries.

8. The absence of light lambs/goats from the premia calculation (in terms of calculating the technical coefficient) must be reassessed.

9. The figure of 15% GIP from ewe carcases should be re-appraised to assure that it is reasonable for all Member States. Likewise, the 7 kg common weight for light lambs should be re-assessed to assure its accuracy.

10. A more efficient way of arriving at the advance payment should be considered which removes the need for time consuming estimates to be made ahead of the end of the marketing year: for example, a simple fixed rate of payment could be used for the advanced payments with the complexity of the calculation required only for the final instalment.

11. One area of complexity with regard to premium payments which the consultants consider should be reviewed is that of being able to convert dairy sheep premium to meat sheep premia if a producer can demonstrate that his production system produces “heavy” lamb. Several administrators in southern European Member States drew attention to

the time consuming nature of this exercise in relation to the number of premium payments involved. The justification for such a mechanism within the overall CMO should be re-examined with a view to removing this element of the regime.

The advantage of accepting this option would be to improve the accuracy of the information on which the premium is calculated. The disadvantage is that modifying the administrative system to take account of the above recommendations would further increase the administrative complexity of an already complex regime. Hence, this could only be justified if significant improvements occurred in the accuracy of the premium calculation. No attempt has been made to assess whether the change in accuracy would make a material difference to the overall estimate of the premium payment and therefore justify the increased administration. An assessment of this nature would be required as part of any consideration of taking these proposals forward, it is recommended that a working party be established to carry out this assessment.

Option 3: Simplify Current System

Given the complexity (and associated cost) of the present system of calculating the premium, the final option recommended for further consideration is to simplify the system. For example, by adopting a fixed headage premium, the need for the various elements of calculation would be made redundant. The clear advantage would be in a reduced administrative burden, both to Member States and particularly the European Commission. Adopting a fixed headage premium would also have the advantage of fixing the sheep and goat regime budget in advance. Such a simplification would be more acceptable to the World Trade Organisation (WTO) by being suitably de-coupled from production.

Nevertheless, in this evaluation report it has been shown that the existing system results in winners and losers and that it is justified to consider different production systems and enterprise location in arriving at a rate of payment. This report has also highlighted the variation in income levels within and between Member States depending upon system and location. Consequently, when considering ways of simplifying the existing system it may be appropriate to consider retaining some flexibility so as to make differentiated payments possible. Equally however, this evaluation report has highlighted the difficulties of quantifying the level of differentiation from the existing data sources and that further research is needed in this area.

It is recommended that a working party be established to explore further the costs and benefits of moving towards a fixed headage, or area, payment as a means of directing the support available from the sheep and goatmeat CMO with a view to reducing the administrative complexity of the current CMO.

PREFACE

This evaluation report of the common organisation of the markets (CMO) in the sheep and goatmeat sector was prepared during the last quarter of 1999 and the first quarter of 2000. It considers a number of questions at an EU level but also at the level of the individual Member State, and in particular the principal sheep producing States of the United Kingdom, France, Spain and Ireland. A weakness of the overall CMO was demonstrated at this time by the fact that lamb prices in Ireland and the UK had declined and the sheep annual premium (SAP) payment had also declined. Nevertheless, it should be remembered that the converse situation had occurred two years previously in these Member States when market prices increased and support payments also increased in National currencies.

This report is structured into five sections. One section for each of the principal questions listed below, a summary of the conclusions and recommendations and an annex which includes a background paper to the state of the sheep industry and the sheep and goatmeat CMO of the EU and a series of charts and other data in support of the principal questions. The principal questions addressed are, what has been:

- The impact of the premia and their fixation on producers' income?
- The impact of the market organisation for sheep and goatmeat on production? and
- The impact of the CMO for sheep and goatmeat on rural areas and on the environment?

The authors of this report acknowledge the considerable cooperation they have received in compiling this analysis form numerous farmer organisations, traders and administrators of the CMO at Member State level. The comments and assistance of the European Commission's steering group for this project is also acknowledged.

This study has been financed by the European Commission. The conclusions, recommendations and opinions in this report reflect the opinion of the consultants and do not necessarily reflect the opinion of the Commission.

CHAPTER ONE

IMPACTS OF THE PREMIA AND THEIR FIXATION ON PRODUCERS' INCOME

1.1 TO WHAT EXTENT IS THE LEVEL OF PREMIA FIXED IN AN ADEQUATE WAY IN ORDER TO MAINTAIN THE INCOME OF SHEEP AND GOATMEAT PRODUCERS IN DIFFERENT MEMBER STATES?

Introduction

1.1.1 To be able to address the question of the extent to which the common organisation of the market (CMO) in the sheep and goatmeat sector has contributed to the maintenance of income for sheep and goatmeat producers one first has to address the question of establishing criteria against which a judgement can be made. Consequently in carrying out this analysis two criteria have been identified against which judgements can be made.

- Has the income of sheep and goatmeat producers been maintained in nominal terms over the period 1988 to 1999, and

- Has the income of sheep and goatmeat producers maintained or improved its relative position against the income of all farm businesses over the period 1988 to 1999.

1.1.2 Equally, it is necessary to define which measure of income is to be used as the indicator for this analysis. The Treaty of Rome laid down a set of objectives for the Common Agricultural Policy and these objectives remain the core objectives of the sheep and goatmeat CMO. In particular the objective of achieving a fair standard of living receives particular mention in the sheep and goatmeat CMO. This objective was originally specified in the Treaty of Rome as "To ensure a fair standard of living for the agricultural population, particularly by increasing the individual earnings of persons engaged in agriculture". Consequently, the measure of income proposed as the key indicator for evaluating the maintenance of income is Farm Net Value Added (FNVA) per Annual Work Unit (AWU).

1.1.3 FNVA represents the return to the total labour (whether family or employed) and capital (whether borrowed or not) employed on the farm. By dividing FNVA by the total AWUs employed on the farm an indicator of the income to each person employed on the farm can be derived. Consequently FNVA/AWU has been chosen as the key indicator to be used throughout this evaluation in assessing the maintenance of the income of those employed in farming sheep and goats.

1.1.4 However, FNVA is a measure of the total income from farming and excludes income from other sources, for example, off-farm employment and income from savings. While income of this sort can be important in sustaining a viable farm family household and can influence the speed of change in agricultural structures, it is not necessary to consider the issue of non-farming income further in an evaluation of

sheep and goatmeat CMO. However, it is important to recognise that FNVA is derived from all the farming activities of a business thus to determine the level of income of sheep and goatmeat producers it is necessary to consider the FNVA from those businesses in which sheep and or goat production plays a significant part in the total farm income. Consequently, the FNVA has been considered for specialist sheep farms, defined as those businesses where sheep production makes up more than two-thirds of the standard gross margin of the farm, and specialist goat farms where goat production makes up more than two thirds of the standard gross margin of the farm.

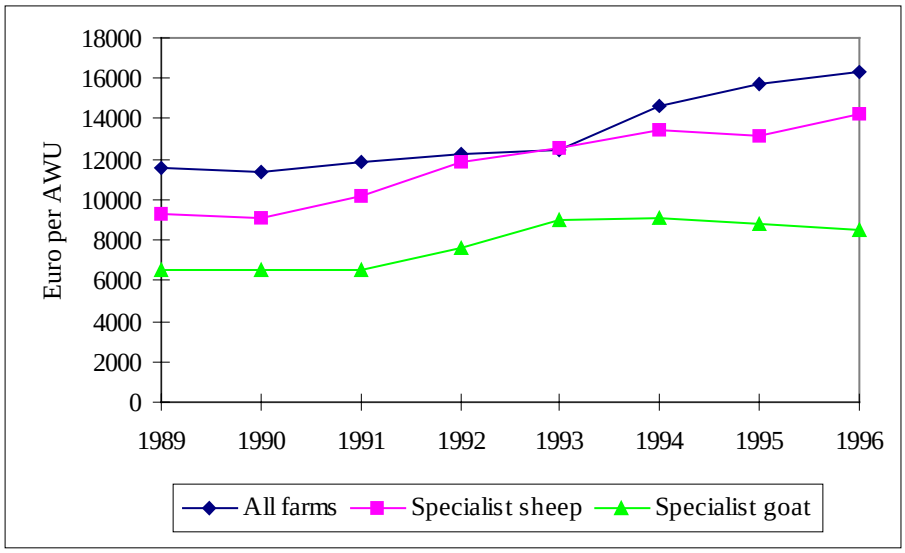
1.1.5 It is also necessary to recognise that in many parts of the EU, sheep and goat farming occurs in association with other farming enterprises. In 1991/92, analysis of the Farm Accounts Data Network (FADN), showed that only one-third of businesses with sheep and goat income derived more than half their income from sheep and goat production. Consequently, analysis of FNVA for specialist sheep and goat producers will exclude many sheep and goat enterprises from consideration.

1.1.6 Therefore, a second series of indicators will be used to support the analysis of the extent to which the sheep and goatmeat CMO supports incomes from sheep and goat production. Enterprise Gross Margin (EGM), which measures the sales and support income of an enterprise and deducts from it the direct costs of the enterprise, provides a means of assessing the income available from an enterprise to cover the fixed costs of that enterprise and return an income for the individuals engaged in that economic activity. Consequently, this indicator can be used as a proxy for the income of a sheep and goat producer. Thus, EGMs can be compared for sheep and goat systems along with other potentially competing enterprises to address the two criteria specified above.

Farm Net Value Added among specialist sheep and goat producers in Europe

1.1.7 The only pan European source of data on Farm Net Value Added, derived to a common definition, is the database created from the Farm Accounts Data Network (FADN). Some Member States publish farm income data for their own agricultural industry, however, the source material for these publications is invariably the database of information used to supply the FADN and thus cannot be used to verify the primary source of data used in this analysis. The FADN database comprises a sample of around 2% of all farms classified as specialist sheep and specialist goat producers. Figure 1.1.1 plots the nominal Farm Net Value Added per Annual Work Unit (FNVA/AWU) for specialist sheep and goat farmers throughout the European Union and compares it with the same indicator for all farms.

Figure 1.1.1
EU average Farm Net Value Added per Annual Work Unit
1989 - 1996



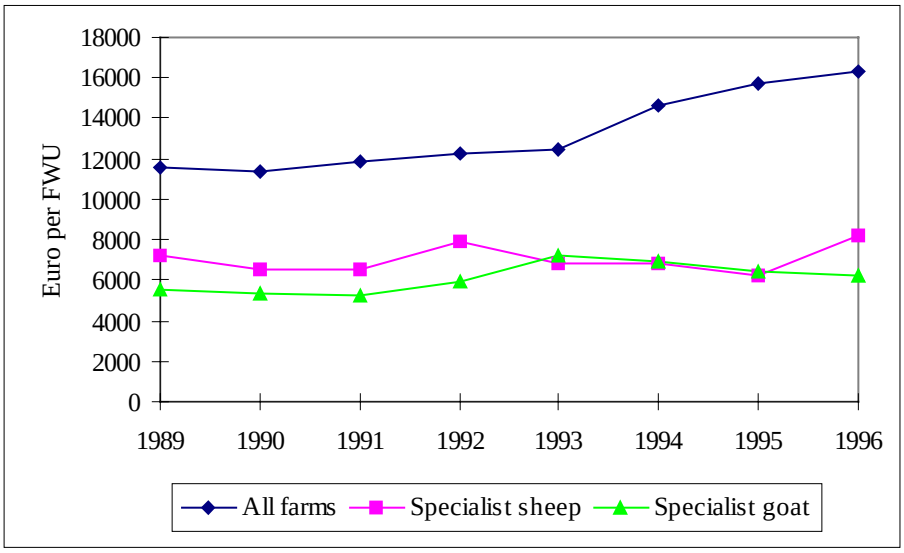
Source: FADN

1.1.8 Figure 1.1.1. shows that the FNVA/AWU of sheep producers was generally lower than the all producer FNVA/AWU throughout the period. Nevertheless, it improved from a low point in 1990 to achieve parity in 1992 and 1993 before loosing ground in 1994, 1995 and 1996. Only in the period 1992 to 1994 was the specialist sheep producer FNVA/AWU within 10% of the all farm figure. In all other years the income of the specialist sheep producer is judged to be significantly below the all farm performance. Over the period 1989 to 1996 specialist goat producers have been unable to match or come within 10% of the FNVA/AWU of the average producer in the European Union.

1.1.9 The importance of the CMO support to the income of the sheep and goat producer is emphasised when the FNVA/AWU excluding subsidies is compared with the FNVA of all farms assuming all farms continue to get animal, crop and structural support, Figure 1.1.2. Excluding sheep and goat subsides results in both sheep and goat FNVA/AWU falling well short of the all farm average. Indeed it should be noted that between 1992 and 1995 the nominal FNVA/AWU of specialist sheep producers excluding subsides declined and the subsequent recovery in 1996 only brought the nominal FNVA/AWU back to the level recorded in 1992.

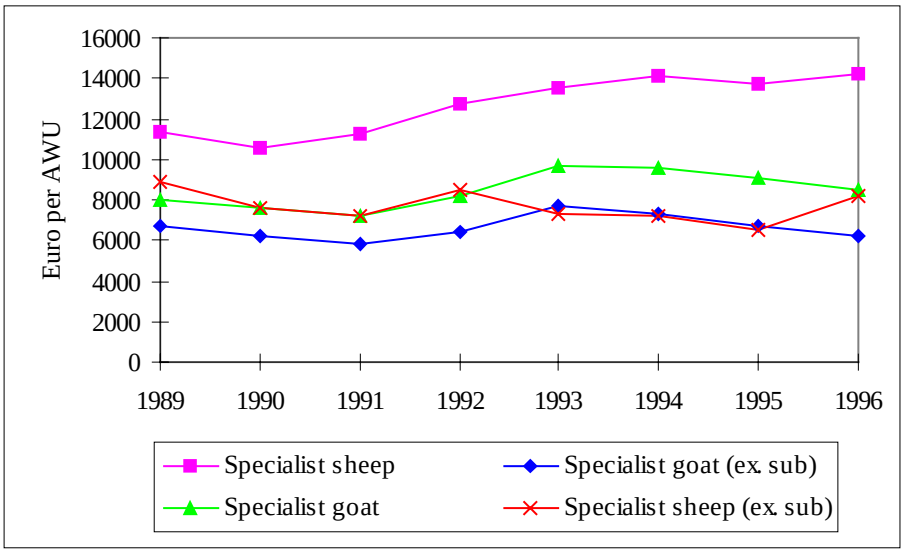
1.1.10 When specialist sheep and goat farm incomes are restated at 1996 ECU purchasing power, Figure 1.1.3 the importance of the CMO payments is further highlighted. Without the support payments the real FNVA/AWU of both sheep and goat producers has at best maintained its position and at worst declined slightly. When the support payments are included in the FNVA estimates a small improvement in real FNVA has been achieved for both sheep and goat producers.

Figure 1.1.2
Farm Net Value Added per Annual Work Unit excluding sheep and goat subsides for specialist sheep and goat producers compared with the all farm Farm Net Value Added per Annual Work Unit
1989 - 1996



Source: FADN

Figure 1.1.3
Farm Net Value Added per Annual Work Unit at constant 1996 ECU values
1989 - 1996



Source: FADN

1.1.11 However, when the above analysis is repeated for individual Member States a different picture begins to emerge, (annex 1, Figure a1.1.1 to a1.1.5). Repeating the

analysis for the five most important sheep and goat producing Member States, namely the United Kingdom, Ireland, France, Spain and Greece, shows significant variation in comparability between specialist sheep producers and the average FNVA/AWU for all farm types in the Member State. Specialist sheep producers in the United Kingdom, Ireland and France are all shown to consistently achieve a lower FNVA/AWU than the average of all farmers in the region. In contrast the specialist sheep producer in Spain is shown to have achieved a lower FNVA/AWU than the average of all farmers between 1989 and 1992 before improving to a better than average situation during 1993 to 1996. In Greece specialist sheep farmers have achieved better than average FNVA/AWU in each year between 1989 and 1996 with the exception of 1991 when they achieved parity. Specialist goat farmers in France and Spain have failed to achieve FNVA/AWU comparable with the average farmer in their own country. In contrast goat farmers in Greece have achieved the best FNVA/AWU of the farm types considered.

1.1.12 Considering individual Member States also shows considerable variation in the pattern of FNVA/AWU between 1989 and 1997. In the UK the FNVA/AWU of specialist sheep farms has increased each year in nominal terms. Similarly Spain shows a considerable improvement in the FNVA/AWU of specialist sheep farms in nominal terms. In contrast, in Ireland the FNVA/AWU has been static or declining in nominal terms between 1989 and 1995 before improving in 1996 and 1997. Over the same period the Irish consumer price index has increased by 20% and the real value of the Irish FNVA/AWU will have declined. Similarly in France the FNVA/AWU has shown only a very small improvement between 1989 and 1997 and from 1993 to 1997 has been static. Greece shows some improvement in nominal terms between 1989 and 1994 before declining in nominal terms in 1995 and 1996.

1.1.13 The analysis leads to the conclusion that considerable variation in relative performance of the specialist sheep and goat producers between Member States exists both relative to the whole farming sector and also in own sector performance pattern. Producers in some Member States are shown to consistently fall short of the industry average for the country while others consistently achieve better results than the all farm average. Similarly some Member States show growth in nominal incomes while others show a static or declining situation. Consequently, the existing mechanism for compensating sheep producers for loss of income is not achieving equitable results across all Member States. However, this analysis does not take account of the different farm type mixes in each Member State which result from the different farm structures and physical constraints that exist between Member States. Neither does it recognise any structural changes which may be taking place in some Member States.

1.1.14 While the CMO for sheep and goatmeat may not have resulted in specialist sheep producers achieving a parity of income with the overall average of all farms, has it allowed specialist sheep producers to hold their relative position in the overall framework of farm incomes? Table 1.1.1 summarises the relative position of specialist sheep producers income against the income of all agricultural producers in the EU and for the significant sheep producing Member States.

1.1.15 For the EU in total, specialist sheep producers' FNVA/AWU is shown to have fluctuated between parity and a 20% shortfall. This is considered to be a significant

level of fluctuation in its own right and does not suggest that income stability in comparison to the industry average has been achieved by the operation of the sheep and goatmeat CMO. Equally, when considering individual Member States no consistency of relative performance is apparent.

Table 1.1.1
Farm Net Value Added per Annual Work Unit for specialist sheep producers as a percentage of Farm Net Value Added per Annual work Unit of all farm types 1989-1997

	EU	Greece	Spain	France	Ireland	UK
1989	80	107	88	56	63	58
1990	80	118	95	64	74	57
1991	85	97	91	66	70	71
1992	96	117	97	60	62	70
1993	100	127	123	65	63	79
1994	92	121	115	56	55	62
1995	84	115	101	54	47	67
1996	87	108	126	54	64	74
1997	n/a	n/a	93	56	67	n/a

Source: FADN

1.1.16 However, it must be recognised that all agricultural production systems are natural systems influenced by nature and consequently achieving a consistent balance between different income levels will be very difficult. Nevertheless, it could be considered reasonable for a commodity regime to minimise the fluctuations in income of the producers of that commodity but evidence from the FADN does not show this to be the case, Table 1.1.2. Within the EU as a whole, between year fluctuations in specialist sheep farm incomes have been in a range of plus or minus 15% although they have in general followed an upward trend. In individual Member States, between year fluctuations have been even greater and the scale of movement in different Member States in the same year varies considerably, for example FNVA/AWU declined between 1994 and 1995 in Greece, Ireland and Spain but increased in the other Member States considered. However, while within year fluctuations have occurred, in all Member States considered, the FNVA/AWU has improved steadily since 1989 in nominal terms although the level of improvement varies significantly between Member States. Nevertheless, when FNVA/AWU is considered in real terms, measured as the ECU purchasing power of each Member State using 1996 as the base year, a different pattern emerges, Table 1.1.3. In Greece, the nominal improvement in FNVA has not been sufficient to prevent the purchasing power of the FNVA from steadily deteriorating. while in France the real FNVA/AWU for the specialist sheep farmer has fluctuated within a 10% band and can be considered to have been static over the period In real terms Ireland is shown to have had a good performance in 1996, the base year but in the four year previous to this their real

incomes had declined. Only in Spain and the UK has the improvement in nominal FNVA/AWU been sufficient to allow a real improvement in incomes.

Table 1.1.2
Index of Farm Net Value Added per Annual Work Unit for specialist sheep producers 1989-1997 (1989 = 100)

	EU	Greece	Spain	France	Ireland	UK
1989	100	100	100	100	100	100
1990	97	103	92	118	113	97
1991	109	101	108	119	105	127
1992	126	104	138	117	112	131
1993	135	118	160	128	106	158
1994	144	134	202	130	103	147
1995	141	124	179	132	87	174
1996	152	112	203	135	121	183
1997	n/a	n/a	179	134	143	n/a

Source: FADN

Table 1.1.3
Index of Farm Net Value Added per Annual Work Unit for specialist sheep producers 1989-1997 in 1996 ECU purchasing power in each Member State

	EU	Greece	Spain	France	Ireland	UK
1989	80	132	57	94	96	60
1990	75	127	48	106	105	56
1991	79	117	54	105	94	68
1992	90	114	66	98	96	71
1993	95	122	82	102	94	89
1994	100	135	107	101	88	81
1995	96	119	93	100	75	99
1996	100	100	100	100	100	100
1997	n/a	n/a	89	100	109	n/a

Source: FADN

Enterprise gross margins

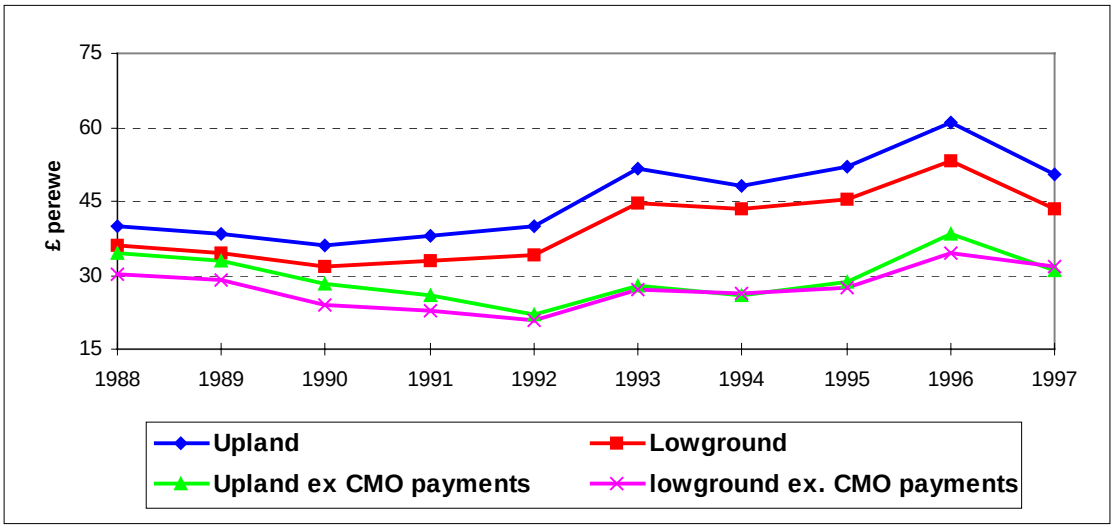
1.1.17 The previous analysis has centred on the measurement of income at the whole farm level. However, it has already been acknowledged that many sheep enterprises are found on mixed farms. Consequently a second indictor, gross margin per ewe is

considered to be a valuable supporting indicator to the FNVA/AWU used above. A gross margin measures the income from an enterprise after deducting only the variable costs and ignoring the indirect costs which are often shared with other enterprises. Consequently the gross margin per ewe is a useful indicator of the success of the CMO in maintaining incomes of the sheep enterprise in isolation. However, obtaining data of a consistent nature and time series from a number of Member States was not possible. Consequently this section looks only at sheep enterprise gross margins in Great Britain and Ireland to assess the extent to which they confirm the situation described for specialist sheep farmers revealed by full farm cost analysis.

1.1.18 Figure 1.1.4 reports the enterprise gross margin per ewe for two sheep farming systems in Great Britain with and without the CMO payments. Figure 1.1.4 generally confirms the earlier findings from the specialist sheep farms Figure 1.1.5, that the income of the sheep enterprise has improved slightly with the CMO payments included, but when they are excluded the nominal returns from the sheep sector have at best been static and at worst have declined, although an improvement as seen in 1996, when the BSE crisis in the UK beef industry resulted in greater demand and higher prices for lamb, the gross margin data which is available for one further year than the FNVA/AWU suggest a decline in 1997. Consequently the CMO payments are fundamental to the industry maintaining real income levels.

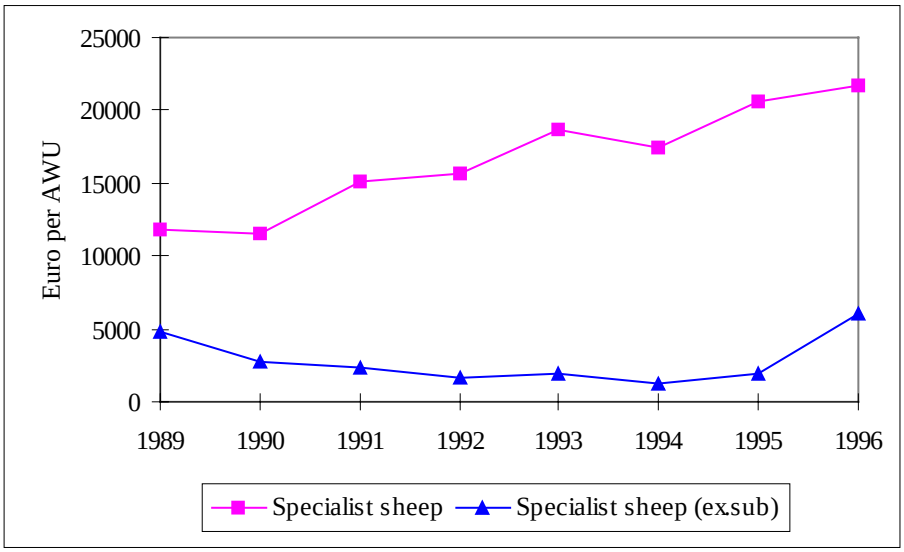
1.1.19 Repeating the exercise with Irish sheep enterprise gross margin data (Figure 1.1.6 and 1.1.7) also shows that the FNVA/AWU performance pattern is repeated in the gross margin analysis. Gross margins per ewe in nominal terms for both hill and mid season production systems have declined between 1988 and 1995 before improving in 1996 and 1997, when the problems of the UK beef industry caused by BSE had knock on effects for the Irish sheep sector as well as the UK sheep sector. Nevertheless margins in 1996 and 1997 only recovered to 1988 levels in nominal terms. This pattern is broadly repeated in the FNVA/AWU analysis although here the indication is that incomes have improved in 1997 to a level above the 1988 starting point.

Figure 1.1.4
Sheep Enterprise Gross Margins in the UK 1988 -1997



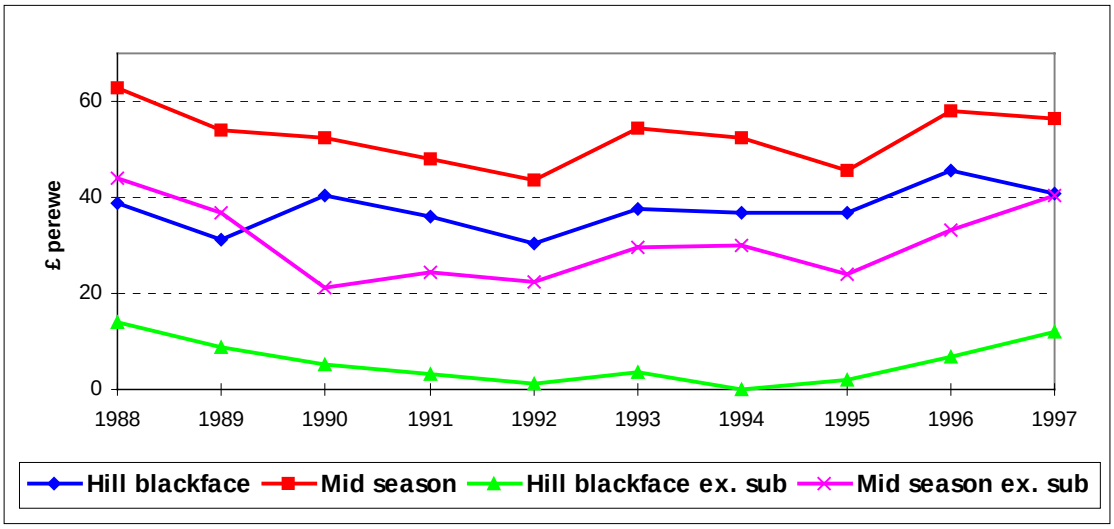
Source: MLC

Figure 1.1.5
FNVA/AWU on UK specialist sheep farms



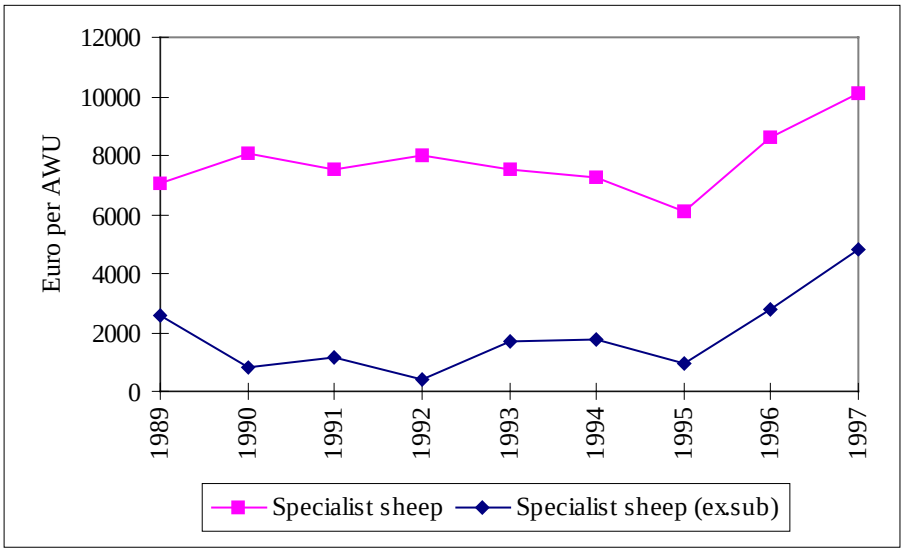
Source: FADN

Figure 1.1.6
Sheep Enterprise Gross Margins in the Ireland 1988 -1997



Note: Ex.sub includes all sheep subsidies not just sheep CMO support
Source: National Farm Survey, TEAGASC

Figure 1.1.7
FNVA/AWU Irish specialist sheep farms



Source: FADN

1.1.20 The gross margin analysis of both British and Irish sheep enterprises also highlights the importance of the CMO and other support payments in placing cash into the industry. However, the importance of CMO payments in providing the industry with sufficient cash to meet normal living expenses has not been explored in this evaluation and it is recommended that this social welfare benefit of the regime is investigated further.

1.1.21 The above analysis shows that the gross margin results confirm the FNVA/AWU analysis for Great Britain and Ireland. Consequently it is considered that the FNVA/AWU for specialist sheep and goat producers provides a fair picture of the industry situation. In the light of this finding and the difficulty in obtaining a consistent series of gross margin data for other Member States the gross margin analysis was not extended further.

The sheep enterprise compared to other agricultural enterprises

1.1.22 Trying to draw comparisons between different agricultural enterprises is difficult. Each enterprise has a different cost base and capital requirement. Furthermore the comparison of biological production systems is also made more complex by the situation that physical conditions e.g. weather and disease can have opposite effects on enterprises in the same year and therefore the base year data from which an analysis is made can have a impact on relative performance. Thus any comparisons between enterprises must be considered in this light. However, by using gross margin analysis it is possible to consider the relative position of differing enterprises.

1.1.23 Table 1.1.4 reports the relative real Gross Margins in 1992 purchasing value for a number of livestock enterprises in Great Britain. Since 1985 sheep gross margins are shown to have declined in real terms despite the payments from the CMO. However, 1992 is shown to have been a low point in Great Britain for the sheep sector (see also figure 1.1.4) and since then the real gross margin of the sheep enterprise has improved. In comparison to the beef sector the sheep industry has achieved a better level of income since 1992 and with the exception of the most disadvantaged areas has maintained its position relative to the milk sector.

Table 1.1.4
Relative change real gross margin Great Britain - 1992 = 100

	Hill Sheep	Upland Sheep	Lowland Sheep	Hill Suckler Cows	Upland Suckler cows	Lowland Suckler Cows	Milk
	Index of real gross margins						
1980	128	133	130	100	109	109	111
1985	134	126	134	98	108	100	91
1992	100	100	100	100	100	100	100
1997	105	111	112	99	93	80	111

Source: MLC and MMB

1.1.24 Repeating the analysis for Ireland (Table 1.1.5) shows a similar relative situation to have occurred. Sheep gross margins have, in relative terms improved in

comparison to the beef sector since 1992. While initially improving in comparison to the dairy sector by 1998 sheep performance had fallen back to be in a similar relative position to dairying as it was in 1992.

Table 1.1.5
Relative change real gross margin Ireland - 1992 = 100

	Mid season lamb	Cattle	Dairying	Spring barley
	Index of real gross margins			
1988	143	98	113	144
1990	127	92	101	113
1992	100	100	100	100
1994	114	120	105	105
1996	122	108	105	143
1998	103	95	105	112

Source: National Farm Survey, TEAGASC

1.1.25 The above gross margin analysis for Britain and Ireland show some interesting patterns in performance of individual enterprises, for example, the sheep, beef and dairy pattern of movement in Britain and Ireland is very similar. However, because of the limitations of the analysis described in paragraph 1.1.23 no judgement will be made of the success or failure of the sheep and goatmeat CMO in comparison with other sector CMO's.

Conclusions

1.1.26 Using the principle indicator of FNVA/AWU as the indicator of the income of those engaged in agriculture the following conclusions are drawn from the forgoing analysis.

- **At a pan European level the CMO has:**

  a) Failed to allow specialist sheep producers to obtain a FNVA/AWU comparable to the all farm level,
  b) Failed to allow specialist goat producers to obtain a FNVA/AWU comparable to the all farm level,
  c) Allowed sheep producers to marginally improve their relative position compared to the all farm average, and
  d) Allowed goat producers to maintain their relative position compared to the all farm average.

- **At individual Member State level**

    a) **Considerable diversity in impact is shown between Member States**
    b) **Sheep producers in France, Ireland and the UK consistently under perform when compared to the entirety of the agricultural sector while the reverse is true for Spain and Greece.**
    c) **In nominal terms sheep producers incomes have been improved by the presence of the CMO in all Member States considered.**
    d) **Considerable variation in performance in real terms is revealed between Member States**

Returning to the original question posed at the start of this section, i.e. to what extent is the level of premia fixed in an adequate way in order to maintain the income of sheep and goat producers in different Member States? it is concluded that a common rate of permia for all Member States makes a significant contribution to the maintenance of producers income. Nevertheless, the diversity of production systems across Member States results in substantial variation in the impact of the premia on producers.

1.1.27 The relative performance of specialist sheep producers over the period 1988 to 1997 is likely to have impacted on the structure of the sheep industry of individual Member States and this issue is addressed more fully in section 1.2. Furthermore, the disparity between Member States may rest in the mechanism for calculating the annual premium and this topic is returned to in section 1.3. A variation in economic performance has also been identified and this topic is discussed in section 1.4.

1.2 HAS THE SYSTEM OF PREMIA AND INDIVIDUAL LIMITS CHANGED IN A SIGNIFICANT WAY THE DISTRIBUTION OF INCOME BETWEEN CATEGORIES OF HOLDINGS (IN TERM OF SIZE, DEGREE OF SPECIALISATION, REGION)?

Introduction

1.2.1 To address the issue of changes in the distribution of income two indicators will be used. Firstly, as a direct measure, Farm Net Value Added (FNVA) per Annual Work Unit (AWU) will be considered. This indicator measures labour productivity, or the total income created before it is distributed to the different people involved (land owner, farmer, worker, capital supplier). This indicator allows comparisons between regions (or countries) and periods, even if the structure of labour (waged / family) and land tenure (rented / owned) are not similar. Trends in FNVA/AWU will be considered over the period 1989-1997 for specialist sheep farmers recorded in the Farm Account Data Network (FADN). The results will be supported by analysis of other types of grazing animal farms in the most relevant countries for 1995 (GLS Study - see Appendix, Annex to chapter 1). Secondly changes in the distribution of income will be considered by using indicators of changes in the distribution of ewes and holdings with ewes in different types of farms and different size of farms.

1.2.2 In making a judgement whether any of the changes identified are *significant*, a change of more than 10% since 1990 will be used as the assessment criteria.

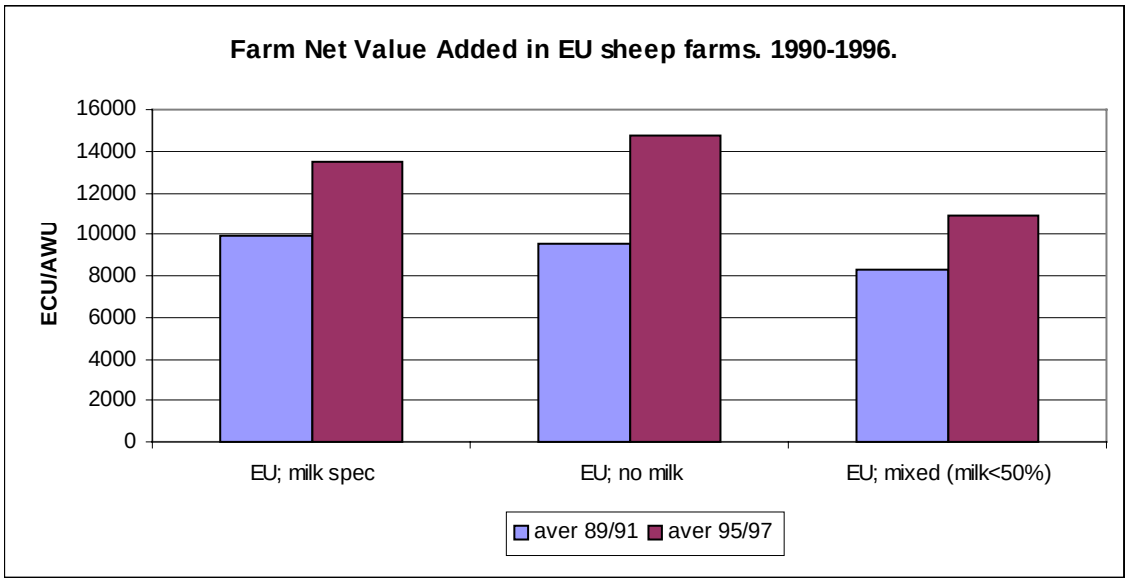
Farm Net Value Added per Agricultural Work Unit at EU Level

1.2.3 In the EU as a whole, Farm Net Value Added per Agricultural Work Unit (FNVA/AWU) increased by 56% for sheep farms without dairy sheep between 1990 and 1996, (Figure 1.2.1). Over the same period FNVA/AWU for those farms with dairy sheep and goats increased by 35% with no difference between milk specialists (more than 50% of their sheep and goat income from milk products) and mixed holdings (those with less than half their sheep and goat income from milk products). This differential increase in FNVA/AWU can be the result of a number of issues including: the system of premiums which grants an 80% premium to dairy sheep and 100% premium to meat sheep, or of a larger increase of the size of the flock per AWU in the specialist meat farms than in the dairy sheep farms.

1.2.4 When FNVA/AWU of specialist sheep farms is compared with the same indicator for all farm types across the Community (Figure 1.2.2) it is found to be lower throughout the period 1989-1996. On average over this period specialist sheep farm FNVA/AWU has been 11.7% lower than the all farm average.

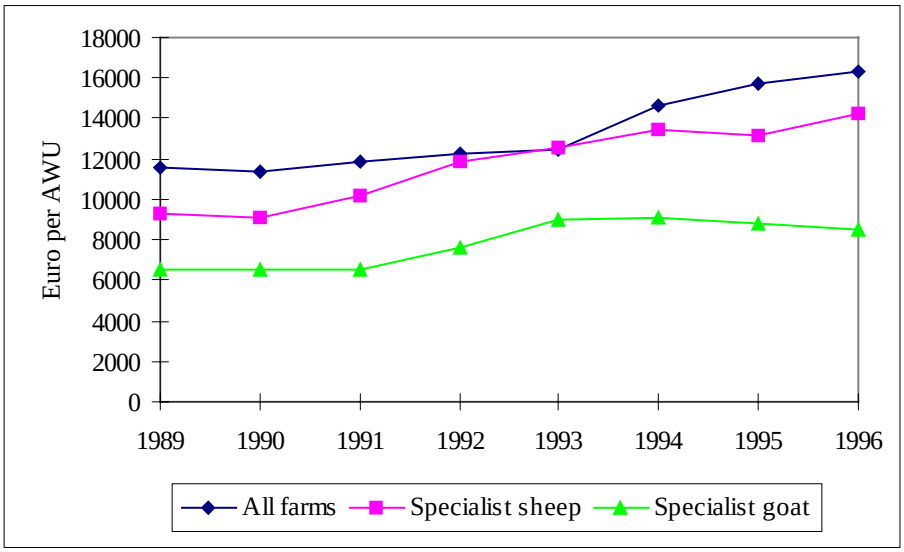
1.2.5 When specialist goat farmers are considered they are shown to have significantly lower incomes than the average farm when measured as FNVA/AWU over the 1989-1996 period.

Figure 1.2.1



Source: FADN

Figure 1.2.2
Farm Net Value Added per Agricultural Work Unit. EU-12. 1989-1996



Source: FADN

Farm Net Value Added at Member State Level

1.2.6 When individual Member States are considered, considerable regional variations in income are revealed. In the UK, Ireland and France (see Appendix, Annex to chapter 1, Figures a1.2.1, a1.2.2 and a1.2.3), specialist sheep farmers have significantly lower FNVA/AWU than the average farm in that Member State. This gap has been broadly constant in the UK but has widened in France and Ireland over the time period considered. In contrast, specialist sheep farmers in Spain and Greece

(see Appendix, Annex to chapter 1 Figures a1.2.4 and a1.2.5) have a FNVA/AWU which is similar or above the average farm over the period.

1.2.7 Considerable country by country variations appear when the level of FNVA/AWU is considered (Table 1.2.1). In 1996, the average specialist sheep farm in the UK and Spain achieve an FNVA/AWU 1.5 times the EU specialist sheep farm average, France and Ireland are near the EU average, and Greece specialist sheep farms are half of the EU average. These country variations were not so important in 1989, before the CMO reform (Table 1.2.1). Since 1989. in Ireland, the UK and Spain, specialist sheep farmers have improved their position in relation to the average FNVA/AWU in EU specialist sheep farms but, French and Greek specialist sheep farmers have seen their relative position deteriorate.

1.2.8 With the possible exception of France and Ireland, the sheep and goat premium, calculated as a deficiency payment compensating for market price fluctuations, has contributed to the conservation of the relative situation of specialist sheep farms versus the average farm in each individual country and the EU. It has not been sufficient to reduce the gap between sheep farms and other farms, nor the gap between sheep farms in the different countries of the Union.

Table 1.2.1
Farm Net Value Added per Agricultural Work Unit in specialist sheep farms EU-12 and selected countries 1989 ; 1996 (Index, EU-12 = 100)

	1989 Index	1996 Index
EU-12	100	100
Greece	63	46
Spain	122	146
France	113	99
Ireland	75	94
UK	129	154

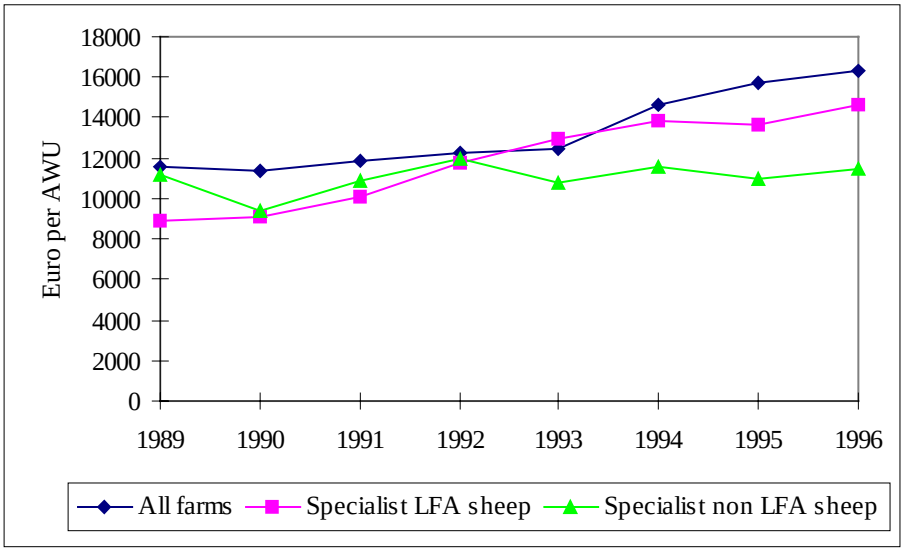
Source: FADN

Farm Net Value Added per Agricultural Work Unit distinguished between LFA and non-LFA location

1.2.9 Around 80% of all ewes benefiting from premiums are to be found in the LFAs of the Community. Consequently it is important to consider the relative position of sheep producers in these areas (Figure 1.2.3). FNVA/AWU remains below the all farm average for both groupings of specialist sheep farmers. However, since 1992 specialist sheep producers in the LFA regions of the Community have achieved better FNVA/AWU than those sheep producers outside the LFAs. In LFAs, the income of specialised sheep farms follow the same trend as the average farms. This is

not only a result of CMO for sheep-meat and the provision of the "rural world" supplement but also of the other specific measures supporting grazing livestock in LFAs. Sheep farmers' income in non LFA regions of the EU, which was until 1992 similar to all farms, have become much lower (-20% in 1996).

Figure 1.2.3
Farm Net Value Added per Agricultural work unit categorised by farm location
European Union



Source: FADN

1.2.10 At a country level, the income of UK (see Appendix, Annex to chapter 1 Figure a1.2.6) sheep farmers in LFAs follows the general trend of all farms (FNVA/AWU at around 65% of the all farm level). Sheep farmers in UK non LFAs maintained their income at around 50% of the all farm level. In Ireland (see Appendix, Annex to chapter 1 Figure a1.2.7), sheep farmers' incomes are similar in LFAs and in non LFAs. Their relative position to the average income has declined in the 1989/1997 period. FNVA/AWU was 75% of the all farm average in 1989 and 60% in 1997. In France (Annex 1.2 Figure a1.2.8), LFA sheep farmers have maintained their relative position to the average income at 55% of average FNVA/AWU. However non LFA sheep farm incomes in France have declined relatively from 55% to 25% of the average FNVA/AWU. In Spain (see Appendix, Annex to chapter 1 Figure a1.2.9), LFA and non-LFA sheep farms have maintained an income similar to the average income. In Greece (see Appendix, Annex to chapter 1 Figure a1.2.10), both LFA and non LFA sheep farms maintained income parity until 1992. However, between 1993 and 1996 LFA sheep farm incomes have became significantly higher than the average while the non LFA sheep farm incomes have declined in comparison to the all farm average in 1995 and 1996.

Variation between farm types

1.2.11 Specialist grazing livestock farm types of the FADN classification (844,000 farms) represent only 76% of total sheep and goats of the EU. The distribution of income according the types of farms can be appreciated through the typology elaborated for Grazing Livestock Systems (GLS Study)[1] from FADN data base (see Appendix, Annex to chapter 1, Table 1). In this typology, all (1.6 million) farms with grazing animals are contemplated. Specialist meat sheep and goat farmers are defined as all farms with more than 4 Cattle Units, of which more than 2 are sheep or goats, and less than 3 are cattle, and where milk products from sheep and goats represent less than 50% of total gross product from sheep and goats.

1.2.12 For the EU as a whole, in 1995 (Table 1.2.2, Figure 1.2.4), specialised meat sheep farms have a FNVA/AWU similar to the average farm (about 15,000 ECU), 30% lower than dairy cattle farms, 8% higher than beef cattle farms. Excluding animal subsidies (mainly ewe premium in the case of specialised sheep farms), meat sheep farms would have a FNVA 30% lower than the average farm, 47% lower than dairy cattle farms, 25% higher than beef cattle farms. The animal subsidies (28% of FNVA) seem to reduce the disparity between specialist meat sheep farms and the other farms, including specialist beef cattle and dairy cattle farms.

1.2.13 The impact of animal subsidies can be addressed from GLS study data, by comparing FNVA/AWU in different types of farm with and without animal subsidies, but with other subsidies (crops and structural subsidies). **Specialised meat sheep farms** hold only 31% of total ewe numbers in the EU (see Appendix, Annex to chapter 1 Table 2). Their FNVA/AWU is similar to the all farm average (-6%), and 11% lower than the average farm with grazing animals. Without animal subsidies, their FNVA would be 28% lower than the all farms average. **Beef cattle farms with meat sheep** hold another 30% of EU ewes numbers. Their FNVA is 25% higher than the average beef cattle farms, and 10% higher than the all farms average. Without animal subsidies, their FNVA would be 12% lower than the average beef cattle farms, and half of the all farms average. The high level of livestock premiums (56% of FNVA) allows mixed farms (meat sheep and beef cattle) to achieve a level of FNVA better than the all farm average. Another 27% of EU sheep and goats are kept in **dairy sheep and goats farms**, mainly specialised. These farms achieve low levels of FNVA, 66% of the all farms average, 57% without animal subsidies. The animal subsidies benefit more to the mixed (beef cattle and meat sheep) farms and less to the specialised meat sheep farms. They do not allow dairy sheep and goat farms to achieve the average farm value added. They do not reduce the disparity between the different types of farms with sheep and goats.

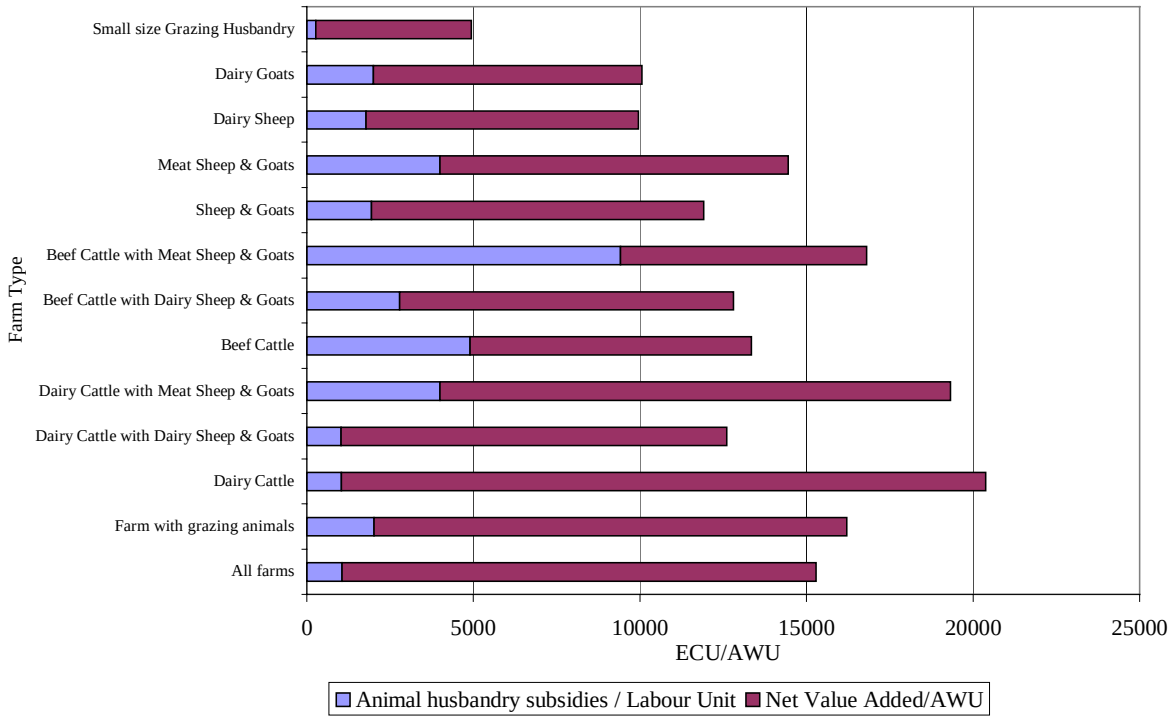
[1] Source : "Typologie des systèmes d'élevage herbivore dans l'Union Européenne" by F. Colson, V. Chatellier, M.-A. Fuentes, INRA / LERECO, Nantes, May 1999.Contrat VI / A3 / 002 Commission Européenne - Direction Générale VI Agriculture - Analyses économiques - Prospectives. Unité Analyse de la situation des exploitations agricoles (VI.A.3). (GLS Study).

Table 1.2.2
Farm Net Value Added per farm types. EU-15. 1995.

	Farm Net Value Added per Annual Work Unit		Animal husbandry subsidies / AWU	FNVA less Animal Subsidies per AWU	
	ECU / AWU	Ratio (" All farms " = 1,00)	ECU / AWU	ECU / AWU	Ratio (" All farms " = 1,00)
All farms	15 293	1,00	1 058	14 235	1,00
Farm with grazing animals	16 208	1,06	2 021	14 187	1,00
Dairy Cattle	20 382	1,33	1 031	19 351	1,36
Dairy Cattle with Dairy Sheep & Goats	12 600	0,82	1 022	11 578	0,81
Dairy Cattle with Meat Sheep & Goats	19 328	1,26	3 994	15 334	1,08
Beef Cattle	13 350	0,87	4 897	8 453	0,59
Beef Cattle with Dairy Sheep & Goats	12 802	0,84	2 779	10 023	0,70
Beef Cattle with Meat Sheep & Goats	16 805	1,10	9 416	7 389	0,52
Sheep & Goats	11.915	0,78	1 931	9 984	0,70
Meat Sheep & Goats	14.451	0,94	3 999	10 452	0,73
Dairy Sheep	9 956	0,65	1 774	8 182	0,57
Dairy Goats	10 065	0,66	1 999	8 066	0,57
Small size Grazing Husbandry	4 942	0,32	273	4 669	0,33

Source : GLS Study.

Figure 1.2.4
Net Value added and subsidies per Annual Work Unit/farm type EU - 15 1995



Source : GLS Study.

1.2.14 The disparity of FNVA/AWU is more important between countries than between types of farms (Table 1.2.3). The "All farm" average varies from 17% (Portugal) to 200% (UK) of the EU average. For specialised meat sheep farms this ratios are respectively 40% and 200%, for beef and sheep farms, 40% and 130%, for beef cattle farms 25% and 180%. The disparity between sheep farms or beef farms (especially beef and sheep farms) is lower in the EU, than the disparity between the rest of the farms. This is partly a result of the ewe premiums.

1.2.15 In Greece, Spain and Portugal sheep husbandry gives more value added per labour unit than the average farm, and than general grazing farms. In contrast, in France and Ireland sheep husbandry labour productivity (measured by the FNVA/AWU) is much less than the labour productivity of (dairy and beef) cattle farms. In Italy and the UK, labour productivity in sheep farming is better than for beef cattle, but lower than dairy cattle. In Italy, beef cattle farms with sheep and goats have better labour productivity than specialised beef cattle farms. In the UK, beef cattle farms with sheep (which hold the majority of sheep) have the lowest labour productivity of all the grazing types of farms. These differences in the labour productivity of meat sheep farming in different countries are identified but the reason is not addressed in this report. They are probably influenced by the size of farms in which sheep are kept (see Table 1.2.7).

1.2.16 Dairy sheep have the lowest FNVA/AWU at a global EU level. At a country level, they have generally better or equal results than meat sheep in each country. This divergence between the EU global situation and individual Member State results the weighting of the weighting of the UK and Ireland, where there are no significant dairy flocks, in the EU average. Furthermore. the FNVA for meat sheep is much higher in the UK than elsewhere.

Table 1.2.3.
Net value added per Labour Unit (ECU) of EU-15 farms with sheep and goats. EU & selected countries. (1995).

	EU-15	GR	SP	FR	IR	IT	PO	UK
All farms	15 293	6214	13 480	24 777	12 928	11 390	2 674	29 178
Farm with grazing animals	16 208	6 747	13 243	21 967	12 659	12 980	2 395	28 186
Dairy Cattle	20 382	7 829	10 621	23 196	17 932	18 959	5 348	33 005
Dairy Cattle with Dairy Sheep & Goats	12 600	8 142	ns	13 643	ns	15 475	ns	-
Dairy Cattle with Meat Sheep & Goats	19 328	ns	13 425	15 240	12 607	9 945	ns	27 687
Beef Cattle	13 350	7 731	12 264	21 112	9 075	10 512	3 408	24 083
Beef Cattle with Dairy Sheep & Goats	12 802	5 849	ns	14 912	ns	15 576	2 610	ns
Beef Cattle with Meat Sheep & Goats	16 805	ns	16 953	17 907	10 474	13 086	6 234	21 382
Sheep & Goats	11915	7 511	17 175	14 619	6 386	11 219	4 834	29 801
Meat Sheep & Goats	14 451	7 318	16 424	15 283	6 567	9 555	5 249	30 022
Dairy Sheep	9 956	7 308	21 688	15 369	ns	11 653	4 286	ns
Dairy Goats	10 065	8 583	11 747	12 912	ns	12 190	ns	-
Small size Grazing Husbandry	4 942	4 637	7 353	22 214	ns	4 577	1 458	29 489

ns : not significant; - : not relevant
Source : GLS Study.

Distribution of sheep and goats by farm types

1.2.17 Another view to the changes on the distribution of income between categories of holdings, is given by the distribution of animals in farms of different types. This criteria can be found in FADN data base (Table 1.2.4).

Table 1.2.4.
Sheep an goats in dry stock farms as percent of total sheep and goats. EU and selected countries. 1991 - 1996.

	EU	Greece	Spain	France	Ireland	Italy	United Kingdom
1991	72	64	79	72	83	73	71
1996	71	63	66	79	84	67	75

Source: FADN.

1.2.18 The "dry stock" farm type is defined as a farm where grazing animals contribute > 2/3 of the Standard Gross Margin (SMG), and dairy cattle <= 2/3 of SMG. This type contains the specialised sheep farms and a big part of mixed beef cattle / sheep farms. In the EU globally, and in Greece and Ireland, the share of the total sheep and goats in this farm type has not significantly changed between 1991 and 1996. In the UK and France, this farm type increased its share. In Spain and Italy sheep and goats are less frequent in this farm type. There has been little effect of the premiums on the level of specialisation, as reported by this classification, but different in the different countries..

1.2.19 The more detailed typology used in the GLS study shows, for 1995, some more structural differences between countries (Table 1.2.5). Specialised sheep and goats farms (farms with less than 3 heads of cattle), keep more than 90% of sheep and goats in Greece and Spain, around 2/3 in France and Italy, and around 20% in Ireland and the UK. In these latter countries, around 2/3 of sheep and goats are in beef cattle farms, the rest being held in dairy cattle farms. This can explain the higher FNVA/AWU obtained by mixed farms (Table 1.2.2) at a EU level, as this result is higher in UK farms (Table 1.2.3).

1.2.20 The typology used in the GLS study shows some interesting evolution between 1992 and 1995 (Table 1.2.6). The number of meat sheep and goat specialised farms has dropped much more (-18%) than the number of herbivore farms (-8%) between 1992 and 1995. There is some specialisation in dairy cattle, since the decrease in the number of dairy cattle farms is 5%, when dairy cattle farms with dairy sheep and goats decreased by 23%, and dairy cattle farms with meat sheep and goats decreased by 37%. In all types of farms, farms with dairy sheep and goats have maintained their numbers better than farms with meat sheep and goats. Dairy sheep, and dairy goats, seem to be a means of maintaining of sheep and goat husbandry. Specialised dairy sheep and goats farms are the only types of grazing farms increasing in number between 1990 and 1995. Generally these farms have better FNVA/AWU than meat sheep and goats farms in an individual country, except for dairy goats in Spain and France, and for dairy sheep in Portugal (Table 1.2.3).

Table 1.2.5
Sheep and goats in different types of farms as a percent of total sheep and goats. EU15 & selected countries. 1995.

	EU-15	Greece	Spain	France	Ireland	Italy	United Kingdom
All farms							
Farm with grazing animals	100	100	100	100	100	100	100
Dairy Cattle	8	1	1	6	12	5	13
Dairy Cattle with Dairy Sheep & Goats	1	1	ns	2	ns	4	-
Dairy Cattle with Meat Sheep & Goats	4	ns	1	3	7	1	9
Beef Cattle	36	3	2	32	67	22	69
Beef Cattle with Dairy Sheep & Goats	3	3	ns	10	ns	16	ns
Beef Cattle with Meat Sheep & Goats	30	ns	2	18	60	5	64
Sheep & Goats	54	90	97	61	21	68	18
Meat Sheep & Goats	31	15	67	46	20	11	18
Dairy Sheep	18	54	24	9	ns	56	ns
Dairy Goats	5	21	5	7	-	2	-
Small size Grazing Husbandry	2	6	-	1	ns	4	-

ns : not significant; - : not relevant

Table 1.2.6
Number of farms E.U-12. 1992/1995

	N° of farms 1992	N° of farms 1995	1995 / 1992 (%)
All farms with grazing animals	1 615 600	1 485 500	92
Specialised dairy cattle	432 700	404 100	94
Dairy and Beef cattle	230 500	218 800	95
Dairy Cattle with Dairy Sheep & Goats	5 700	4 400	77
Dairy Cattle with Meat Sheep & Goats	19 700	12 400	63
Beef Cattle without Sheep or Goats	339 000	325 000	96
Beef Cattle with Dairy Sheep & Goats	13 900	13 400	96
Beef Cattle with Meat Sheep & Goats	82 000	71 900	88
Meat Sheep & Goats	104 900	86 300	82
Dairy Sheep	75 600	77 700	103
Dairy Goats	13 700	17 900	131
Small size Grazing Husbandry	298 700	253 800	85

Source : GLS Study.

Distribution of livestock numbers according to farm size

1.2.21 The changes in the distribution of ewes among the size classes of farms between 1990 and 1997 shows a clear growth for relatively big farms greater than 40 ESU (Table 1.2.7).

Table 1.2.7
Ewe numbers according to farm size. EU-12 and selected countries. 1990 - 1997.

		EU-12	Spain	France	Ireland	Italy	Portugal	United Kingdom
% of total n° of ewes in farms > 40 ESU								
	1990	30	20	24	14	21	29	57
	1997	38	39	34	25	24	34	59
% of total n° of ewes in farms 8 – 40 ESU								
	1990	49	50	61	65	57	36	36
	1997	49	53	55	62	58	41	34
% of total n° of ewes in farms < 8 ESU								
	1990	21	30	15	21	22	35	7
	1997	13	8	11	12	18	25	7

Source : FADN.

1.2.22 In 1997, as in 1990, half of the ewes in EU are held in medium size farms (8-

40 Economic Size Units; ESU). This share was the same in 1990. Big farms (> 40 ESU) have increased their share of ewe numbers from 30 to 38%, while small farms have decreased from 21 to 13% of the total ewe numbers. This trend is the same in each individual country, although in the UK the growth has been much smaller. The presence of the sheepmeat regime was not sufficient to prevent the decline in sheep husbandry in small size farms. In France for instance (Table 1.2.8), flocks under 200 ewes are decreasing drastically, flocks of 200 - 350 ewes maintain, and flocks of more than 350 are increasing their number and share of national flock. A similar situation arises in the UK where between 1991 and 1997 the number of holdings with a ewe flock of more than 500 ewes has increased from 12% of all sheep holdings to 13.2%, the proportion of all ewes in these flocks has increased form 48.7% to 50.8% over the same time frame. In contrast the number of flocks of less than 100 ewes has declined from 47% to 45% of the total flocks and the proportion of ewes in these flocks has fallen from 8.6% to 8.1%. The number of breeding ewe flocks has also declined, by 9% between 1991 and 1997. In Ireland the proportion of ewe flocks smaller than 100 ewes has declined from 67% in 1994 to 64% in 1999 additionally, the number of flocks has declined by 12% between 1994 and 1999. Sheep husbandry is more and more specialised and less and less a complementary activity in multiple purpose farms. This is more the result of a long trend of other farm activities which are themselves more and more specialised, than an effect of the CMO. It is likely that this trend would be faster if the ewe premium was not there (cf. chapter 2.3).

Table 1.2.8.
Distribution of ewes and holdings according to size of ewe flock. France. 1989-1997.

	1989		1997	
	Ewes (% of total national flock)	Farm n° (000)	Ewes (% of total national flock)	Farm n° (000)
<200 ewes	53	67	37	45
200 - 350 ewes	27	8	29	8
>350 ewes	20	3	34	4.6
Total	100	78	100	58

Source : OFIVAL.

Conclusion

1.2.23 Measured as FNVA/AWU in the whole EU, the income of farms with meat sheep is similar to the farm average. The income of specialist sheep farms (where milk and/or meat sheep are the main activity) has maintained 12% below the average throughout the period 1989-1996 (paragraphs 1.2.3 - 1.2.5). This can be the result of the various animal premiums, since animal premiums are 35% of the FNVA/AWU in specialised meat sheep farms, and 55% of FNVA/AWU of beef/meat sheep farms (Table 1.2.2).

1.2.24 **In terms of size**, the proportion of the ewes on big farms and in big flocks is increasing in the EU and in most of the individual countries. The presence of the sheepmeat regime was not sufficient to prevent the decline of sheep husbandry in small size farms (paragraph 1.2.22).

1.2.25 **In terms of degree of specialisation**, the animal subsidies (including sheepmeat CMO premiums) benefit the mixed (beef cattle and meat sheep) farms more than the specialised meat sheep farms. They do not allow dairy sheep and goat farmers to achieve the average farm net value added. Similarly, they do not reduce the disparity between the different types of farms with sheep and goats (Paragraph 1.2.13).

1.2.26 **In terms of Member State**, the disparity between sheep farms in different Member States is lower than the disparity of the average farms (paragraph 1.2.14). In the UK, Ireland and France sheep farmers have a lower income than the average farm; in Spain and Greece the income of sheep farmers is similar to the average farm. From 1989 to 1996, the relative position of sheep farmers to the average farm in terms of FNVA/AWU has improved in the UK and Spain, and has deteriorated in Greece, France and Ireland (paragraph 1.2.6 - 1.2.8).

1.2.27 **In terms of LFA and non-LFA location**, the income of specialised sheep farms in LFAs follow the same trend as the all farms average. This is not only a result of the CMO for sheepmeat and the provision of the "rural world" supplement but also of the other specific measures supporting grazing livestock in LFAs. Sheep farmers' income in non-LFA regions of the EU, which was until 1992 similar to all farms, have become much lower since then and by 1996 were 20% lower than the all farm average (paragraph 1.28 - 1.2.9).

1.3 HOW RELEVANT ARE THE RESPECTIVE ELEMENTS OF THE METHOD OF CALCULATING THE PREMIA, THAT MEANS NOTABLY:

THE METHOD OF CALCULATING THE TECHNICAL COEFFICIENT

THE METHOD OF ESTIMATION OF MARKET PRICES IN ORDER TO DETERMINE PRODUCERS' LOSS OF INCOME

Introduction

1.3.1 The premium awarded annually to sheep and goat producers in the European Union is calculated using a system prescribed by the European Council in Council Regulation (EC) No 2467/98.

1.3.2 The system requires that the European Council decide (on an annual basis) a *basic* price which is thought to give a reasonable return to producers. The criteria used to determine the *basic* price include:

a) the situation on the sheepmeat market during the current year;
b) the prospects for the production and consumption of sheepmeat;
c) sheepmeat production costs;
d) the market situation in the other livestock product sectors, particularly the beef and veal sector;
e) past experience.

These criteria are discussed further in the following sections.

1.3.3 Secondly, the European Commission collects actual market prices on a weekly basis from Member States, for specified categories of sheep, from specified 'representative' national markets. The Commission then calculates a single *market* price, using national prices weighted according to Gross Indigenous Production (GIP) in each Member State. Income loss is determined as any difference, per 100 kg carcase weight, between the basic price and the arithmetic mean of the weekly market prices. Finally, as premia are awarded on a per ewe basis (rather than a per 100 kg basis), a technical coefficient is used to translate the premium to a per ewe figure. Figure 1.3.1 presents a schematic diagram of the relationship between Member States and the European Commission in the calculation of the ewe premium. Figure 1.3.2 summarises the calculation process within the European Commission.

Figure 1.3.1: Communication Chain for SAP Regime Between Member States and European Commission

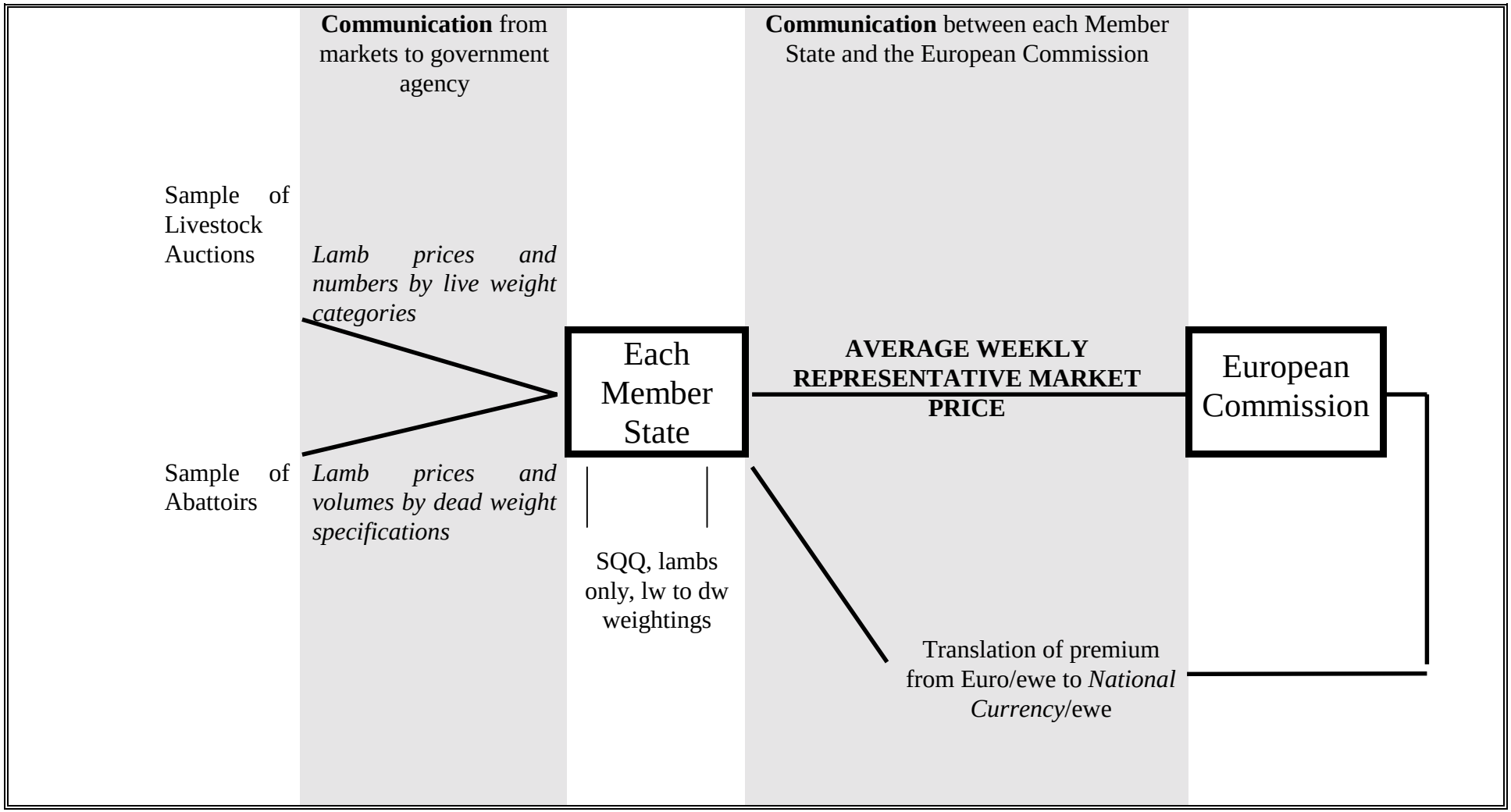
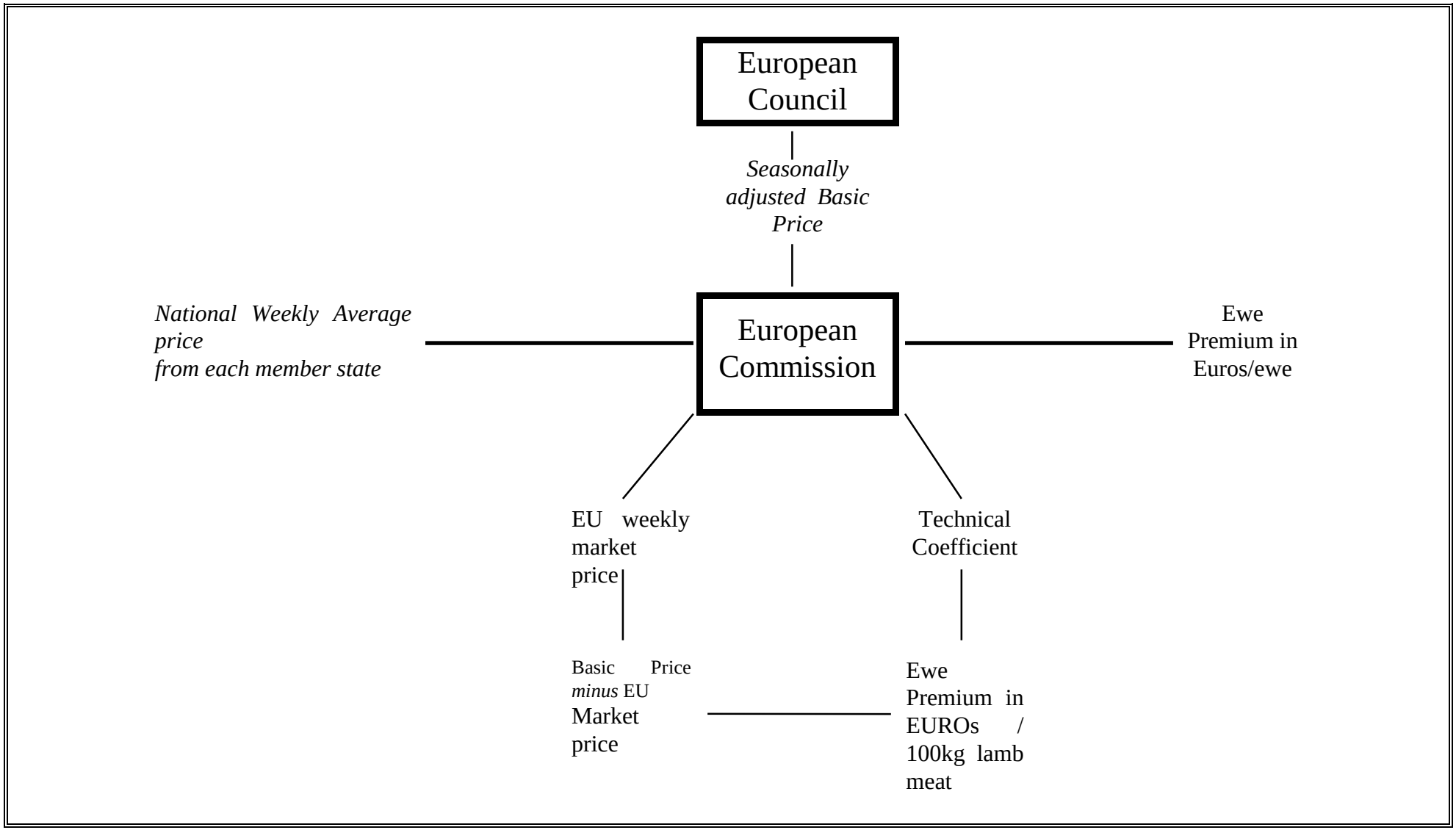


Figure 1.3.2: Detail of Formation of Ewe Premium within European Commission



1.3.4 Before assessing the relevance of the respective elements of the method of calculating the premia, it is necessary to define key terms in the question posed. The consultants have identified the following terms as requiring a definition specific to this question:

1.3.5 'Relevant'

In this context, 'relevant' is defined as (those elements of the method of calculating the premia) having the potential to impact upon the value of premia received by sheep and goatmeat producers. The extent to which the respective elements are relevant to producers' incomes has been considered in other sections.

1.3.6 'Notably'

'Notably' indicates those aspects of the system thought by the European Commission to be the most 'relevant' elements in calculating the premia.

1.3.7 'Loss of Income'

The definition of 'income loss' used is that given in Article 5 of Council Regulation (EC) No 2467/98: namely 'a single income loss shall be determined which shall be deemed to be any difference, per 100 kilograms carcase weight, between the basic price and the arithmetic mean of the weekly [representative] market prices'. Where 'the premium payable per ewe to the producers of heavy lambs… shall be obtained by multiplying the income loss [referred to above] by a [technical] coefficient…'.

1.3.8 From the brief outline above, and having defined the key terms, the consultants have determined that the following three elements of the system are 'notably relevant' in determining the calculation of the premia:

- Calculation of the Basic Price
- Calculation of the Market Price
- Calculation of the Technical Coefficient

1.3.9 Each of these elements is addressed in the question. The criteria by which the elements will be judged include:

- The validity of factors chosen to establish the basic price
- The accuracy and relevance of the market price reporting system
- The validity of the technical coefficient

Each element is considered in the following sections.

Basic price

1.3.10 Description

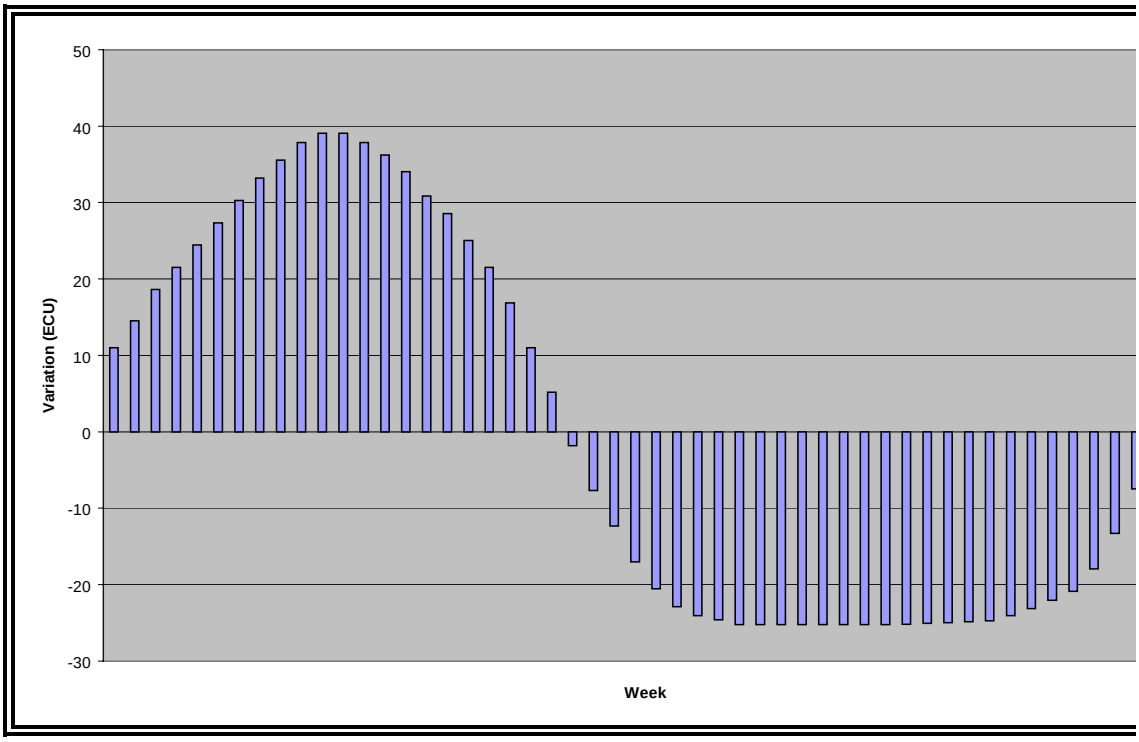
Article 3 of Council Regulation (EC) No 2467/98 states that a basic price shall be fixed annually, for the following marketing year, for fresh and chilled sheep carcases. The basic price is set each year by the Council of Ministers (representatives for Agriculture) in the annual farm price negotiations. The price is fixed at the Council's

discretion and the following five factors are taken into consideration in arriving at the basic price:

a) the situation on the sheepmeat market during the current year;
b) the prospects for the production and consumption of sheepmeat;
c) sheepmeat production costs;
d) the market situation in the other livestock product sectors, particularly the beef and veal sector;
e) past experience.

1.3.11 Having used these criteria to arrive at a fixed basic price for the following year, the price is seasonally adjusted "to take account of the normal seasonal variations on the Community market in sheepmeat" (Article 3 of Regulation 2467/98). Figure 1.3.3 gives an example of seasonal basic price adjustments for the 1999 marketing year, where the graph indicates the difference (in ECU) from the annual basic price (504.07 ECU). Two particular aspects should be noted: firstly, the seasonal adjustment only influences private storage aid, not the level of premium set; secondly, the adjustment has not changed for several years.

Figure 1.3.3
Weekly Seasonal Adjustment from Annual Basic Price (1999 Marketing Year)

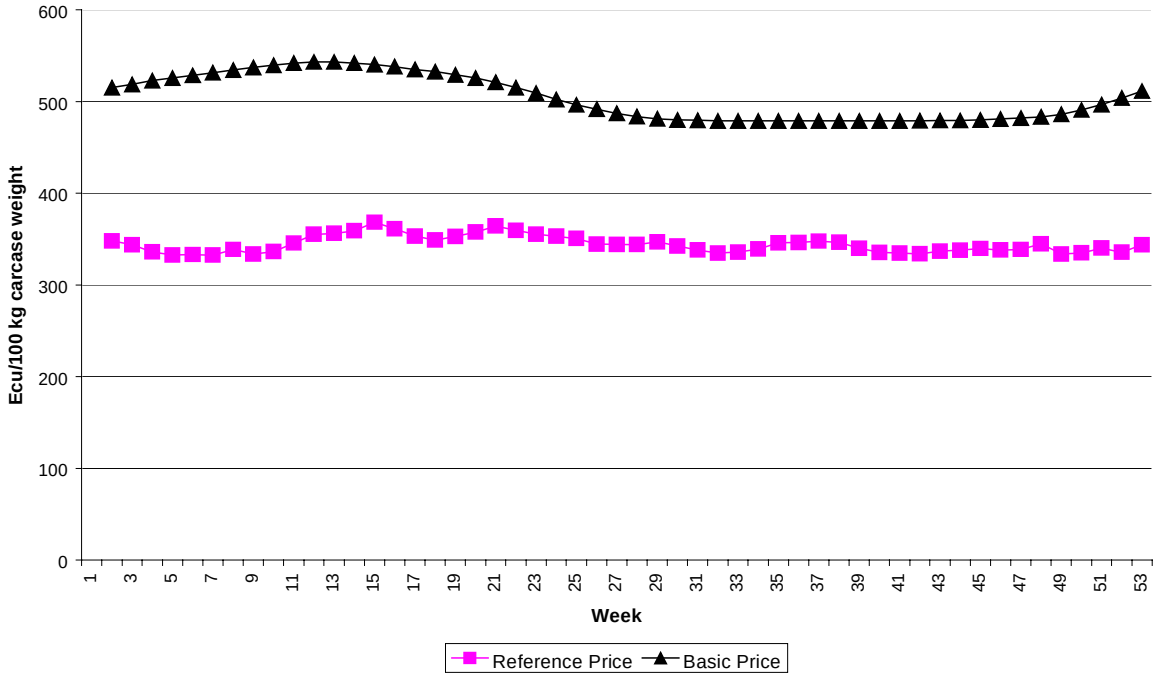


Source: Council Regulation 1634/98

1.3.12 Figure 1.3.4 demonstrates the relationship between the seasonally adjusted basic price and the representative market price for the average of calendar years 1997 -

1999. In theory the higher the market price, the lower the adjusted basic price; this relationship is not very evident, however, in the figure. It should also be noted that whilst the seasonal adjustment has been fixed for several years, the dates of festivals and public holidays which have traditionally been seen to increase demand for lamb (such as Easter, Ramadan and Eid-ul-Adha) have varied on a yearly basis. Clearly, therefore, there will be times when the 'fixed' seasonally adjusted base price does not represent actual market conditions.

Figure 1.3.4
Weekly seasonally adjusted basic price and representative market price: Av 1997-1999



Source: Council Regulation 1416/97 and MLC.

1.3.13 Since 1988 the basic price has been reduced by a *budget stabiliser*. This mechanism was an attempt to discourage continued expansion of the sheep flock in view of the changing market balance and the Community's international commitments by reducing the degree of guarantee offered by the SAP (Commission Regulation, No 1115/88). If the size of the estimated Community flock exceeds the maximum guaranteed number (63.4 million head), then the basic price is, in principle, reduced by a corresponding percentage. However, since 1993 the stabiliser has been fixed at 7% of the basic price, irrespective of the size of the Community flock (Commission Regulation 2069/92).

1.3.14 In reviewing the basic price calculation three issues become apparent. Firstly, the vagueness of several criteria used in determining the basic price and the lack of

transparency in the decision making process leads the consultants to believe that the basic price is decided through an opaque political process.

1.3.15 Secondly, the regulations are not specific as to the detailed method of generating the basic price. For example, it is not clear whether the price is calculated for sheepmeat production (overall) or whether there are criteria used (as with calculation of the market price) in terms of, for example, carcase weight ranges.

1.3.16 Thirdly, the CMO is a sheep and goatmeat regime. However, the calculation of the basic price does not take into account goatmeat production. Hence, in countries for which goatmeat production is relatively important, the basic price is likely to be less representative of the market than for countries having no or limited goatmeat production.

Conclusion and Recommendations

1.3.17 In conclusion, to arrive at the premium value, an income loss figure must be derived, where this figure will be the difference between the actual return (income) generated and a figure generated to indicate a 'reasonable' return (income). In this context, the calculation of a basic price is fundamental to the operation of the CMO. The criteria used to derive the basic price, as defined in Council Regulation 2467/98, are logical influences on the market place and are therefore considered to be relevant. However, the vagueness of the actual indicators used to measure each criterion leads the consultants to question the *detailed* process/method by which the basic price is determined. It must be concluded that the mechanism is politically motivated and largely subjective. For example, how do 'the prospects for the production and consumption of sheepmeat' translate into part of the figure for basic price? In addition, how are the five elements combined to arrive at the basic price?; is there a weighting system?. On the basis of the analysis, the consultants **recommend** that the European Council adopts a more transparent system of determining the basic price.

Representative market price

1.3.18 Description

The representative price is a European weekly average weighted price for standard quality sheepmeat carcases drawn from representative Community markets. It is the price for the most widespread production system, on average, found throughout the Community. The weightings given to each Member State reflect the proportion of total Community production accounted for by the particular State.

1.3.19 Article 4 of Regulation (EC) No. 2467/98 specifies that 'a weekly average weighted price for the carcases of sheep, fresh or chilled, on the representative Community markets, shall be established on the basis of the prices recorded on the representative market or markets of each quotation area for the Community standard quality of fresh or chilled sheep carcases, account being taken of the relative volume of total sheepmeat production in each quotation area'.

1.3.20 In this context, *standard quality* is defined by Council Regulation (EEC) 338/91 as being sheep carcases 'less than one year old at slaughter of acceptable fat level with a carcase weight or estimated carcase weight of at least 12 kg'; where the *European Community quotation* of the 'standard quality' 'shall be the most widespread production, on average, throughout the Community, for flocks specialising in the production of sheepmeat which produce heavy lambs' (Article 4, Regulation EC No. 2467/98).

1.3.21 The European Commission requires prices to be reported in terms of 'carcase weight' i.e. in pence per kg *deadweight*. Liveweight prices collected from markets must, therefore, be converted to deadweight prices and combined with deadweight prices collected from any abattoirs in the sample. Article 2 of Regulation (EEC) No. 1481/86 states that 'where prices are recorded on a liveweight basis, the prices per kilogram liveweight shall be divided by a maximum conversion coefficient of 0.5'.

1.3.22 The prices sent to the Commission by Member States are combined to give a weekly EU representative market price. In order to calculate the EU representative market price, weighting coefficients are set by the European Commission each marketing year and applied to each Member States' representative market price to calculate an average EU representative market price. The weighting coefficient reflects the importance of sheep production in that State relative to total EU production. The process of calculating the weighting coefficients includes:

1. Finding the average of the previous three *full* years' Gross Indigenous Production (GIP) for each quotation area.
2. Addition of this figure for each quotation area to give a total EU-15 figure.
3. Calculation of the percentage share of 1 into 2 for each quotation area.
4. Rounding up of these shares to two decimal places.

1.3.23 Table 1.3.1 indicates the current (2000 marketing year) weightings for each quotation area and also indicates the change in these weights from the 1992 to 2000 marketing year. The change in weightings over this time period reflects the changing GIP for each quotation area relative to the overall EU-15 GIP.

1.3.24 From Table 1.3.1, those quotation areas showing the greatest increase in share over the period include Northern Ireland (increase by 42.42%) and Eire (increase by 29.89%). However, in absolute terms, Eire experienced a 1.91 percentage point increase (from 6.39% to 8.30%) and Spain experienced a 1.97 percentage point increase (from 19.57% to 21.54%). In contrast, the GIP in Great Britain relative to overall GIP in quotation areas has declined somewhat over the period from 33.03% in 1992 to 31.75% in 2000 (a 1.28 percentage point decrease).

Table 1.3.1
Weighting Coefficients in 2000 and Changes from 1992 to 2000 for quotation areas

Quotation area	Weighting Coefficients 2000%	% Change in Coefficient 1992-2000
Belgium	0.35	0
Denmark	0.16	6.67
Germany	4.05	-14.92
Spain	21.54	10.07
Great Britain	31.75	-3.88
Greece	7.46	-4.6
France	13.11	-17.55
Eire	8.30	29.89
Italy	4.64	-8.3
Luxembourg	N/A	N/A
Netherlands	2.13	-6.99
Northern Ireland	3.29	42.42
Portugal	2.15	-9.28
Austria	0.63	26[a]
Finland	0.11	10[a]
Sweden	0.33	-13.16[a]

[a] Percentage change from 1995 to 1999

1.3.25 Whilst the reported carcase weight must be at least 12 kg, the range of weights reported varies between quotation areas. Quotation areas fall into two broad categories.

1.3.26 In Category One, whilst some variations exist in the maximum allowable weight, all maximum weights are between 21.5 and 23 kg. The areas are found mainly in the North of the Community, with the higher maximum weights reflecting the common heavy lamb production in these countries.

Category One

Quotation area	Weight Range(kg)
Belgium	12-23
Denmark	12-23
France	12-22
Germany	12-23
Netherlands	12-23
Great Britain	12-21.5
Northern Ireland	12-21.5
Republic of Ireland	12-23
Austria	12-22
Finland	12-23
Sweden	12-23

Category Two

Quotation area	Weight Range(kg)
Spain	12-16
Italy	12-16
Portugal	12-16
Greece	12-16

1.3.27 In contrast to Category One, the quotation areas in Category Two are Southern European Member States, which have a more significant number of light lamb producers, reflected in a lower maximum carcase weight (16 kg) used in the calculation of the representative market price.

1.3.28 Each Member State is required to collect lamb prices and quantities for the categories of sheep defined above. The prices must be collected 'on the representative market or markets' (Article 4, Regulation EC No. 2467/98); hence, information is collected both from livestock auction markets and from the SEUROP grid. The representative markets are listed in Annex II of the Regulation EC No. 2467/98, where it can be seen that there are significant differences between countries. The prices recorded, whilst quoted in ECU/kg deadweight, are based on price received by the producer and incorporate the buyer's expectation of the realisable value of the whole carcase, including the value of skins, saleable offal and costs of other offal disposal. Thus, when lamb prices collapsed in 1998 partially due to falling skin prices and the SAP increased it compensated for this fall in fifth quarter prices. Examples of requirements for selected countries are given below.

Great Britain

1.3.29 Prices are collected on a liveweight basis from 64 markets in England and Wales (representing 40% of markets and 40% throughput of animals), and approximately 30 markets in Scotland (representing 100% of markets and 100% throughput of animals).

1.3.30 As the prices reported to the Commission must be for carcases between 12 and 21.5 kg, the liveweight transformation (0.47 coefficient used by Great Britain) gives the following categories of heavy lamb to be reported:

Category	Weight Range (liveweight) (kg)
Light	25.5-32.0
Standard	32.1-39.0
Medium	39.1-45.5

1.3.31 For each of the slaughter categories the number of animals sold (if any) and the average liveweight price in pence per kg are collected. The 'Standard Quality Quotation' is derived by taking the average of the light, standard and medium lambs weighted according to the numbers traded in each category. The SQQ per category is aggregated on the same basis for each of the three regions (England, Wales and Scotland) to give an overall average SQQ for Great Britain.

1.3.32 In addition to the collection of liveweight data, deadweight prices are collected directly from two abattoirs for sheep between 12-21.5 kg and weighted according to throughput at each point on the carcase classification grid. The price data from the abattoirs is combined through weighting it according to throughput from each.

1.3.33 Having calculated a weighting (based on throughput) for each region's (converted) deadweight price per kg, an additional weighting coefficient is applied to Scotland to remedy the over-representation of Scotland caused by 100% of auctions being sampled, relative to only 40% of markets in England and Wales being sampled. Given this ratio of sampling, the Scottish throughput is deflated to 40% of its original value.

1.3.34 Finally, the 'Great Britain' (*adjusted*) dead weight price per kg is calculated. The overall average weekly representative price for Great Britain (reported to the Commission) includes a weighting given to the transformed deadweight data for GB of 97% and the abattoir data of 3%.

France

1.3.35 In France, the national reported price is elaborated each week under the responsibility of OFIVAL. It is composed of the mean of :

i) average value of French lamb carcases sold on the meat market of Rungis
ii) weighted average of four regional prices elaborated by four "Quotation Committees". All categories of lambs on the SEUROP grid (ranges of weight, fat, shape) are quoted. The quotation is made directly in FRF / kg (deadweight) paid to the farmer at the farm gate. It includes the value of the fifth quarter (skin and offal), it does not include transport costs from farm to slaughterhouse. Each price reported for an individual category is representative of the real market price of the region considered. As there is no reliable information on markets of the weights of different categories of lambs (weight, fat, shape), it is impossible to know if the weighted price obtained is representative of the value of French production. The method is relevant if the aim is to represent average price. It is generally felt by persons involved in the industry that the reported price is lower than the real average price (exaggerated weight of low price categories).

1.3.36 Table 1.3.2 shows the average purchase price to be slightly higher (+ 1 to 2%) than the reported official price. The value of the fifth quarter (offal and skin) is not sufficient to cover the cost of processing (transport of livestock, slaughtering, delivery of the meat). The drop in the price of lamb skins in 1998 (due to the Russian crisis) has affected the margin of these companies, and the price of lamb paid to producers. This drop (14 FRF/head or 0.78 FRF (0.12 Euros) per kg deadweight has been charged entirely to farmers, with the drop of the sale price of meat (1.43 FRF/kg or 0.22 Euros per kg dw). The increase (+ 0.2 FRF/kg or 0.03 Euros) in processing costs was totally carried by the companies.

1.3.37 The European Commission requires prices to be reported in terms of 'carcase weight' i.e. in national money *the value of [carcase + offal + skin of the live animal paid to the farmer at the farm gate] / [the weight of the carcase]*. This price can be affected by the prices of the skin as was the case in 1998, when the world prices of lamb skin dropped drastically.

Table 1.3.2
Breakdown of costs for a sample of 8 French companies specialised in sheepmeat, slaughtering 22,000 tonnes of sheepmeat yearly

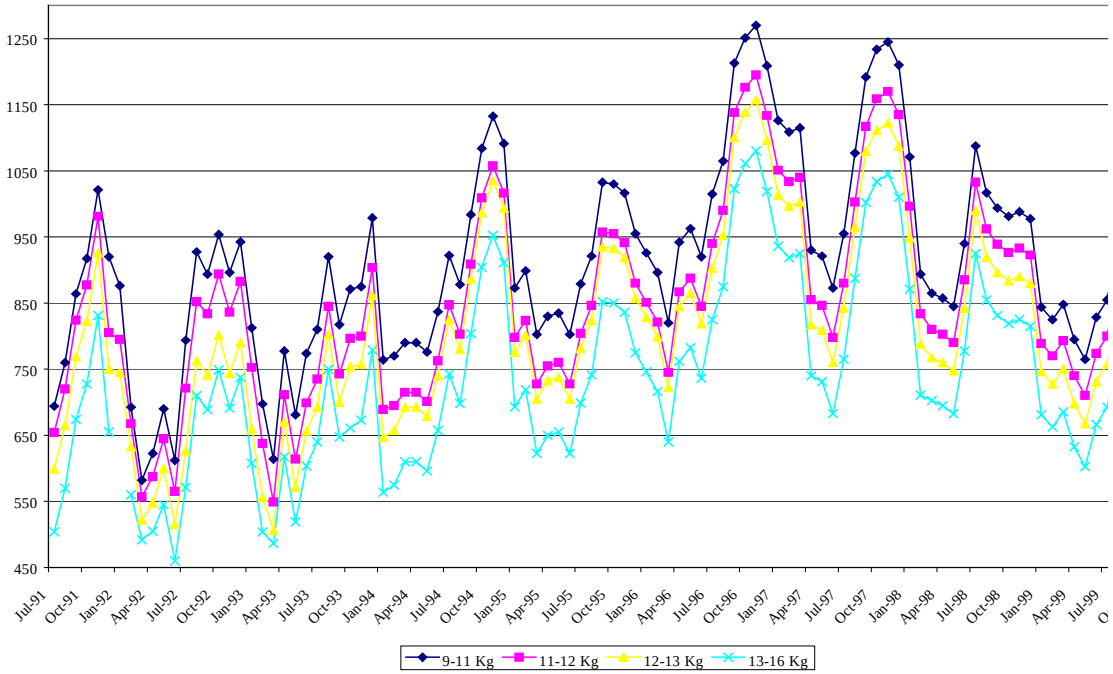
	1997		1998	
	FRF/kg carcass	FRF/head (18.2 kg carcass)	FRF/kg carcass	FRF/head (18.2 kg carcass)
Average national price as reported to EC	27.30		24.92	
Purchase of live lambs	27.65	503.23	25.47	463.60
Cost of processing	5.29	96.28	5.47	99.55
Sale of meat	28.89	526.80	27.46	499.77
Sale of 5th Quarter	4.45	80.99	3.67	66.79
Gross margin	5.69	103.56	5.66	102.96
Net margin	.40	7.28	.19	3.46

Source : Ofival. Elaborated from the accounts of the companies.

1.3.38 In reviewing the determination of representative market prices across EU Member States, a number of issues relating to the operation of the mechanism become apparent.

1.3.39 Firstly, the range of carcase weights used to report prices to the Commission should be representative of the weight of carcases in each Member State. As reported above, Member States may be split into two categories, where those with a heavier maximum carcase weight (21.5-23 kg) are mainly Northern European countries, and those with a lighter maximum carcase weight (16 kg) are mainly Southern European countries. The difference in maximum weight reflects the smaller range of lighter lamb carcases found in Italy, Spain, Greece and Portugal; and the greater range of heavier lamb carcases found in the other Member States. However, the minimum carcase weight reported to the Commission is 12 kg; the implication being, that to be representative, there should not be a large proportion of carcases weighing less than 12 kg in any Member State. This is not always the case. Taking the example of Spain, in 1997 approximately 25% of lambs sold had carcase weights of less than 12 kg (a range not reported to the Commission), i.e. less than 75% of lamb production in Spain fell into the 12-16 kg range (reported to the Commission). In addition, the prices per kilo vary depending on weight. Figure 1.3.5 presents some indicative prices for Spain, for different weights of carcase.

Figure 1.3.5
Prices for Different Weights of Lamb in the Spanish (Ebro) Market (Pesatas/kg)



1.3.40 It can be seen from Figure 1.3.5 that the price per kilo for lighter lambs is greater than the price per kilo for heavier lambs; reflecting the demand for meat from lighter, younger lambs in Spain. In terms of prices reported to the Commission, it is clear that the price per kilo is lower than for the majority of lambs produced in Spain. Consequently, the price reported to the EU is not representative of carcase weights found in Spain. This has a knock-on effect in that the calculation of Spanish weighting in the EU representative market price considers GIP.

1.3.41 Given the varying prices by weight range reported in Figure 1.3.5, a second consequence of the current weight range of eligible carcases is that reported prices are lower than for lighter lamb carcases. This in turn will mean the representative market price reported to the Commission will be lower than for the typical production system in Spain which will upwardly influence the value of the premium.

1.3.42 A second issue relating to the operation of the system involves transformation of liveweight to deadweight prices. As Member States use mainly liveweight prices (from auction markets) they must be transformed into deadweight equivalent prices by dividing the price by a coefficient. The Commission requirement for 'maximum conversion coefficient of 0.5' is not specific and allows for Member States to choose any coefficient up to and including 0.5. Examples of coefficients used in different countries are given below:

Liveweight to Deadweight Coefficients

Member State	Coefficient Used(kg)
Great Britain	0.47
Spain	0.5
Republic of Ireland	0.5

1.3.43 The coefficients used by Member States appear to be historical and are not checked to ensure that they represent accurately average killing out (K.O) percentages. Indeed, defining average K.O. percentage is an issue in itself: should all sheep in a Member State be used to calculate average K.O. percentage, or just sheep falling within the price reporting weight criteria?

1.3.44 The impact of using a higher coefficient is to reduce the deadweight price relative to a lower coefficient (*ceteris paribus*). A lower deadweight price will ultimately mean a greater difference between basic and representative market price.

1.3.45 In addition, the coefficient is not flexible throughout the year and so does not reflect different killing out percentages of, for example, early spring lambs (~0.48) versus old season lambs (~0.39) in Great Britain and Ireland. However, given that the seasonality of marketing varies quite significantly in different parts of Member States and between Member States, a seasonal coefficient would be difficult to apply.

1.3.46 Thirdly, coefficients are used by Member States to weight prices derived from live markets relative to prices derived from abattoirs; however, it is not clear on what basis these weightings are derived. Taking Great Britain (which accounts for approximately 32% of EU production) as an example, deadweight sales account for 43% of production yet abattoirs only have a 0.03 weighting relative to livemarkets which have a 0.97 weighting. Whilst it is accepted that the throughout of stock from the sample abattoirs is small relative to throughput from livemarkets, it does not appear that the weightings reflect reality of live versus deadweight sales. In addition, as deadweight prices are generally higher than liveweight prices, it is likely that the representative market price calculated is lower than the actual average national price, meaning a higher premium than would otherwise be calculated.

1.3.47 Finally, it should be noted that whilst the system operates for both goats and sheep, goats are not represented in several aspects of the calculation. For example, goat prices are not considered in the collection of price data by each Member State, or in the weightings used in calculating the EU market price. The consequences of this omission will be potentially most serious for countries producing relatively significant numbers of goats for meat consumption. In the EU these countries include Greece, France (Corsica), Italy, Spain and Portugal. The major consequence of this omission is the same as that for light lamb producers, in that market prices reported and used by the Commission are not as representative of the structure of the national flock as would otherwise be the case. Whilst it is recognised that goat (and light lamb) producers are compensated at 80% of the amount per (heavy) ewe, it is not clear that

this figure accurately represents the numbers, weights and prices of goats (and light lambs) produced in these countries. This issue will be returned to in the following chapter.

Conclusions and Recommendations

1.3.48 From the above analysis it is concluded that the process of arriving at the market price is complex and has several inherent weaknesses. The greatest weakness is the inability of the process to accurately represent differences in the range of weights across Member States, where there is a variance in prices at different weights of lamb. A second major weakness is the use of a liveweight to deadweight coefficient which does not appear to be based on recent research into typical killing out percentages, and which does not vary by seasonality of production or weight of lambs. A third weakness is the lack of representaveness of deadweight selling in the calculation. A final weakness is the absence of goats from the calculation of the market price and the associated question raised over the accuracy of the market price for those Member States where goat production is significant.

1.3.49 On the basis of the analysis and conclusions above, several recommendations can be made. It is recommended that the Commission re-assesses the ranges of carcase weights for which prices must be reported. It appears that the current system is less representative for Southern Member States than Northern Member States.

1.3.50 It is recommended that the conversion coefficient for transforming from liveweight to deadweight prices be addressed by the Commission, with a view to introducing an objective methodology for calculating the coefficient for each Member State.

1.3.51 It is recommended that market price reporting should be reviewed on a three year basis to make sure that the sample of markets/abattoirs fairly represents the marketing methods used in each Member State.

1.3.52 Finally, the absence of goats within the calculation should be reassessed, dependent on whether other sections of this report find the 80% payment to goat producers to be unrealistic.

Technical Coefficient

1.3.53 Description

The difference between the seasonally adjusted basic price and the weekly mean representative market price gives the income loss *per 100 kg carcase weight* of heavy lambs sold. However, as the sheep annual premium is paid to producers on a *per ewe basis*, it is necessary to transform this income loss into an income loss *per ewe*. The technical coefficient is used to achieve this transformation.

1.3.54 The technical coefficient is the ratio of i) numbers of heavy ewes and ii) production of heavy lambs (expressed in kilos).

The procedure for calculating the coefficient is as follows:

1) Determine the *tonnage* of heavy lambs produced by:

- Determining the average of the three most recent full years Gross Indigenous Production (GIP) (as declared to the Commission by Member States); and

- Translating this GIP figure to lamb production by reducing the GIP for the weight of ewe and ram carcases. This is achieved by multiplying the GIP by 0.85 (i.e. 15% of GIP is estimated to be from ewe carcases).

However, as the CMO compensates for heavy lamb production it is necessary to adjust GIP further for light lamb production. Light lamb production figures are estimated by multiplying the number of milking ewes by 7 kg.

2) Determine the numbers of heavy lamb producing ewes by:

- Determining the three year average of numbers of ewes declared by Member States, but one year behind the GIP figure to reflect the production cycle;

- Using the three year average (one year behind) as declared by Member States, determine the number (percentage) of milking ewes, compared to the total ewes in the Member State concerned; and

- Deducting milking ewes from total ewes to give a figure for heavy lamb producing ewes.

1.3.55 To find the technical coefficient, divide 1 by 2. This figure gives an average technical coefficient across the EU, which is multiplied by the income loss figure (the difference between basic and EU average representative market price) to give the premium per heavy ewe. However, the above system for calculating the technical coefficient is not applied to Greece, Italy, Portugal or Spain due to the poor quality of statistics in these countries. Rather, a technical coefficient of 0.131 is applied. The precise origin of this figure is not clear, but it is believed to be an estimate of the weight for a heavy carcase provided by Spain when the CMO in the sheep and goatmeat sector was established. Table 1.3.3 indicates the common EU technical coefficient for the 1998 marketing year. In addition, the table also indicates the technical coefficients calculated for selected Member States using the same system of calculation.

Table 1.3.3
Estimated Technical coefficients for 1998

	kg per ewe	
EU	15.68	
United Kingdom	16.13	
Spain	13.10	11.98[1]
France	17.67	
Greece	13.10	17.78[1,2]
Ireland	17.25	

1. Technical coefficient re-calculated on basis of average production 1995-1997 reduced by 15% for ewe carcasses and divided the average number of ewes 1994-1996

2. This value appears high compared to the average carcase weight of 10.37 kg reported for 1995-1997 and is likely to be a consequence of increased prolificacy found in dairy milk flocks

1.3.56 From the second column in Table 1.3.3 it can be seen that the coefficients calculated for the UK and Republic of Ireland are higher than the common EU coefficient. In contrast the coefficients for Spain and Greece are lower than the common EU coefficient. The implication for the UK and Ireland of using the common EU coefficient is a lower per ewe premium than would be realised using individual coefficients for each State. In contrast, Spain and Greece benefit from a higher ewe premium than would be given if the 0.131 coefficient was used. It may be concluded that the averaging process results in both winners and losers.

1.3.58 The following issues become apparent when analysing the methodology for determining the technical coefficient. Firstly, is the historic coefficient of 0.131 used in Spain, Italy, Greece and Portugal reasonable, relative to the way of calculating the technical coefficient? The third column of Table 1.3.3 presents the technical coefficients for Spain and Greece, calculated using national data. It can be seen that if this country data is used, Greece would reap a greater benefit, but Spain would lose significantly. The fact that these national coefficient estimates are different to the common estimate for these two countries, added to the significant production from these countries, raises questions about the current calculation of the technical coefficient. For example, if the Spanish figure of 11.98 kg is used in the calculation, the common technical coefficient would reduce considerably.

1.3.60 Secondly, only heavy lambs and ewes producing heavy lambs are used to calculate the technical coefficient (and ultimately the premium). The premia given to light lamb and goat producers is then multiplied by 80% of this premium. Whilst light lamb and goat producers receive a premium, it is not calculated using a technical coefficient for ewes producing light lambs (or representative market prices for light lambs), and is therefore likely to be less accurate. This issue is more important for Member States producing the greatest percentages of light lambs (relative to heavy lambs); that is the southern European States of Spain, Greece, Italy and Portugal. Whether or not this system is detrimental to these States has not been addressed in this

question; the relevance of the 0.8 coefficient in reflecting differing income losses between types of producer is assessed in the following section.

1.3.61 Thirdly, Gross Indigenous Production (GIP) figures are used to assess total tonnage of sheepmeat produced. However, it is not clear whether the GIP figures used include goats. To find tonnage of lamb meat, the assumption is made that 15% of GIP comes from ewe carcases. Using 'net slaughter' figures from Eurostat suggests that whilst countries such as the UK, Ireland and France concur with this figure, Spain has a smaller percentage GIP from ewes.

1.3.62 Fourthly, to find a tonnage figure for heavy lambs, light lamb production must be subtracted. The method of calculating light lamb production involves estimating numbers of milking ewes multiplied by a common weight (7 kg). This method assumes that the average weight of (light) lamb meat per ewe per year is 7 kg across all Member States producing light lambs. This assumption is open to fluctuations in fecundity (lambing rate) and weight per lamb.

1.3.63 Finally, it is assumed that the 3 year average for the number of milking ewes deducted to arrive at the number of heavy lamb producing ewes, taken from figures declared by Member States, is one year behind the 3 year average for number of milking ewes used to calculate the weight of light lamb production. It is unclear whether this is, in fact, the case.

Conclusion and Recommendations

1.3.64 From the analysis, it is concluded that there are two categories of weakness in the calculation of the technical coefficient. The first category relates to the 'non-calculation' of the coefficient for Greece, Spain, Italy and Portugal, and the use of the 0.131 figure. There appears to be no obvious reason for this figure and no information exists regarding its calculation. For example, given the information in Table 1.3.3 it is clear that this figure is not an accurate representation for Spain or Greece.

1.3.65 The second category of weakness relates to elements of the calculation for the remaining Member States. For example, the figures of 15% GIP coming from ewe carcases, and 7 kg of meat from light lambs are based on assumptions that may not be accurate. Likewise, the premium given to light lamb and goat producers is not based on a technical coefficient for light lambs/goats, but on the heavy lamb coefficient.

1.3.66 On the basis of the analysis and conclusions, it is **recommended** that the quality of statistical information, regarding data for Greece, Spain, Italy and Portugal is improved, which would enable a reassessment of the 0.131 coefficient figure given to the four Southern European countries.

1.3.67 Likewise, the absence of light lambs/goats from the premia calculation (in terms of calculating the technical coefficient) must be reassessed.

1.3.68 Thirdly, it is recommended that the figure of 15% GIP from ewe carcases is re-appraised to assure that it is reasonable for all Member States. Likewise, the 7 kg common weight for light lambs should be re-assessed to assure its accuracy.

Analysis of the Averaging Process

1.3.69 By using EU *average* figures in the calculation of the representative market price and technical coefficient, there will be 'winners' and 'losers' in the averaging process. Clearly, if the 'wins' balance the 'losses' for a Member State, then the actual premium received should be a reasonable reflection of lost income – whether or not the *process* of calculating that premium is flawed. For example, whilst one part of the method of calculating the premium benefits a particular Member State, this may be 'cancelled out' by a similar magnitude of loss for the Member State in another element of the calculation. Whilst accepting this latter scenario is a second best solution, it would, in practice at least, demonstrate that the final value of premium is a reasonable one. In contrast, if there are generally the same 'winners' and 'losers' then the pressure for changing the system becomes greater. The question remains, therefore, as to whether the figures used in calculating the value of the premium are representative and accurate.

1.3.70 Table 1.3.4 presents national annual average market prices (ECU/kg) and estimated national technical coefficients for a selection of the major sheep producing Member States in the European Union, to demonstrate the winners and losers from the averaging process.

Table 1.3.4
Illustrative Effect of Combination of Elements in Selected Member States, 1998

	Technical Coefficient (TC)	Average representative market price (ARMP) *(ECU/kg)*	Situation versus EU average *TC/ARMP*	Lamb Income per Ewe *(ECU/ewe)*
EU	**15.68**	**3.26**	**---**	**51.12**
UK	16.13	2.79	*Lose/Lose*	45.00
Spain	11.98	3.60	*Win/Win*	43.13
France	17.67	3.77	*Lose/Win*	66.62
Ireland	17.25	2.68	*Lose/Lose*	46.23

1.3.71 In using estimated national market prices and nationally calculated technical coefficients, it can be seen from Table 1.3.4 that there are winners and losers in the averaging process (EU figures). For example, in using a technical coefficient of 15.68, Spain gains approximately 3.7 kg of meat per ewe compensation in comparison to using the Spanish national estimate of production, whereas France loses

approximately 2 kg of meat per ewe because the estimated French average production is higher than the EU estimate. Likewise, in using an EU average market price of 326 ECU/kg in 1998, Spain gains an additional 34 ECU/kg in compensation than would be the case if the Spanish national price was used because the Spanish national average is higher than the EU average. In contrast Ireland loses 58 ECU/kg compensation because its national average price is lower than the EU average used in calculating the compensation. In the averaging process used to calculate the technical coefficient and the market price Spain wins on both accounts, France wins on one and loses on one, whereas the UK and Ireland lose on both.

1.3.72 The 'winning/losing' against the average must be seen, however, within the context of the estimated lamb income per ewe. In addition to considering winners and losers from the averaging process, the final column in Table 1.3.4 presents the estimated lamb income per ewe in each of the Member States. It can be seen that, despite 'winning' against both the average technical coefficient and market price, Spanish producers attain the least income of all those shown from the market place. Ireland and UK attain a higher income than Spain, but lower than the EU average, and France attains a higher income than the EU average. By ranking the Member States in terms of income per ewe, calculated from estimates of the National average annual market prices and weight of lamb per ewe in each year, Table 1.3.5 presents relative positions for the four Member States against the EU average over time.

Table 1.3.5
Ranking of Member States over time by Income Per Ewe

1993	1994	1995	1996	1997	1998
1. Ireland	1. Ireland	1. France	1. France	1. France	1. France
2. France	2. France	**2. EU**	2. Ireland	**2. EU**	**2. EU**
3. EU	**3. EU**	3. UK	**3. EU**	3. Ireland	3. Ireland
4. UK	4. UK	4. Ireland	4. UK	4. UK	4. UK
5. Spain	5. Spain	5. Spain	5. Spain	5. Spain	5. Spain

1.3.73 It can be seen from Table 1.3.5 that Spain is consistently at the bottom of the income ranking, with Ireland and latterly France generating most income per ewe, with France consistently above the EU average. It should be noted that costs of production have not been taken into account in this analysis, if they were it is suggested that Spain would be likely to generate the lowest net margins. Equally however, the premium paid is for a loss of income in the market place (see paragraph 1.3.7) and does not take any account of costs of production.

Conclusions

1.3.74 It is concluded that the averaging process does indeed produce winners and losers. It is also demonstrated that wins are not necessarily balanced by loses. For example, from the illustration, Spain wins both for technical coefficient and market price estimates, whereas UK and Ireland lose for both elements. However, this

analysis should be seen within the context of the final outcome: lamb income per ewe. When this is considered it can be seen that Spain has a *lower* income than all other Member States illustrated, whereas France, had a higher than average lamb income per ewe and Ireland's position in relation to the EU average fluctuated between years.

Overall Conclusions and Recommendations

1.3.75 From the above analysis it may be concluded that the system of calculating the premium is complex. Whilst it is evident that the three elements discussed are essential in calculating the premium, the way of calculating the basic price is not transparent and therefore leaves a question mark as to the whole basis of the premium. Secondly, the complexity of, and assumptions made in, calculating the market price and technical coefficients must increase the possibility of unrepresentative figures being used for some / all Member States for some / all elements of the process.

1.3.76 With reference to the analysis of the averaging process it is clear that some Member States win more than they lose (and *visa versa*). However, these results should be seen with the context of the lamb income per ewe generated. When this is taken into account, it can be seen that 'winners' in the averaging process can still 'lose' relative to other Member States regarding lamb income per ewe. The results from this section should be treated with due caution, however, as they do not include income from milk production or wool sales or have regard for production costs. The analysis should be considered only from the perspective of illustrating the substantial variations between countries in the returns from lamb meat production.

1.3.77 Given the analysis in this chapter and the concerns raised over the system of determining the premium payment, the consultants **recommend** that the European Commission assesses the following three options with regard to the sheepmeat and goatmeat CMO:

Option 1: Maintain Status Quo

It can be seen from the above sections that the system of calculating the premium is complex. If the Commission finds that the weaknesses and problems which exist are acceptable within the wider context of providing a workable system and reasonable premium figure, then the first option is to leave the system unchanged. The advantage of this option is continuing with a tried and tested regime which is generally understood by the sheep sector.

If, however, The Commission decide that the problems and weaknesses highlighted make the regime no longer sustainable in its current form then two options for change are suggested below.

Option 2: Improve Accuracy of Current System

The consultants have highlighted several aspects of the various calculations that are not representative of the various Member States' sheep/goat sectors. The second option is to address all of these inaccuracies with the goal of improving scheme representativeness for each Member State (for example, reducing the minimum weight for price reporting in those countries where light lamb production is common; reviewing the deadweight / liveweight price reporting balance, reviewing the deadweight conversion coefficient, and using technical coefficients that represent the meat per ewe for each Member State rather than fixed coefficients for some Member States).

The advantage of this change would be to improve the accuracy of the information on which the premium is calculated. The disadvantage is that complexity and cost would increase in an already complex system. Hence, the administrative burden on the regime's budget would increase. Taking the perspective of 'winners' and 'losers' defined above (in terms of technical coefficient and market price), such a change would have the likely impact of increasing the premium to the UK and Ireland, whilst reducing the premium received by Spain and Italy. Consequently spatial redistribution of support would occur. In contrast, however, by increasing the proportion of dead weight price reporting to reflect amounts sold dead weight, it is likely that the premium would reduce (as average dead weight prices are generally higher than average live weight prices). Before any such change took place therefore, compatibility with the **objectives of the regime** would have to be carefully evaluated, as would the *real* benefits to Member States.

Option 3: Simplify Current System

Given the complexity (and associated cost) of the present system of calculating the premium, the final option recommended for further consideration is to simplify the system. For example, by adopting a fixed headage premium, the need for the various elements of calculation would be made redundant. The clear advantage would be in a reduced administrative burden, both to Member States and particularly the European Commission. Adopting a fixed headage premium would also have the advantage of fixing the sheep and goat regime budget in advance. Nevertheless, elsewhere in this evaluation report it has been shown that the existing system results in winners and losers and that it is justified to consider different production systems and enterprise location in arriving at a rate of payment. Consequently, when considering ways of simplifying the existing system it may be appropriate to consider retaining some flexibility so as to make differentiated payments possible.

1.4 IS THE DIFFERENTIATION OF PREMIA BY CATEGORIES OF PRODUCERS, AS ACTUALLY PROVIDED FOR IN THE CMO FOR SHEEP AND GOATMEAT RELEVANT? IF THIS IS THE CASE, IS THE LEVEL OF THIS DIFFERENTIATION APPROPRIATE, IN TAKING INTO ACCOUNT POLITICAL, ECONOMIC AND ADMINISTRATIVE CONSTRAINTS?

Introduction

1.4.1 For a differentiated payment to be relevant then the production costs, profitability and market organisation of the differentiated enterprise types have to be significantly different from the base line heavy lamb production. Here the two key expressions are *categories of producer* and *relevant*. With regard to the first one, categories of producer will be defined in terms of enterprise specialisation on the basis of the definitions used in the EU regulation establishing the sheep and goatmeat regime, Council Regulation 2467/98. Thus the *categories of producer* to be considered will be the producer of heavy lambs, the producer of light lambs, where the principal outputs are dairy products but who also produce light lambs, and the goat producer. Furthermore, the payment of goat premia is restricted to those areas where goatmeat production is a traditional form of farming practice (although it is usually associated with goat milk production) and Northern European countries are excluded from this element of the regime.

1.4.2 The second key word is *relevant*. Here, the consultants have assigned two different meanings to this word depending upon the context. The first meaning has to do with premium differentiation. In this context, dairy sheep producers and goat producers receive 80% of the subsidy applied to heavy lamb producers as it is expected that these producers generate significant turnover from the sale of dairy products. Thus, in terms of income loss per ewe *relevant* is considered to be determined by the extent to which meat producers income loss is more than 20% greater than that of sheep milk and goat producers. The second meaning relates to the relative importance of dairy sheep and goat production to the overall sector considered by regulation 2467/98. In this context the consultants have assumed that *relevant* means that the number of dairy ewes represents a minimum of 10% of the total breeding ewe population of the EU and that she-goats represent 10% of the total sheep and goat population[2].

1.4.3 A final key word is *appropriate*. We will consider that the differentiation of premia by categories of producer is appropriate if it results in less than 10% variation in the financial performance of the different enterprise types as measured by the indicator Farm Net Value Added (FNVA) per Annual Work Unit (AWU) to be consistent with other sections in this evaluation.

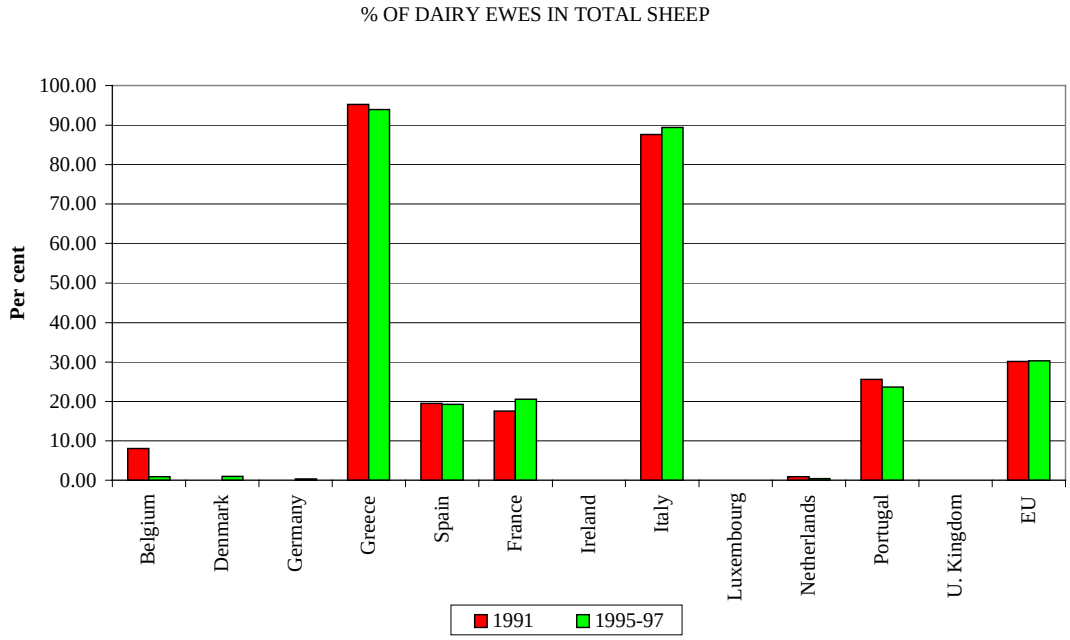
[2] This is the percentage that is usually taken as the reference in statistics when comparing two populations or two periods. Although in this section a formal test is not carried out, it has been considered convenient to take such a percentage as a good indicator for comparing two periods.

Production systems

1.4.4 In considering the relevance of the **differentiation** between production systems the first two indicators to be considered will be the relevance of these production systems to the sheep and goat sector of individual Member States and where they are located, in terms of LFA and non LFA. Although this later distinction will be considered in relation to the "Rural World Payment" it is also important to consider it here in order to determine the relative importance of these production systems in LFA.

1.4.5 With regard to the first indicator, the relevance of the different production systems, Figure 1.4.1 shows the relative importance of dairy sheep to total sheep numbers for individual Member States and the EU. At the EU level dairy ewes represent around 30% of total sheep numbers, nevertheless, it can be observed that dairy sheep production is mainly located in Mediterranean countries. Italy accounts for more than 40% of all dairy sheep in the EU and Greece is the home for a further 35% of all EU dairy sheep. In Greece, Spain, Italy, Portugal and France dairy sheep account for more than 10% of the national sheep flock. The importance of dairy sheep is little changed between 1991 and 1997. **Consequently, dairy sheep production systems are relevant in EU terms and it is justified to regard them as a separate production system for policy purposes**. Furthermore, in recognising that almost all ewes in Italy and Greece are milk oriented the distinction between light and heavy lamb production systems will have particular significance to these countries.

Figure 1.4.1



Source: DG Agriculture personal communication

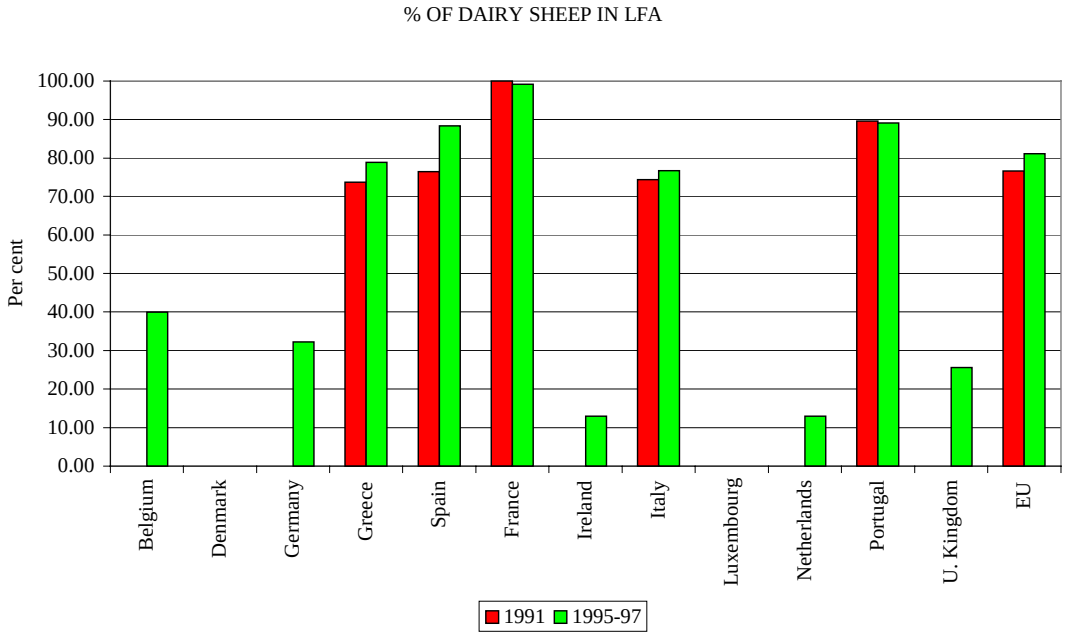
1.4.6 In terms of goat production, and taking 1995-97 average values, the number of she goats represented 10% of total ewes plus she goats at EU level. This percentage is

higher than the average in Greece (36%) and Italy (12%) and around average in Spain and Portugal. **Consequently, it is relevant to make a further distinction between sheep production systems and goat production systems**. Similarly the distinction is of greatest importance to Italy and Greece**.**

1.4.7 The second indicator considered is the location of ewes and she goats. Drawing on the distribution of sheep premia payments between LFA and non-LFA, Figure 1.4.2 shows the percentage of milk ewes located in LFA in EU countries. At the EU level, almost 80% of milk ewes are located in LFA and this percentage has slightly increased since 1991. In the case of France, almost all sheep milk production is located in the LFA although this country contains only around 8% of EU milk ewes. In Spain, 90% of the sheep milk production is located in LFAs having increased during the 90s. The same situation is repeated in Portugal while in the rest of the Mediterranean countries, the percentage lays between 75 to 80%.

1.4.8 The situation is similar with respect to meat ewes (Figure 1.4.3). More than 70% of all meat ewes in the EU are found in the LFAs. Only in Belgium, Denmark and the Netherlands are fewer than 50% of the flock found in the LFAs. It is also important to recognise that since 1991 the proportion of the sheep flock in the LFAs has increased in most Member States. Equally it is important to recognise that in most Southern Member States, sheep farms located outside the LFA occupy the poorest land (dryland, etc.) and combine cereal production with lamb production as these animals are quite resistant to harsh environmental conditions.

Figure 1.4.2



Source: DG Agriculture personal communication

Figure 1.4.3

% OF MEAT SHEEP IN LFA

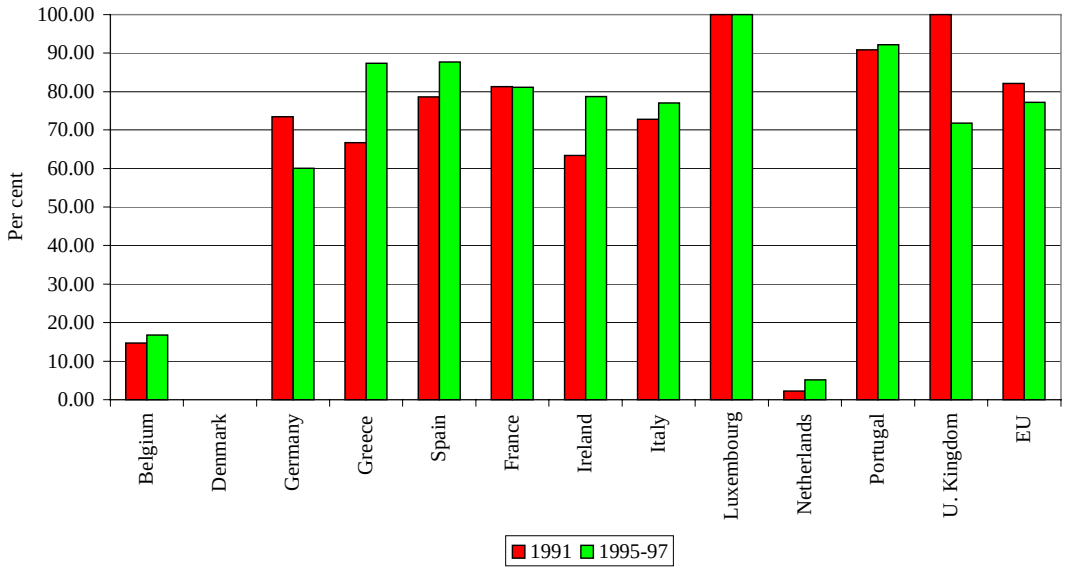
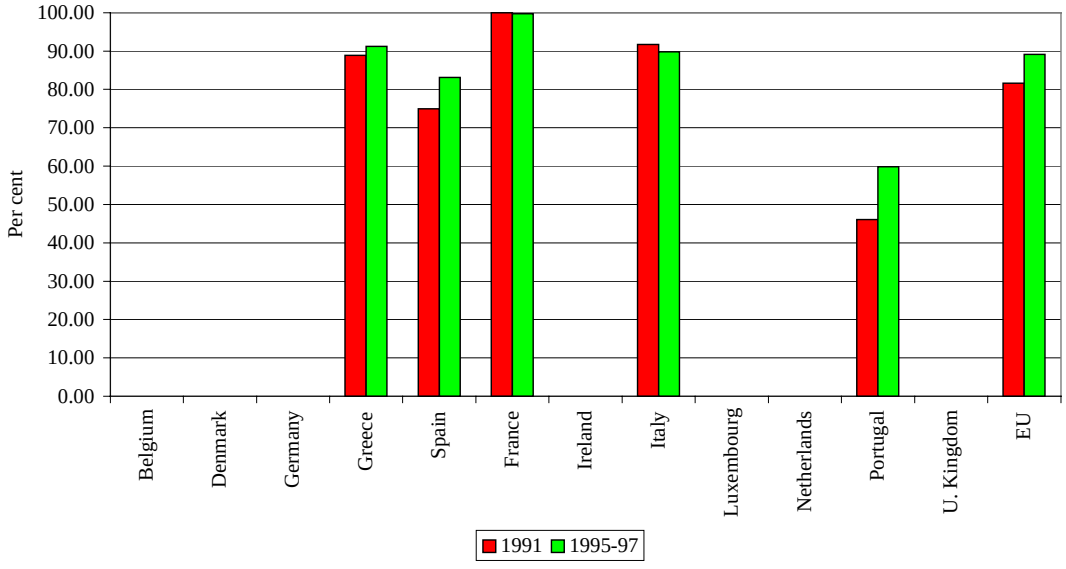


Figure 1.4.4

% GOATS IN LFA



Source: DG Agriculture personal communication

1.4.9 Data on the distribution of she-goats between LFA and non-LFA is only available for those Member States where a goat premium is paid. National census statistics do not record the distribution of animals between LFA and non-LFA and consequently the distribution of the goat population in other Member States can not be verified. As is the situation with sheep, the majority of she-goats are located in the

LFA, in this case more than 80% of she-goats benefiting from premium payments in the EU are to be found in the LFAs (Figure 1.4.4). France, Greece and Italy have a greater proportion of their she-goat population in the LFA than the EU average while Spain and Portugal are below the EU average but still have more than 60% of their she-goat population in the LFAs.

1.4.10 The sheep and goat population throughout the EU has been shown to be predominately found in the LFAs where agricultural alternatives to sheep and goat production are limited. Consequently, it is concluded that it is justified to recognise the location of heavy lamb production, light lamb production and goat production in determining support for the industry.

Differentiated payment

1.4.11 While it is recognised that the different production systems are relevant to the sheep and goat sector, the second consideration in relation to the payment of support to the industry is whether the different production systems have different profitability levels and cost structures sufficient to justify differentiated payments.

1.4.12 However, most payments for goats and dairy sheep relate to Southern Member States where enterprise costing data are not easily obtained. The evaluation team has looked for homogeneous and comparable information across member States. Some information has been found for specific regions: Sardinia and Basilicata (Italy); Corse and Alps, Cote d'Azur (France); Minho (Portugal); and Navarra and País Vasco (Spain). However, the information was found to be quite heterogeneous in the way in which it was presented. In some cases, information on the Gross Margin is provided while in others Net Margin data is offered. Secondly, heterogeneity exists in how the margins are reported, for example, per ewe, per work unit, per farm. Thirdly, except for the Alps region in which around 800 farms are considered, in most of the regions data provided only refer to 15 to 25 farms. Fourthly, there is no indication that the methodology used to calculate the economic performance of farms is homogeneous. Finally, only for Navarra is it possible to compare economic results by categories of producers. In the rest of the cases, only information on sheep milk producers is provided. Taking into account all these limitations, we will base our analysis on FADN data which is collected and reported to a common standard. Consequently, to assess this issue, and being consistent with the profitability measure used elsewhere in this study, we have considered Farm Net Value Added per Annual Work Unit based on FADN data.

1.4.13 Table 1.4.1 shows the economic results from different types of sheep farms in Euro. Only four countries are considered as it is only in those countries where it is possible to compare the economic performance of the different categories of producers. The first conclusion that can be drawn from the table is that milk oriented enterprises achieve a higher Farm Net Value Added per Annual Work Unit (FNVA/AWU) in Italy and Spain even though they receive less animal subsidies. In France and Greece the FNVA/AWU from sheep milk farms and sheepmeat farms are of a similar level. The table clearly identifies that, with the exception of France and Greece, milk orientated farms achieve a considerably higher FNVA/AWU as a result

of milk production (22% in Italy and 32% in Spain) even though dairy sheep farms have a much higher cost base and require more labour than meat enterprises.

1.4.14 However, results discussed above have to be interpreted with some caution as it is not possible to generalise for the whole dairy sheep sector. Big differences exist between milk farms oriented to cheese production and the rest. In most cases, farmers receive a price premium for the milk sold to cheese producers (in some cases the premium can reach 100% in those cases where the cheese is produced to comply with an Appelation d'Origin assurance scheme).

1.4.15 However, Table 1.4.1 identifies a number of other issues that require to be considered. Subsidy payments are much higher in France than in any other country. However, the big difference is under the heading "other subsidies". Subsidies received by Spanish or Greek farmers are mainly related to the crops or animals they have. In France, on the other hand, around 30% of the subsidies, in the case of milk farms, and 20%, in the case of meat farms, come from other sources. Similarly, in Italy sheep milk producers are shown to receive substantial support from "other" subsidies. Furthermore, there is a considerable difference in the structure of the gross production between enterprise types and country. "Other vegetable products" are shown to make a considerable contribution to the income of sheepmeat producers compared to sheep milk producers who, because of the specialist nature of the enterprise, appear to be much more specialised.

1.4.16 In general terms, cost are much higher in France than in any other country. In Greece, Italy and Spain, variable costs in milk farms represent around 45% of total gross production while in France the percentage rises to a 54%. However, in the meat farms, comparison among countries reveals big differences. In France variable costs represent 95% of total production making subsidies completely necessary to survive. In the other countries the variable cost structure is similar to milk producers. Finally, also within France other costs are quite different depending on the production system considered.

1.4.17 Because of the issues identified above relating to the diversity of farm enterprise mixes and cost structures it is difficult to reach a judgement on the appropriateness of the differential between milk sheep and meat sheep producers based on FNVA/AWU. To better inform the judgement the consultants believe that enterprise net margins would be required. The difficulties of identifying these indicators have been discussed in paragraph 1.4.12 and within the time scale of this evaluation it has not been possible to reach a judgement on the appropriateness of the differential between meat sheep premium and milk sheep premium. Taking into account all the above issues, it is considered that **the consideration of a differentiated premium between milk and meat sheep producers is relevant and appropriate as it allows for different compensation for the different income and cost structures of the two enterprise types. However, because of the substantial differences in the cost structure between sheep milk and meat enterprises and the lack of comparable enterprise costing data between Member States it is not possible to make a judgement on the appropriateness of the current differential.**

Table 1.4.1
Economic results from different types of sheep farms (Euros)

	FRANCE			GREECE			ITALY			SPAIN		
	SHEEP-MILK	SHEEP-MEAT[2]	GOAT	SHEEP-MILK	SHEEP-MEAT[2]	GOAT	SHEEP-MILK	SHEEP-MEAT[2]	GOAT	SHEEP-MILK	SHEEP-MEAT[2]	GOAT
1. GROSS PRODUCTION	**70800**	**45646**	**58067**	**20530**	**17088**	**21345**	**31681**	**24699**	**22373**	**41097**	**25602**	**36192**
Lamb and goatmeat	11202	19253	3364	3934	6302	5309	5737	8897	5738	10202	16162	7389
Sheep milk	46197	250	524	8780	4496	502	17859	3485	1348	23868	1425	491
Goat milk	3		38226	278		10721	119		9106	1188		13644
Other animal products	8363	9173	5557	519	139	99	606	1403	606	322	570	225
Other vegetable products	5035	16970	10396	7019	6151	4714	7360	10914	5575	5517	7445	14443
2. SUBSIDIES	**18117**	**24376**	**9744**	**4250**	**4539**	**5707**	**3199**	**4138**	**4537**	**8216**	**9921**	**4133**
To crops	2507	8608	6301	1212	1284	1030	1155	2532	1710	2188	2702	45
To animals	8993	10617	1887	3030	3255	4677	853	1426	1097	5936	7128	4032
Other	6617	5151	1556	8	0	0	1191	180	1730	92	91	56
3. VARIABLE COSTS	**39707**	**43225**	**37161**	**9172**	**7013**	**8379**	**14481**	**11222**	**n.a.**	**19385**	**13994**	**n.a.**
4. DEPRECIATION AND TAXES	21238	5248	9345	1649	1076	2193	2919	2041	n.a.	2818	1000	n.a.
5. FARM NET VALUE ADDED (1+2-3-4)	**27972**	**21549**	**21305**	**13959**	**13538**	**16480**	**17480**	**15574**	**16579**	**27110**	**20529**	**21966**
Farm Net Value Added/Annual Work Unit	**15369**	**15283**	**12912**	**7308**	**7318**	**8583**	**11653**	**9555**	**12190**	**21688**	**16424**	**11747**
6. OTHER COSTS[1]	4891	7070	5029	940	883	1076	1618	1501	514	3416	2528	8806
7. FAMILY FARM INCOME (FFI) (5-6)	**23081**	**14479**	**16276**	**13019**	**12655**	**15404**	**15862**	**14073**	**16065**	**23694**	**18001**	**13160**
FFI/ Family Work Unit	**13040**	**11053**	**10173**	**7233**	**7231**	**8853**	**11016**	**9079**	**11813**	**20426**	**16364**	**11248**

n.a. not available

[1] Salaries, taxes and subsidies on investments, etc.

[2] Sheep and goat milk gross production is considered altogether under the heading “Sheep milk”

Source: Colson et al. (1999) and own elaboration

1.4.18 In a general analysis made in Section one of this chapter, it has been shown that the returns to specialist goat producers (see Figures 1.1.1, 1.1.2 and 1.1.3), at an EU level, under perform specialist sheep producers and the agricultural industry. However, the situation at country level is not homogeneous. In the case of Greece, goat producers reach a FNVA/AWU higher than in the case of milk sheep producers (goat production is mainly addressed to produce milk for cheese and meat is a less important product and thus, comparisons have been made in relation to sheep milk producers). In Italy, results are comparable while in France goat producers earn around a 25% less than sheep milk producers. In Spain goat producers were shown in Section 1 to be achieving FNVA/AWU similar to the agricultural average but below sheep producers. Table 1.4.1 confirms this scenarion and shows goat producers to under perform with respect to sheep producers. achieving a FNVA/AWU of only 55% of those levels achieved by specialist sheep milk producers and 68% of meat producers. In any case, the characteristics of goat farms in Spain are different than those in other countries as the relative importance of vegetable product production is much higher accounting for 40% of total gross production.

1.4.19 Consequently, it appears, from Table 1.4.1, that the current mechanism for supporting the goat sector over compensates Greek and Italian goat farmers in comparison to their sheep producing colleagues. However, in Spain and France the reverse is shown to be the case. This scenario confirms the situation seen in relation to sheep production namely, that some Member States benefit from the market support mechanism and some lose. **Consequently, it is impossible to conclude, on the basis of FNVA/AWU, at what level the differential payment for goat producers should be set so that parity is achieved between the majority of goat keepers and the majority of sheep farmers across the EU. In relation to a pan European level it could be concluded that the differential should be reduced (mainly in Spain), however in the Greek situation it could be concluded that the differential should be increased.**

Administration of a differentiated system

1.4.20 To operate a differentiated system requires a substantial element of administration to police the system. Discussions with administrators and producers have been carried out in order to provide a qualitative judgement on this point. Producers have suggested the increased labour requirement of dairy systems is not normally considered in costing data and if it were the justification for a differentiated premium would be reduced. The administrators of the CMO in Spain have suggested that the differentiation has created extra costs as some producers have tried to feed purchased feeds to the lambs so that they can be sold as heavy lambs and receive the total premium. The administration required to police this circumstance can be considerable. Furthermore, it needs to be recognised that dairy sheep production and goat keeping can have particular significance in some of the most disadvantaged regions of the Community. Consequently, there are considerable socio-economic and administrative benefits which may accrue form removing the differentiated payments.

1.4.21 A counter factual situation where all producers received the same level of payment could result in the total budget for the CMO increasing. However, this is not

necessarily true because it would then be justified to take an average of all meat lamb prices to determine the income loss. As producers would be willing to slaughter animals sooner instead of feeding them to receive the full premium and given that smaller animals in Mediterranean Member States often benefit from higher prices per kilogram then the average market price across the EU would be higher and income losses could be reduced. The total budget for the CMO could therefore be little changed. Nevertheless, such a move could result in spatial redistribution of the support income between Member States away from the Northern States to the Southern States; to make such a change would therefore, face considerable political challenge. However, this evaluation exercise had no remit to address this question but it is recommended that this issue is given further consideration.

Conclusions

1.4.22 Dairy sheep production systems are relevant in EU terms and it is justified to regard them as a separate production system for policy purposes.

1.4.23 It is relevant to make a further distinction between sheep production systems and goat production systems.

1.4.24 All production systems are principally located in the LFAs and that it is justified to recognise the location of heavy lamb production, light lamb production and goat production in determining support for the industry.

1.4.26 It has been identified that substantial variation in milk sheep and goat enterprise financial performance occurs across Europe. These variances are influenced by differing enterprise mixes on the farms and differing cost structures. Consequently, it is impossible to conclude, on the basis of FNVA/AWU, at what level, or if at all, the differential payment for milk sheep and for goat producers should be set so that parity is achieved between all sheep and goat producers. A superior indicator of the need for differential payments would be enterprise net margin. In the time scale of this evaluation study it has not been possible to identify consistent data across Member States to produce such an indicator. It is recommended that a further work is needed to establish such an indicator so as to better inform this debate.

1.5 HOW FAR IS THE METHOD OF CALCULATING THE AID COMPATIBLE WITH AN EFFECTIVE AND EFFICIENT MANAGEMENT AND ADMINISTRATION OF THE CMO FOR SHEEP AND GOATMEAT? IS THE ADMINISTRATIVE COMPLEXITY WHICH PRESENTLY EXISTS IN PROPORTION TO THE SYSTEM OF AIDS OR COULD IT BE REDUCED, AND IF SO, TO WHAT EXTENT?

Introduction

1.5.1 This section of the study addresses the administration required to calculate the level of aid paid out to the sheep and goat sector. It does not consider the administration required to distribute the aid or the policing arrangements required to authenticate the individual claims for aid, and thus minimise fraud. Neither does it address the issue of managing and administering the "quota" system of personal limits to support.

1.5.2 The method of calculating the aid administered under the CMO for the sheep and goatmeat sector has been described in detail in section 1.3. In summary the key elements in the method of calculating the aid can be identified as:

- to establish the "income loss" on average across all Member States; and
- to establish the average production of sheepmeat per breeding ewe

1.5.3 To meet these requirements requires a complex mechanism of price and production reporting across all Member States. To be *effective*, this mechanism has to result in an accurate measure of average market price across Europe. The mechanism has to be robust and adequate for the requirements. To be *efficient*, the mechanism has to result in prompt data transmission to the Commission so as to allow timely calculation of income loss. Furthermore the administrative cost of the process has to represent good value for money.

1.5.4 Good value for money requires consideration of the costs associated with the current system in relation to the benefits achieved from the operation of CMO. Thus, in considering whether the administrative complexity is in proportion to the system of aids one indicator to consider is the cost of administration as a proportion of the total CMO budget and to compare this with other commodity regimes. A further judgement on the proportion of administrative complexity that exists can be made in a more pragmatic way by simply comparing the administration required by the sheep and goatmeat CMO in comparison to other commodity regimes.

Is the level of administration in proportion to the system of aids?

1.5.5 In the previous paragraph, the ratio between the cost of administering the regime and the size of the budget was proposed as an indicator of the extent to which the level of administrative complexity was fair. However, it quickly became apparent during discussions with the administrators of the regime in individual Member States that such information was not easily at hand. Most organisations responsible for the

administration highlighted that many of the duties were carried out in association with other policy administration of a national or EU nature. Irish administrators drew attention to multi-tasking of data gatherers in Ireland and the dual purpose served by market information networks in both informing farmers and traders of market trends and supplying market information to the EU was highlighted by other Member States. Nevertheless, if much of the data collection and onward transmission is effectively only a marginal cost in that the staff involved and the data required is already largely in place, then the cost of administering the CMO may be low resulting in *economic* efficiency. Without audit data of the administrative costs it is not possible extend this discussion and be able to make a judgement on the justification for the current level of administrative complexity on the basis of a cost per unit of support.

1.5.6 On a practical level the administrative complexity of the sheep and goat CMO is considerably greater than for several other commodity regimes with larger budgets. Many of these complexities are forced on the regime by retaining the deficiency payment principle. However, to assess whether the level of complexity is reasonable also requires an assessment of whether the administration is effective and efficient in meeting the requirements of CMO. If the current administration is considered to be neither effective or efficient then it is logical to assert that the current level of administrative complexity is not justified and that the *administrative* efficiency of the CMO is poor.

Is the mechanism effective?

1.5.7 To be effective the mechanism must be adequate for the job, it must be useful and it must be serviceable. In making a judgement on the effectiveness of the mechanism one must consider the requirements of the mechanism. The requirements are detailed in Council Regulation 2467/98 in the following terms.

- *"a weekly average weighted price for the carcasses of sheep, fresh or chilled, on the representative Community markets shall be established on the basis of the prices recorded on the representative market or markets of each quotation area for the Community standard quality of fresh or chilled sheep carcasses, account being taken of the relative volume of total sheepmeat production in each quotation area."; and*

- *" a single income loss shall be determined which shall be deemed to be any difference..... between the basic price and the arithmetic mean of the weekly market prices recorded... "*

- *" the premium payable per ewe to the producers of heavy lambs... shall be obtained by multiplying the income loss... by a coefficient expressing for the community as a whole the annual average production of meat from heavy lambs per ewe producing such lambs"*

Determination of representative Community price

1.5.8 The mechanism which currently operates generally allows the European Commission to publish an EU reference price for each Member State, and the Community, within one week of the end of the weekly reporting period. Consequently **in respect of producing timely data the current mechanism is considered to be effective.** Nevertheless, a number of weaknesses can be identified with the current mechanism in relation to establishing a fair average market price. These are summarised in the following section.

Weaknesses in the price recording mechanism

1.5.9 The mechanism which currently operates is based on a sampling frame which varies between Member States (section 1.3). In the UK for example, minimal information is reported from deadweight sales even although this marketing channel makes up a considerable proportion of UK lamb sales. Consequently, by ignoring these markets the accuracy of the average market price report in the UK must be questioned. However, deadweight market prices are not published by UK abattoir operators and as a consequence the accuracy of the current price report in the UK cannot be verified. Furthermore, where market prices are collected on a liveweight basis, they must then be converted to a deadweight basis (section 1.3). Different conversion rates were found to exist among Member States (section 1.3).

1.5.10 In addition to prices being gathered from a number of sources within Member States, the specification of product for which prices are reported varies between countries. Some Member States, e.g. Finland and Sweden, make use of the SEUROP grid for deadweight price reporting. In other Member States e.g. the UK and Ireland, obtaining information in this way is proving difficult because there is no statutory obligation on the abattoir to provide this information or to grade lambs to this classification or standard.

1.5.11 In some Member States, particularly France and Spain, the average market price is determined by "Quotation Committees". These committees are made up of representatives from farmer organisations and abattoir operators in the region concerned who agree the local price. In contrast to the UK and Ireland, where the market price can be verified through the transparent auction market system, in France (where 75% of sales are by individual negotiation) and Spain the market price determination is much less transparent. Nevertheless, in France and Spain the price determined by the "quotation committee" is the price which is published widely and from which producers make their marketing decisions. The price determined is considered to be representative *of the state of the market*. Nevertheless, two problems do exist. Firstly there is a problem with weighting the different categories of lambs in each quotation area. Nobody knows the distribution of the different categories: there are, according to the official grading system: 2 categories of weight (16-19 kg carcase and 13-16 kg carcase), 5 categories of conformation (E, U, R, O and P), and 4 categories of fat (1, 2, 3, and 4) giving a total of 40 categories of lamb carcasses. A second problem lies in the definition of the lamb reported: is it at the farm gate or at the slaughterhouse gate? Is it live on carcase weight basis (including 5th quarter & skin, that means that a lamb with a good skin will be better priced than an equivalent

lamb with a poor skin – the skin price can vary from 3 to 10 Euros per lamb, or 0.15 to 0.50 Euros per kg carcase) or the price of the carcase (excluding 5th quarter & skin but including slaughter costs) at the slaughterhouse gate? As the use of direct sales to abattoirs increases in the UK and Ireland a similarly less transparent marketing system will grow in importance in these Member States.

1.5.12 Some Member States, particularly Mediterranean States, sell a significant proportion of their lambs at less than 12 kg carcase weight. Consequently one may consider that price reporting from these Member States does not provide a fair reflection of production systems in these States. However, the sheepmeat CMO is designed primarily to aid heavy lamb producers and these are specified as producers of lambs which are sold at less than twelve months old with a carcase weight, or estimated carcase weight, of at least 12 kg and which have an acceptable fat cover. (Article 1 Council Regulation 338/91 OJ L41 14-02-91 p1). Consequently, only lambs meeting this specification should be considered in the price reporting mechanism.

1.5.13 A further weakness exists because the weightings given to each Member State are constant throughout the year. However, slaughter statistics show distinct regional differences in seasonal production patterns through the year. While some individual Member States (e.g. Great Britain, France and the Netherlands) adjust the weighting given to individual markets during the year, depending up on the volume of stock marketed through them in proportion to the total number of animals recorded, this does not occur at Community level. Furthermore, in arriving at an annual average for the Community, the *arithmetic mean of the weekly market prices* (Council Regulation 2467/98 Article 5 OJ L 312 20/11/98 p1) is used and no weighting is given to the seasonal production profile.

1.5.14 Despite these weaknesses, **in respect of collecting an average weekly market price for heavy lamb within the Community the current mechanism is considered to be an effective and efficient means of gathering information.** It provides a robust means of estimating prices by taking the average price of a substantial number of lambs sold in each Member State**. However, the weaknesses identified bring into question the extent to which the price reported is a fair and accurate estimate of the average market price for heavy lamb in the EU.**

Determination of technical coefficient

1.5.15 The calculation of the technical coefficient takes as its starting point the average of total gross indigenous sheepmeat production in the three years preceding the current marketing year. After adjusting the meat production figure for cull sheep and light weight lamb production, the production figure is then divided by the average number of ewes in the three years ending one year sooner than the final year of production. Thus if production is calculated from the average of 1996-1998, the breeding ewe numbers are taken as the average for 1995-1997. **In principle this provides an effective means of calculating the weight of lamb produced per breeding ewe**. Nevertheless a number of weaknesses exist in the mechanism to determine the technical coefficient.

Weaknesses in the mechanism to determine the technical coefficient

1.5.16 Substantial efforts are made to collect data on the total gross indigenous production of sheepmeat in each Member State. For example, in the UK and France all registered abattoirs report slaughter numbers and carcase weights to Government. Estimates for the carcase weight of live lamb exports are made and added to the total of domestic slaughterings. Adjustments are also made for the carcase weight of live lambs imported into the country and slaughtered there. In France, a further adjustment is made for estimated slaughterings through non-registered abattoirs. Although all Member States follow a standard protocol to estimate production of sheepmeat there can be considerable revision between years.

1.5.17 Determination of the technical coefficient to be used in the calculation of aid is an area where a number of simplifying actions are taken which while **improving the efficiency** of the process are likely to **reduce the effectiveness** of the process. In particular two areas of concern arise relating to the calculation of the weight of heavy lamb produced within the community. Adjustments are made to the total weight of sheepmeat produced in the community. Firstly a standard 15% reduction of the three year average production to take account of cull breeding sheep production is made. In the timescale of this report it has not been possible to verify whether this a reasonable deduction or not. Nevertheless, in the UK over the period 1997 to 1999 cull ewes and rams made up 11% of total slaughterings and because of higher carcase weights are likely to account for around 15% of total production. Secondly a reduction is made for lamb carcasses produced from dairy sheep systems at a standard deduction of 7 kg per ewe used for milk production. This second adjustment draws attention to the use of 7 kg as a standard weight of light lamb produced per ewe and the way in which the number of dairy ewes is arrived at. In Spain the average carcase weight of a light lamb is considered to be, on average 7 kg. However, the average number of lambs sold per dairy ewe is considered to be more than one. **This scenario raises considerable questions as to the justification for using the 7 kg per ewe deduction for dairy ewes.**

Is the mechanism efficient?

1.5.18 Although it is concluded that the mechanism for calculating the aid in general provides an effective means of managing and administering the CMO against its chosen policy mechanism of deficiency payment because it delivers the necessary information for the calculation of the deficiency payment to be made, it does not necessarily result in an efficient means or an accurate estimate of income loss.

1.5.19 A considerable amount of time is spent collecting price data in Member States. In many Member States market price information is collected as part of the market information network and consequently onward transmission of data to the Commission is a relatively low cost operation. Furthermore in several Member States price data is collected as a subsidiary task by officials carrying out other duties, in Ireland for example, price data is collected from abattoirs by meat hygiene staff who are on the premises to carry out meat inspection tasks. In the UK for example, the Meat and Livestock Commission monitor prices as part of their market information

function for the industry. Nevertheless, it must be recognised that the provision of data for market information does not place the same requirement on accuracy as is the case for policy purposes. This is because the use of information for marketing purposes places more importance on trends and movements than on 100% accuracy. Similarly the reporting of market prices for producers' information does not require any weighting of categories to arrive at an overall price because producers are interested in the individual categories.

Administration of payments

1.5.20 The sheep and goatmeat sector is one of the few commodity sectors using a deficiency payment mechanism as the principal support mechanism. Although other regimes e.g. beef and cereals operate an intervention system based on weekly market prices to trigger intervention, few other commodity regimes use market prices to determine individual farmer payments. The current sheep and goatmeat CMO requires two advance payments of the premia, based on estimates of the potential total payment, to be made during the marketing year and one final payment to be made after the marketing year ends. This results in two estimates and one actual calculation of the premia being made of which only one is definitive. In terms of administration and management this cannot be considered efficient as it requires considerable duplication of effort. It is recommended that more efficient ways of arriving at the advance payment should be considered which remove the need for time consuming estimates to be made ahead of the end of the marketing year, for example a simple fixed rate of payment could be used for the advanced payments with the complexity of the calculation only required for the final instalment.

Conclusions and Recommendations

1.5.21 The data collected undoubtedly provides information on the overall state of the market and the trends in the market place. However, the weaknesses identified above throw doubt as to the accuracy of the calculations made at EU level and their validity from which to make "deficiency" payments. Consequently, the current administrative system can be judged to be *efficient* in that it meets the physical requirements of the CMO for timely market price information. Nevertheless, a number of weakness have been identified which lead to doubt over the accuracy of the reported price information as a result the *effectiveness* of the current mechanism is considered to be poor.

1.5.22 Paragraphs 1.5.5 and 1.5.6 introduced the question of whether the administrative complexity was in proportion to system of aids. It was concluded that the preferred indicator of the *economic* efficiency of the administration, the cost of the administration in relation to the value of the aid, of the CMO could not be assessed. However, attention was drawn to the potential economic efficiency derived form the marginal nature of several elements of the administrative process, particularly market price reporting. In paragraph 1.5.6 it was considered that an alternative way of making a judgement on the administrative efficiency was to consider the *administrative complexity* of the mechanism in meeting the objectives of the CMO.

1.5.23 Having given consideration to *effectiveness* and *efficiency* of the administrative system it has been concluded that the *effectiveness* of the current mechanism is poor. Having regard for the complexity of a system which requires information on both prices and production for transformation through a complex conversion process into a headage payment and where each transformation process adds further doubt to the accuracy and validity of the final outcome, it is concluded that the current administrative complexity does not provide good value in proportion to the aids available.

1.5.24 To reduce the weaknesses identified in the administrative system would increase the complexity of an already complex system with potentially only a minimal improvement in price estimate. Nevertheless, if the *effectiveness* of the current administrative system could be improved then the level of complexity in proportion to the aids paid could be more easily justified. To improve the effectiveness of the current administrative system it is recommended that consideration is given to the following changes:

- **using weekly weightings for each Member State, based on slaughterings, to arrive at the weekly EU market price rather than using a constant weighting throughout the year. It is considered that this would add little extra administrative complexity as slaughter statistics are collected on a weekly basis in many Member States. Equally a situation could be envisaged where the weekly slaughter data is only reported once at the end of the marketing year and incorporated into the final calculation of the annual premia.**
- **clear guidance on the dressing specification from which deadweight prices are quoted should be established, in particular a standard conversion factor for converting liveweight price quotes to deadweight should be adopted. This would not add to the administrative complexity, but it would mean a more accurate figure for specific Member States.**
- **regular reviews of the representative markets and market channels used should be carried out to better reflect the marketing methods used, and hence market prices, in each Member State. Changing the representative markets on a regular basis would however lead to increased complexity particularly as it has been identified in Ireland and Britain that obtaining timely price data from deadweight centres is difficult.**
- **The adjustment made for light lamb production using a standard coefficient of 7 Kg per ewe should be reviewed to confirm the validity of the coefficient. This would add little to the complexity of the administration of the regime.**

1.5.25 Modifying the administrative system to take account of the above recommendations would however further increase the administrative complexity of an already complex regime which could only be justified if significant improvements occurred in the accuracy of the premium calculation. However, no attempt has been made to assess whether the change in accuracy would make a material difference to

the overall estimate of the premium payment and therefore justify the increased administration. An assessment of this nature would be required as part of any consideration of taking these proposals forward.

1.5.26 This analysis of administrative complexity has not considered the administration required to manage the payment of the premia, namely the management of individuals application for premia, the management of the quota transfer system and the policing of the regime. However, one area of complexity with regard to premium payments which the consultants consider should be reviewed is that of being able to convert dairy sheep premium to meat sheep premia if a producer can demonstrate that his production system produces "heavy" lamb. Several administrators in Southern European member States drew attention to the time consuming nature of this exercise in relation to the number of premium payments involved. The justification for such a mechanism within the overall CMO should be re-examined.

1.5.27 The above analysis has concluded with recommendations which have the potential to increase the complexity of the administration of the sheep and goatmeat CMO. However, the guiding question posed at the start of this section made reference to reducing the administrative complexity. In reviewing the existing administration reference was made to the underlying principle of operating a deficiency payment. A deficiency payment by definition needs to establish the difference between actual market prices and the politically determined basic price and consequently requires weekly market price reporting to establish the income loss. Additionally, as the deficiency payment is paid on the basis of production per ewe the necessity to calculate a technical coefficient remains. Consequently, it is concluded that the only way in which a significant reduction in the administrative complexity could be achieved would be by abandoning the principle of a deficiency payment as the means of supporting the sheep and goatmeat sector and replacing it by some form of fixed headage or area payment. This would remove completely the requirement for calculations of technical coefficients and income loss.

1.5.28 Nevertheless, the need for price reporting would remain for as long as Private Storage Aid (PSA) remained as an option for supporting the sheep sector. PSA has not been evaluated in this report. PSA acts as an intervention measure to encourage the purchase and storage of lamb by traders when prices are particularly low, it is not used extensively. Nevertheless, there remains a requirement for market prices information to be collected so as to be able to trigger PSA. Furthermore, to be effective PSA needs to be triggered quickly thus, it requires weekly price information. Nevertheless, as the price information is not used to calculate compensation the accuracy of the data is not as critical as that required by a deficiency support mechanism and therefore the complexity of deriving price information could be reduced by for example reducing the sample size and removing the need for weighting of prices. To remove the administrative complexity of market price reporting completely would require the abandonment of PSA as a market intervention measure.

CHAPTER TWO

THE IMPACT OF THE MARKET ORGANISATION FOR SHEEP AND GOATMEAT ON PRODUCTION

2.1 DO INDIVIDUAL LIMITS OF THE PREMIA HAVE SIGNIFICANT EFFECTS IN THE LEVEL OF SUPPLY OF SHEEP AND GOATMEAT?

2.1.1 Finite individual limits to premia were established at the time of the 1992 CAP reform. At this time the Commission replaced the stabiliser mechanism, which it had introduced in 1987 in an attempt to control production and which had failed to achieve its objective, with the requirement that each producer must hold a right, or quota, for each Ewe Premium he wished to benefit from. To control production in this way each individual would be limited to the number of premia he had claimed in a base year of 1989, 1990 or 1991. The subsidiary result of this mechanism is the constraint of the cost of the regime because a maximum number of premia throughout the Community was established.

2.1.2 The evaluation of the effects of these individual limits on the level of supply of sheep and goatmeat will be based on three indicators:

1) the evolution of the number of ewes and goats, as they primarily determine the final supply. These data will be cross referenced with those on the quota used by Member State.
2) the evolution of meat production based on the number of animals slaughtered; and
3) the evolution of the carcase size.

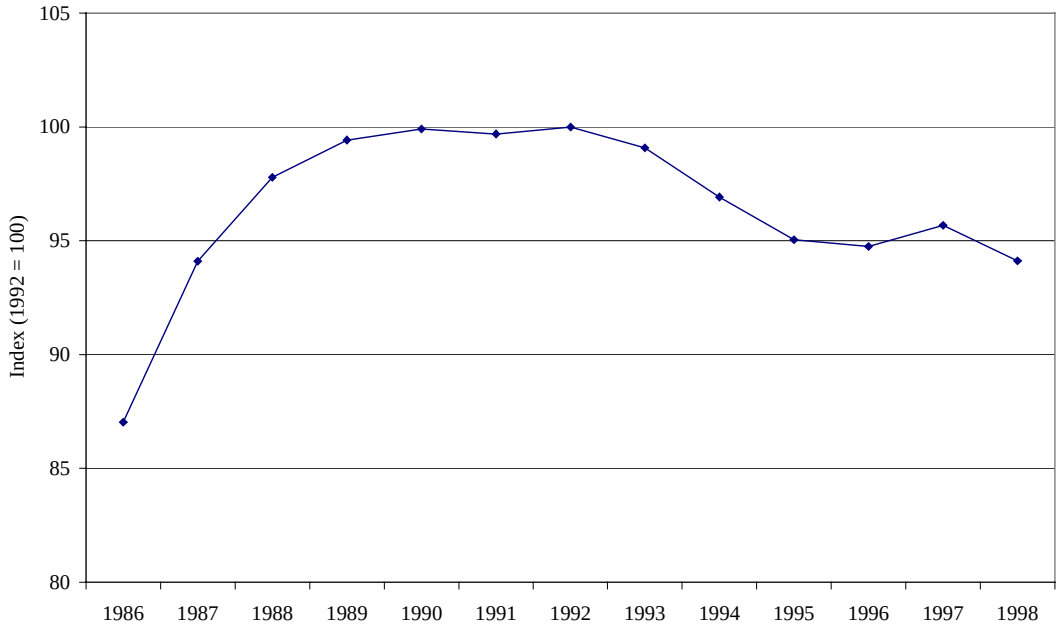
2.1.3 As stated above, the reference year varies from 1989 to 1991 depending on Member State. In order to make comparisons of the evolution of sheep and goat numbers before and after the introduction of the quota system the analysis will start in 1986, the year that Spain and Portugal joined EU.

2.1.4 In the question posed, a key element is the determination of "*significant effects*". In other parts of this evaluation, a deviation from the reference year of more than 10% is assumed to be significant. However, in this case "*significant*" has been given another meaning related to the degree of achievement of the objective stated with the introduction of the quota system. In other words, the introduction of individual limits will have had a *significant* effect if it has contributed to a limitation of supply and/or the number of ewes and she goats kept.

2.1.5 Figure 2.1.1 shows the evolution of ewe numbers (ewes which have lambed and ewe lambs mated) in the EU between 1986 and 1998. At an EU level, the number of ewes has decreased by 6% since 1992, which means **that the introduction of individual limits has affected in a significant way, at the EU level, the number of potential ewes to receive the premium**. **Consequently, one of the principle objectives of the CMO since 1992, that is controlling the production of sheep and**

goatmeat so as to prevent over supply resulting in market instability, has been reached. However, it is difficult to assign a direct and unique causal relationship between the introduction of quota and the reduction in production. Other determinants may have had an influence on production patterns. For example, the 1992 CAP reform may be one of the main determinants as, in some regions or for some farming systems, cattle or arable farming became more attractive than sheep farming, see section 1.2.

Figure 2.1.1
Evolution of the number of ewes and ewe lambs mated in the EU (1992=100)



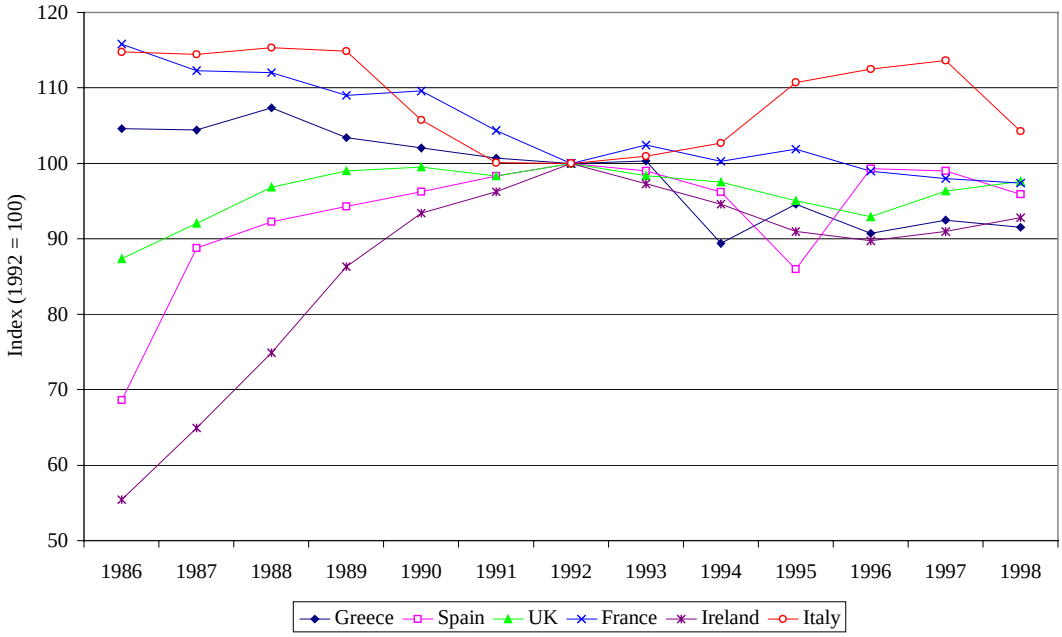
Source: Eurostat (several issues). Agricultural Yearbook

2.1.6 Among the largest producers, the situation varies considerably (Figure 2.1.2). In the United Kingdom (UK), Ireland and Spain the increase in breeding ewe numbers between 1986 and 1992 has been more rapid than the average of the EU. However, some caution must be expressed about the accuracy of the Spanish numbers just after joining the EU in 1986. In general ewe numbers expanded in Greece and Italy between 1986 and 1989 but have declined since then. Similarly in France breeding ewe numbers have declined steadily since 1986.

2.1.7 Since 1992 breeding ewe numbers have declined in all Member States, with the exception of Italy, from the level found in the reference year chosen by individual Member States for the establishment of quotas. This is likely to have occurred because of the modification to the eligibility criteria which has made it possible to receive support on young female sheep intended for breeding, but which are not recorded in the census data as breeding sheep. By establishing individual limits on entitlement to support, and given the importance of support to the viability of the sheep enterprise, the EU have effectively frozen the size of the sheep flock in the

medium term. Furthermore, by introducing the concept of ring fencing support the EU have reduced the flexibility of the industry to modify its structure. Equally, combined with restrictions to eligibility for support applied to other agricultural sectors, for example Suckler Cow Premium quota, the establishment of sheep quota makes substitution between enterprises, in response to changing market signals and policy initiatives, more difficult.

Figure 2.1.2
Evolution of the number of ewes and ewe lambs mated in main EU producer countries (1992=100)

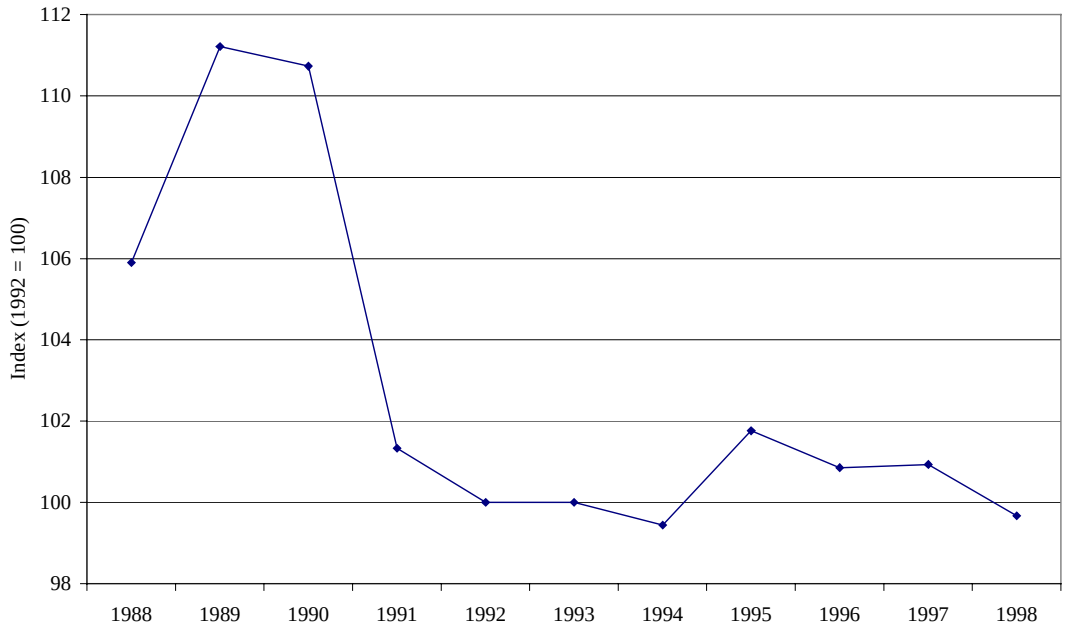


Source: Eurostat (several issues). Agricultural Yearbook

2.1.8 **As a conclusion, the introduction of individual quotas has effectively contributed to a stabilisation of ewe numbers throughout the Community as a whole and in the main producer countries and therefore, has had a significant effect on the capacity of the industry to produce sheepmeat.**

2.1.9 A similar analysis has been done with goat numbers for the period 1988-98 (Figures 2.1.3 and 2.1.4). At EU level, and since 1992, she goat numbers are quite stable with small variations between of between ± 2%. Within the period 1989-92, a big decrease is observed but this has to be influenced by the situation in Spain, or at least with the reliability of Spanish figures, where in 1988 the methodology to calculate the census was updated which, together with the effect of the Spanish accession to the EU, provoked a substantial increase of she goat numbers. In any case, as can be easily observed in the Figure 2.1.3 it is important to define the reference period. As we have considered 1992 as the reference date, it can be concluded that the situation has remained unchanged since that year and that **the introduction of individual limits in 1992 has contributed to the stabilisation of she goat numbers.**

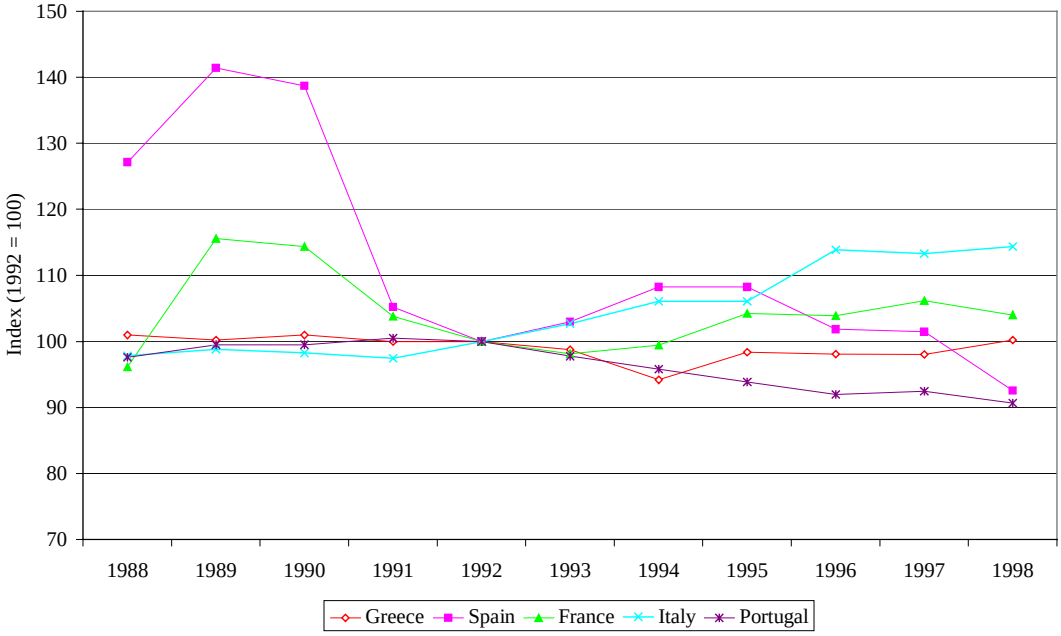
Figure 2.1.3
Evolution of the number of she-goats mated in the EU (1992=100)



Source: Eurostat (several issues). Agricultural Yearbook

2.1.10 In Greece, the most important goat keeping country in the EU, the situation has been quite stable since 1988. Spain has lost around 7% of goat numbers since 1992. The opposite situation has occurred in the case of Italy. Here the number of goats has increased by around 15% since 1992. In France, it is interesting to note that since 1992 goats numbers have increased marginally. **In the goat sector, the introduction of individual limits has not changed the pre-1992 situation which was characterised by a quite stable situation (with the exception of Spanish statistics). Regional differences have however occurred showing a dichotomy between Member States with Spain and Portugal showing a decline since 1992 and Italy a significant increase. With the exception of Italy, the CMO applied to the sheep and goat sector has not introduced distortions in she goat numbers. Globally, the introduction of quotas has been effective in stabilising ewe and she goat numbers.**

Figure 2.1.4
Evolution of the number of she goats mated in main EU producer countries (1992=100)



Source: Eurostat (several issues). Agricultural Yearbook

2.1.11 A question related to the evolution of ewe numbers is to consider the relationship between the number of animals which receive the premium and the quota allocated in each Member State,. Table 2.1.1 shows the main results

Table 2.1.1
Relationship between ewe and she goat quota available and used by Member States

	1993			1998		
	Ewe and she goats quota available	Quota used	% of quota used on quota allocated	Ewe and she goats quota available	Quota used	% of quota used on quota allocated
	'000 head			'000 head		
Greece	10441	9617	92	10990	10541	96
Spain	19663	17859	91	19665	18720	95
France	7842	7292	93	7850	7010	89
Ireland	4963	4825	87	4959	4614	93
Italy	9087	7894	87	9561	7908	83
U. Kingdom	19811	19527	98	20028	19177	96
EU - 15	78068	72020	92	79732	73418	92

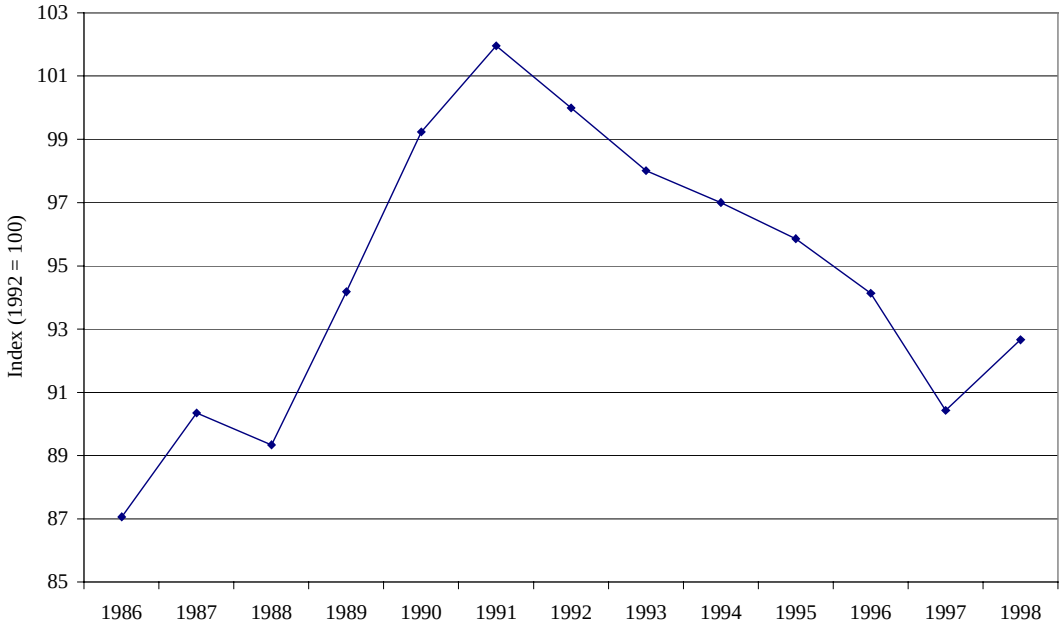
Source: EU Directorate General Agriculture personal communication

2.1.12 Between 1993 and 1998 the situation has remained relatively stable at EU level. The introduction of individual limits has provoked a slightly decrease in the census numbers, Figure 2.1.1, while a slight increase in the number of ewes for which the premium is paid. The result is that it seems that the production has adjusted slightly to the subsidies available. In Spain, Greece and Italy the quota actually used has increased over the period 1993 - 1998. However, following from reallocations of quota in Italy, it is only in Spain and greece that quota useage rates have increased. In the remaining countries considered quota useage has decreased at a similar rate to the reduction in ewes and she-goats recorded in the census. In the case of Ireland, it is interesting to note that the number of subsidies producers receive is higher than the total number of ewes published in official statistics. This may be accounted for by the fact that the census records the number of mated ewes and ewe lambs while it is possible for non-mated female sheep over one year old at the end of the retention period to be eligible for support. In many Less Favoured Areas of the UK and Ireland the normal husbandry practice is not to mate ewes lambs until they are more than one year old however, these replacement stock are retained on the farm and eligible for support. It is not inconsistent therefore, with husbandry practice, or the rules of the CMO, that in these circumstances the number of mated ewes and ewe lambs could be lower than the number of premiums claimed. However, it does imply that support is being paid on non-productive ewes and ewe lambs.

2.1.13 The previous analysis of breeding numbers only provide a partial view of the problem as, when referring to supply, it is also necessary to consider meat production. **When considering production, two indicators have been analysed: a) number of animals slaughtered; and b) carcase size.** However, sheep and goatmeat production have to be considered together as there are not enough differentiated statistics at EU level. In the CRONOS database, the differentiation between sheep and goat slaughtering starts in 1992, once the individual quotas were working and consequently, comparisons with the situation before the individual limits were introduced cannot be considered for individual species. Nevertheless, in Greece, Italy and Portugal and based on a each goat producing 6 kg of meat, goatmeat production is likely to be more than 10% of total sheep and goatmeat production.

2.1.14 Having regard for the limitations of the indicators used, the results of the analysis are discussed below. Figure 2.1.5 shows the evolution of EU lamb and goatmeat production between 1986 and 1998 in terms of the number of animals slaughtered. The introduction of individual limits has significantly affected meat supply since 1992. The existing upward trend before 1991 has changed to a downward trend since then. In 1998 the number of animals slaughtered had decreased by 7% with respect to 1992.

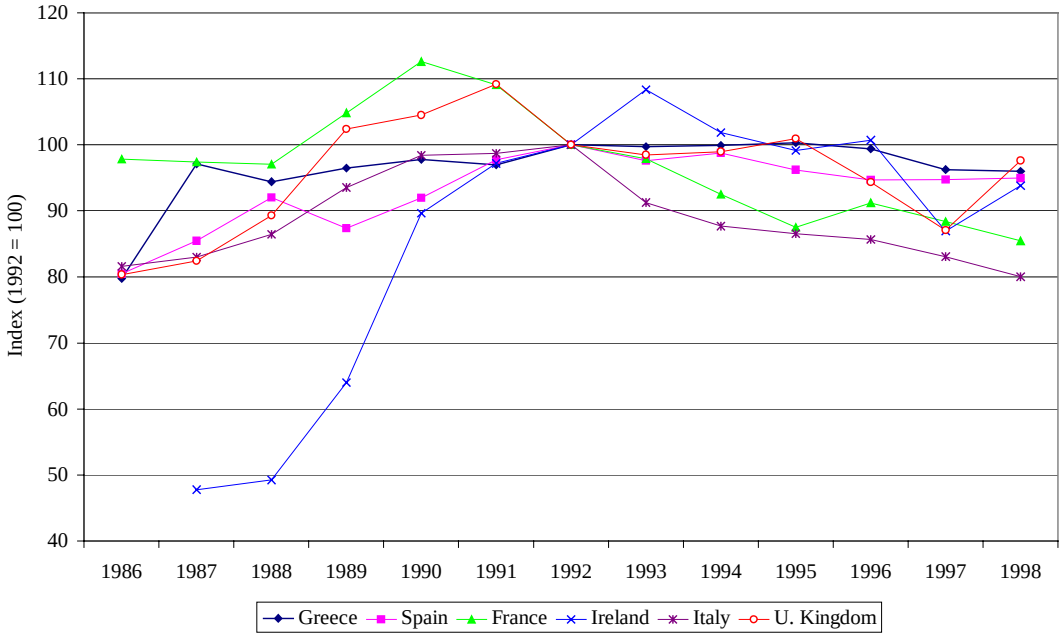
Figure 2.1.5
Evolution of EU lamb and goat slaughterings
('000 head)



Source: Eurostat (several issues). Animal Production.

2.1.15 However, it is interesting to analyse the situation at country level as some different trends can be observed (Figure 2.1.6). In the case of Ireland, the number of animals slaughtered more than doubled between 1987 and 1992, in line with the growth in ewe numbers (Figure 2.1.2) but has stabilised at the 1992 level since then. In France, an increase in slaughterings occurred between 1988 and 1990, perhaps as a result of the culling of breeding ewes and goats, but a decrease has occurred since then. In the remaining countries considered, an increase in the number of animals slaughtered is recorded before 1992 with a certain stabilisation, or even a slight decrease, since then again reflecting the trend in breeding ewe and goat numbers. **As a conclusion it can be said that the introduction of individual limits has provoked the following trends in slaughterings. In the case of Ireland, Greece, Spain and the UK the situation is broadly one of stabilisation since 1992 although in 1996 and 1997 there was a decline in slaughterings in the UK. A decline also occurred in Ireland in 1997. However, slaughterings in both Ireland and the UK increased in 1998 but still remained at or slightly below the 1992 levels. In contrast France and Italy have shown a steady decline in slaughterings since 1992.**

Figure 2.1.6
Evolution of lamb and goat slaughterings in the main EU producer countries ('000 head)

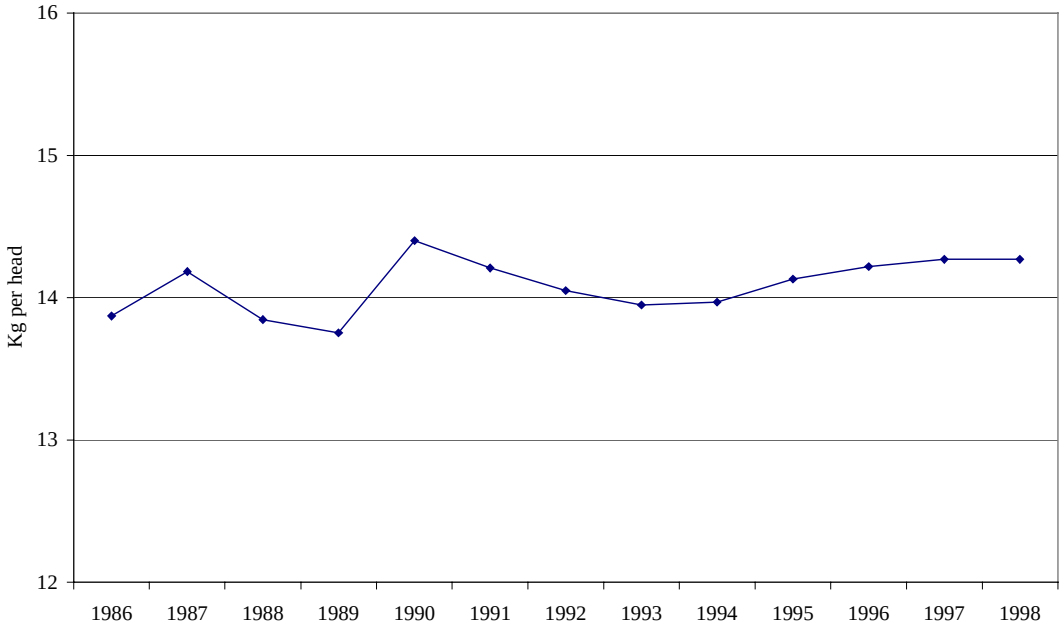


Source: Eurostat (several issues). Animal Production

2.1.16 However, while the evolution of slaughter numbers will influence sheep and goatmeat production, so too will carcase size. Carcase sizes are affected by two main issues. 1) the breeds used and 2) consumer habits. Breeds are difficult to change as they have been adapted to environmental and geographical conditions of the production areas. In sharp contrast to the cattle sector, importation and standardisation of breeds for meat or milk production in the sheep and goat sector is less common. On the other hand, consumers exhibit a certain inertia in their buying behaviour, apart from reactions to food scares. Thus, it is not expected that a significant change in carcase sizes will have occurred.

2.1.17 At EU level, the carcase weight has been stable since 1988 although a slight increase of about 1% has occurred since 1992, Figure 2.1.7. Similarly, at Member State level, differences are not significant. In the case of Italy and Spain, where carcasses are smaller so as to meet local consumers preferences for low fat and rose coloured meat, there has been a slight increase in carcase weights. There has also been a small increase in carcase weights in the UK. In France, Greece and Portugal there has been a small reduction in carcase weight. The most substantial change has taken place in Ireland, where carcase weights have been reduced by a 5.1%.

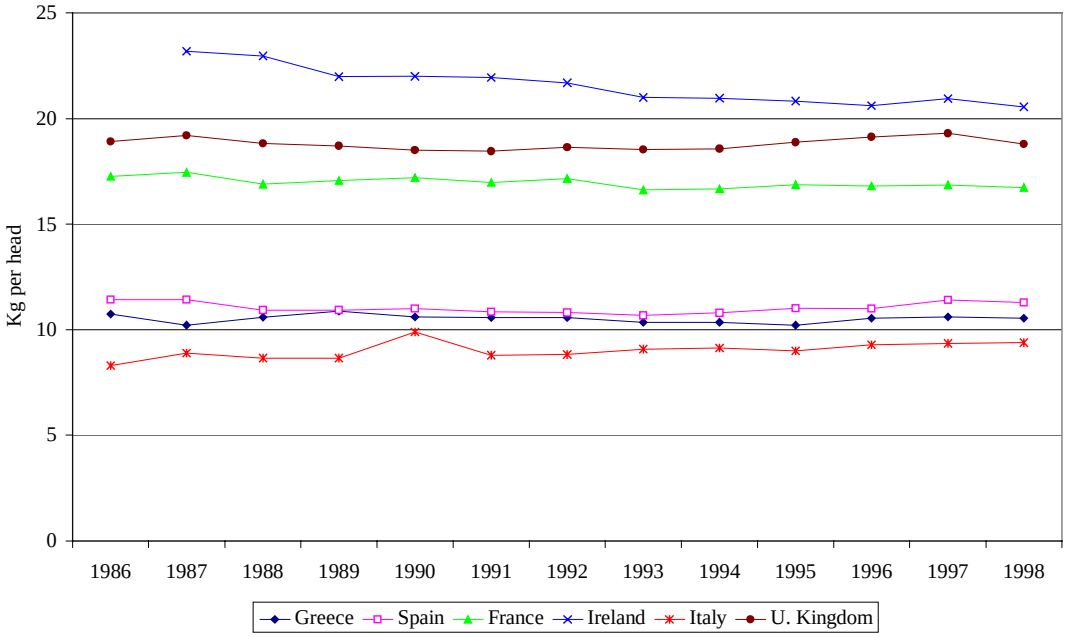
Figure 2.1.7
Evolution of EU lamb and goatmeat carcase weights (kg/head)



Source: Eurostat (several issues). Animal Production

2.1.18 The net effect of the changes in breeding animal numbers, the numbers of animals slaughtered and carcase weights has been for the tonnage of sheep and goatmeat produced in the EU to have reduced since 1992. From 1991 to 1998, the total quantity supplied to the market has reduced by 9% (1.22 million tons, in 1991, and 1.12, in 1998) which is more or less the percentage by which EU sheepmeat net production increase between 1988 (including the former East Germany) and 1991. Consequently the introduction of individual limits to premia in 1992 has had a significant effect on the level of supply of sheep and goatmeat by halting the expansion seen throughout the 1980s and early 1990s, leading to a more stable level of production and the potential to provide some stability to the market place in terms of supplies.

Figure 2.1.8
Evolution of lamb and goat carcase weights in the main EU producer countries (kg/head)



Source: Eurostat (several issues). Animal Production

Summary and conclusions

2.1.19 The objective of this section was to analyse the impact of the introduction of individual limits on lamb and goatmeat supply. The answer to this question has been addressed looking at the different elements which finally determine meat production: number of she animals, number of animals slaughtered and carcase size. The period of analysis was 1987 to 1998 in order to compare the situation pre- and post-introduction of individual limits. Here we present a summary of main results:

2.1.20 One of the principle objectives of the CMO since 1992, that is controlling the production of sheep and goatmeat so as to prevent over supply resulting in market instability, has been achieved. The introduction of individual quotas has effectively contributed to a stabilisation of ewe numbers throughout the Community as a whole and in the main producer countries. However, we should not over-estimate such relationships as some other determinants (for example, the 1992 CAP reform made some cattle and crop farm enterprises more attractive than sheep production in some regions) may have had an influence on sheep and goat production trends.

2.1.21 In the goat sector, at EU level the same conclusion is reached. Regional differences have however occurred showing a dichotomy between Member States with Spain and Portugal showing a decline since 1992 and Italy a significant

increase. With the exception of Italy, the CMO applied to the sheep and goat sector has not introduced distortions in she goat numbers.

2.1.22 Between 1993 and 1998 in Spain and Greece the introduction of individual limits has provoked a slightly decrease in the population recorded in the census while a slight increase in the number of ewes for which the premium is paid has occured. The result is that it seems that the production has accommodated to subsidies available. In the other countries the relationship between potential subsidised animals and those actually subsidised has remain quite stable.

2.1.23 The introduction of individual limits has provoked the following trends in slaughterings. In the case of Ireland, Greece, Spain and the UK the situation is broadly one of stabilisation since 1992. In contrast France and Italy have shown a steady decline in slaughterings since 1992.

2.1.24 As a consequence the introduction of individual quotas has contributed in a significant way to the stabilisation of lamb and goatmeat supply

2.2 TO WHAT EXTENT HAS THE CMO FOR SHEEP AND GOATMEAT ALLOWED PRODUCERS TO ADAPT PRODUCTION TO THE MARKET SIGNALS EXPRESSED BY PRICES?

2.2.1 In addressing this issue, **the key elements are: 1) to what extent; 2) to allow; and 3) market signals.** The first two elements are largely subjective and are considered together. *Extent* implies action has taken place, consequently the indicator used will be level of change in production pattern in terms of seasonal production which has taken place since 1992. *Allow* implies permission to take action, or conversely restriction on freedom of actions. In this respect, the rules of the CMO allow a producer to take any management action he/she wants in relation to market signals except for the requirement to retain ewes for a 100 day retention period if he wishes to benefit from the headage payment. However, this retention period does not prevent a producer adapting production to some market signals. It does not for example, impose breed criteria or husbandry practices, which are the most important influences on a producers ability to respond to market signals. Nevertheless, it is recognised that the criteria for qualification for "heavy" lamb production from dairy flocks may, in some southern Member States, reduce the ability to sell lightweight "rose" lamb. In some situations, the timing of the retention period, which is a Member State decision not a Commission decision, can impact on the timing of the sale of cull ewes. This requirement of the CMO prevents producers from selling ewes or she-goats within the retention period if it reduces the number of eligible ewes or she-goats owned by the producer below the number for which he has claimed support. This restriction reduces the extent to which producers can respond to market price signals for cull ewes over the retention period and in some situations may prevent producers from selling ewes and she-goats during the retention period. Equally the retention period may impose a lambing period, as the producer has to be sure not to keep any unproductive ewe during this period. The sheep farmers plan their lambings in order to be sure all the ewes are pregnant or suckling during the retention period. So the lambing period is planned just before, during, or just after the retention period. Mating just before the retention period would result in the impossibility to cull "empty" ewes. Nevertheless, many producers reduce the impact of this constraint by carrying surplus eligible stock during the retention period.

2.2.2 However, the operation of the premia system as a "deficiency system" may influence a producer's management decisions and in turn impact on his willingness to respond to consumer demands. Market theory asserts that consumers will pay a higher price for the product they desire. Nominally this signal should encourage a producer to produce what the market requires, provided the costs of doing so are not greater than the increase in income which results. This however may not be the case when a deficiency payment system operates. The principle of the deficiency system is to pay the difference between a market price and some pre-determined price if it is above the market price. When this system operates it results in lower premium payments when average market prices increase. This in effect acts as a cap on the level of income the industry can expect. Furthermore, the premium payment has greater certainty about it than pursuing market price. A further complication exists within the sheep and goat deficiency system in that payment is based on a "standard level of production" defined in terms of the average weight of sheepmeat produced per

ewe in the EU, i.e. the technical coefficient. Consequently if the producer sells less lamb per ewe than the standard production he nominally receives a greater level of support than would be the case if he was compensated only for what he produced. Conversely if he sells more than the standard level of production he is under compensated for the production achieved.

2.2.3 At the industry level, this technical correction of the premium has the potential to discourage producers with a low level of production per ewe from responding to higher market prices while encouraging those who achieve a high level of production to respond to market signals. Table 2.2.1 illustrates the situation for three producers, one selling 14 kg of lamb per ewe, one selling 15.68 kg of lamb per ewe (the standard level of production) and one selling 18 kg of lamb per ewe. The assumption made in the table is that an improvement in the market price of lamb of 0.10 Euro/kg results in the annual premium falling by 1.56 Euro per ewe. In this circumstance the low performance ewe losses 0.16 Euro in income, because he only gains 1.4 Euro (14 kg @ 0.1 Euro) in market return while losing 1.56 Euro in SAP. The higher performing flock gains 0.24 Euro. Consequently, the manager of a flock with low fecundity, or prolificacy, will be less inclined to respond to a market signal which should increase his market revenue but not his total revenue. Such an extreme situation would only occur if the whole industry responded to market signals at the same time. In deed individual producers do not set out to sell low value product, they take pride in their product and seek to get the best prices possible for their product within the constraints of their production system and the need to achieving acceptable profit margins. The impact of an individual producer on the value of the SAP is nil. Nevertheless, individual producers have to balance the market risk associated with modifying a production system to benefit from higher market prices, which may or may not be in place when the product is available for sale, with the risk of the biological system being able to produce the desired product at the correct time, with policy risk of the value of the SAP available. This discussion is further simplified by assuming producers can achieve better market prices at no extra cost. However, it has been demonstrated that even if the costs of responding to market signals remained the same, some producers would reduce income by endeavouring to benefit form market signals. The fact that this circumstance could occur, will to a *limited extent*, reduce the likelihood of a producer responding to the market signals.

2.2.4 One situation where the CMO may influence the actions of a producer in responding to market signals is in relation to expansion or contraction of a production system. It has already been acknowledged in this report that the deficiency payments are crucial to the viability of many sheep and goat enterprises. To profitably expand in response to a market signal would also require extra quota rights for support, similarly the availability of deficiency payments may make an otherwise unprofitable market profitable and hence reduce the speed of adjustment away from that market. This issue was referred to in the previous paragraph as the difference between “market” risk and “policy” risk. Nevertheless, usage rates of quota, Table 2.2.2, show that in all Member States quota is unused and it can be asserted that physical availability of quota is not a limiting factor in producers responding to market signals.

Table 2.2.1
The effect of lamb price improvement on total income

	Low performance	Standard performance	High performance
Weight of lamb sold per ewe (kg)	14	15.68	18
Gain in lamb revenue (Euro)	1.40	1.56	1.8
Loss in ewe premium (Euro)	1.56	1.56	1.56
Net gain (loss) (Euro)	(0.16)	0	0.24

Assumptions: Average market price increases by 0.10 Euro per kg. and annual premium falls by 1.56 Euro per ewe

Table 2.2.2
Quota usage rates in 1998

	% quota used		% quota used
EU - 15	92.5	Belgium	88.5
Denmark	72.1	Germany	70.5
Greece	95.9	Spain	95.1
France	89.4	Ireland	93.1
Italy	83.1	Luxembourg	94.6
Netherlands	79.1	Austria	84.9
Portugal	92.1	Finland	66.3
Sweden	86.1	UK	95.7

Source: Directorate General for Agriculture personal communication

2.2.5 Consequently it is concluded that the rules of the CMO do not place any physical constraints on producers adapting production to meet consumer needs. However, the way in which the calculation of the premium is made has the potential to dissuade those flocks which produce less lamb per ewe than the standard from responding to market signals as they have the potential to achieve a lower income from the market place and premium combined, even at higher prices per lamb, than their starting position. As a result the CMO can result in a psychological barrier to producers adapting to market signals.

2.2.6 The key questions then become, do producers adapt to market signals? and is there any evidence that the CMO constrains a producers response to market signals?. The first issue then is to define what **market signals** we are going to consider. If we assume that markets exhibit a certain degree of competition, prices have to reflect equilibrium points between supply and demand. Supply is quite inelastic as biological

processes are behind production patterns and a regular seasonality of supply can be expected to some degree. Furthermore to significantly change the timing of production controlled by a biological process can take at least one production cycle, in this case one year. On the other hand, different consumption patterns exist in each country which can be the main reason for price differentials between Member States and within Member States. Taking this reasoning into account the main market signal expressed by prices we have considered in this question is supply elasticity, that is, how producers react to percentage changes in prices. As complementary measures we have also taken into account seasonality (to what extent producers benefit from seasonal price variations and respond to them) and quality. In the following section production patterns and prices have been considered to assess whether goat and lamb producers have been adapting to price changes, to seasonal prices or towards a high quality production as higher quality is assumed to be associated with higher prices.

2.2.7 With regard to the issue of supply elasticity, we have estimated several simple linear regressions relating lamb and goatmeat production with real prices (in constant terms) paid to farmers. Data on slaughtering has been obtained from the Eurostat publication "Animal Production" while price are taken also from an Eurostat publication "Agricultural Markets". The sample period covers the years 1983 to 1998. In the regressions, the price has been introduced lagged up to three years (assuming that producers take the production decisions based on annual price expectations). Also, the quantity supplied has been introduced lagged by one year to take into account that production patterns change quite slowly. The analysis has been performed both at EU level and at country level (Greece, Spain, France, Ireland, Italy and UK), and is described in more detail in the appendix, annex to chapter 2.

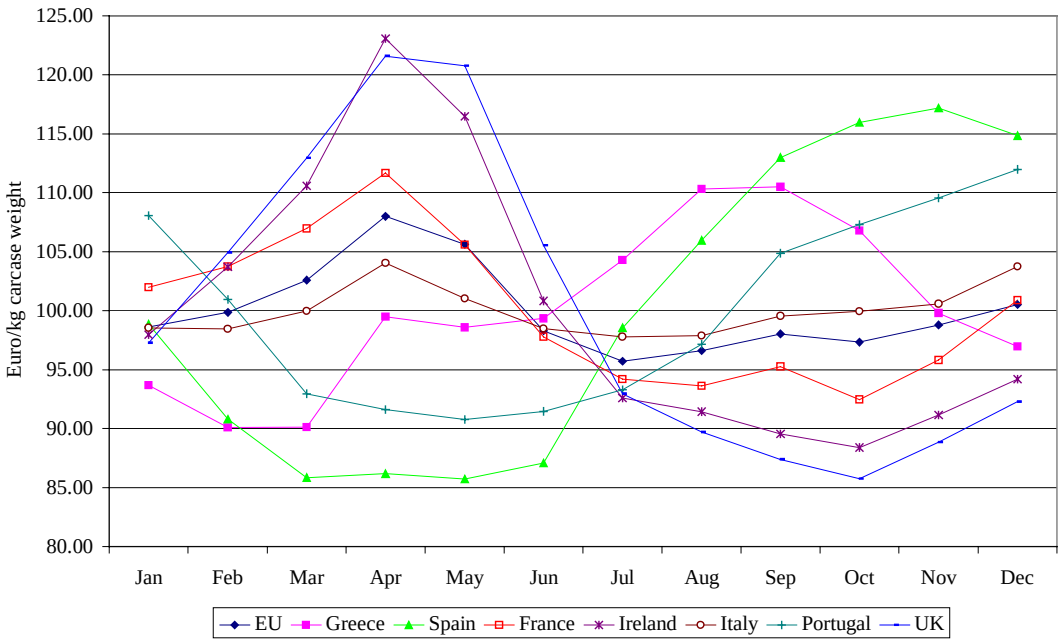
2.2.8 Several specifications of the regression equations have been tested and are detailed in the annex to chapter 2. Nevertheless, the final result is that no significant relationship between prices and quantities supplied could be identified (in this case, non significant means that price coefficients are not different from zero). In all cases (at EU level and at country level) the only variable which is relevant in the equation is the lagged quantity supplied. **The conclusion is that farmers do not respond either in the short term or in the long term to changes in prices, at least at the aggregate level considered in this study. As expected, when comparing short-term and long-term elasticities, the latter are more elastic, (annex to chapter 2, Table a2.2.2). At the EU level, the long-run supply elasticity is 0.45. In Ireland and Italy quantities supplied are more sensitive to price changes. In contrast, in France, farmers do not react to price changes. The significance of the lagged quantity is a clear indication that producers exhibit certain production habits, that is, there is a strong correlation between the quantity supplied in year t and that supplied in year t-1. However, this is not unreasonable given the nature of the biological system the producers are working with. Although it is difficult to talk about a causal relationship, at least at the aggregate level (not at the individual farm level), the existence of compensation for loss of income to a basic price level has limited the influence of market prices on production decisions.**

2.2.9 The second market signal was seasonality. It is desirable that producers try to adapt their production to reach the market in those months in which prices are higher. To address this assertion the following information has been collected: 1) monthly

lamb prices both at EU and at country levels, taken form Eurostat (Agricultural Markets); and 2) monthly statistics of the number of goats and lambs slaughtered and net production (Eurostat: Animal Production). In the case of prices, no differentiation between lamb and goat information is available. In terms of quantities, differentiated statistics for goat, lamb and sheep are available. The analysis will focus only on goat and lamb information. However, differentiated information is only available since 1992.

2.2.10 Seasonal average price patterns have been considered between 1992 and 1998, the period since the introduction of individual limits. Seasonal price patterns over this period have been stable with no significant change in the pattern over the period. To analyse the issue of seasonality we have calculated for each country the average price for each month over the 1992-1998 period. Also for each country an average price for the whole period is calculated. We have given to this global average price the value of 100 and have calculated a seasonal index by dividing the average price for each month by the global average price. Results are shown in figure 2.2.1.

Figure 2.2.1
Seasonal pattern of lamb prices in the EU (average 1992 -1998)



Source: EUROSTAT (several issues). Agricultural markets

2.2.11 Seasonal price patterns differ from one country to another, which can be explained by the specific production systems and consumption habits existing in each country. In the UK and Ireland the period form March to May is when supply decreases and prices improve. In these countries the main production takes place in summer. Also because the production system is generally based on the production of lamb from grass considerable volumes reach the market in the late autumn and early winter and prices fall. In southern Member States lamb is regarded as a meat for

festivals and special occasions (e.g. Christmas and Easter). The production systems are geared towards these markets resulting in high volumes of lamb reaching the market in the spring.

2.2.12 A second relevant issue when analysing seasonality is to determine if there is a convergence process across Member States within a year and, if so, when it occurs. This is an important point as the average market price at EU level is calculated without taking into account seasonal price and volume behaviour which could create some controversy among lamb producers in different countries when in some countries prices are much higher than in others. To analyse this issue we have taken, for each country, the monthly average prices calculated as before, all expressed in Euros, and have calculated the variance in prices for each month. Figure 2.2.2 shows the results from the analysis. Lamb prices in EU countries converged between March and June before strongly diverging during the rest of the year. During the months when prices were converging, prices in Ireland and Spain are below the average while the opposite occurs in France and Greece. During the second half of the year, prices in UK and Ireland are consistently below the EU average. Throughout the year, lamb is cheaper in Ireland than elsewhere in the EU which is consistent with a market situation of local structural surpluses.

Figure 2.2.2
Seasonal Convergence of lamb prices in the EU

Source: EUROSTAT (several issues). Agricultural markets

2.2.13 Let us now jointly consider seasonal patterns of production and prices at EU level. Three indicators are considered: 1) the evolution of prices; 2) the evolution of slaughter numbers; and 3) the evolution of carcase size (Figure 2.2.3). Two main issues can be identified. The first is that production variability is much higher than price variability. The second is that there exists an inverse relationship among

slaughter numbers and carcase sizes. This pattern is constant also at country level. At EU level it is difficult to conclude anything relevant because the aggregation of data reduces the different seasonal production patterns from Member States.

2.2.14 In Greece and Spain the situation is similar although variability in lamb production in Greece is higher, at least during March-May, while the Christmas component is more evident in Spain (Figure 2.2.4). Apart from the two issues mentioned in the previous paragraph, it is noticeable that the main production takes place when prices are below the average while less animals are slaughtered when prices are higher. This is the result of a fragmented and widely dispersed production location in which traders and not producers are able to fix prices.

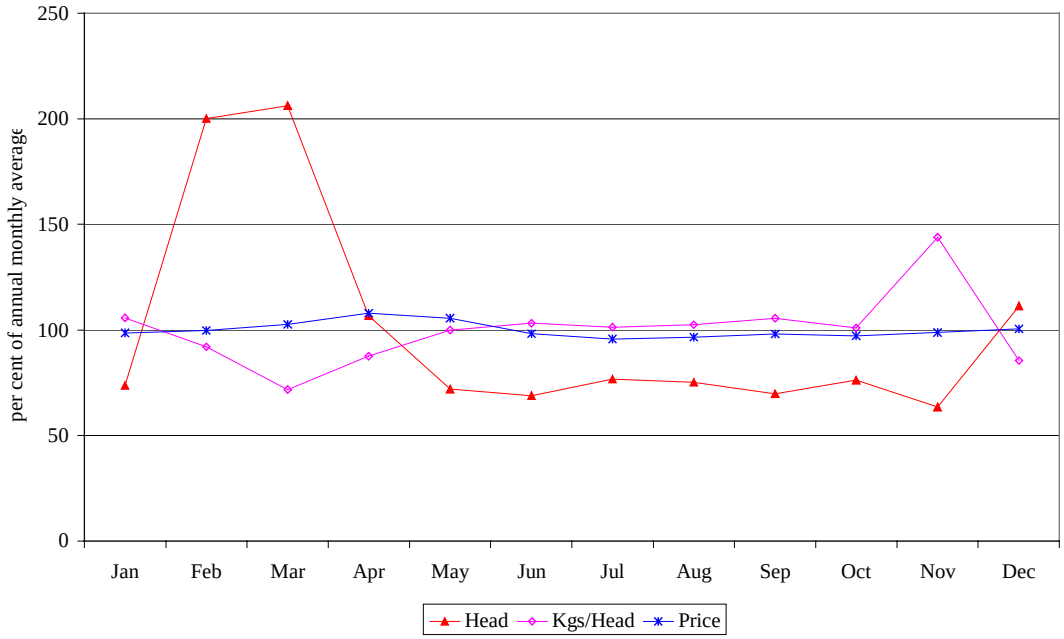
2.2.15 The opposite situation occurs in France (Figure 2.2.4). Production increases when prices increase during the first half of the year and both decrease during the second half. This occurrence implies a serious imbalance in the supply and demand balance and may be a reflection of the low level of French self sufficiency in sheep and goatmeat. Italy and Portugal have similar seasonal patterns in terms of production with a significant peak in December. However, in Italy prices do not exhibit a strong seasonal behaviour. In both countries, production increases when prices are above the average (Figure 2.2.4). **Consequently, it can be concluded that in these Member States, producers have responded to the market signals and produce more lambs when prices are high. Equally, supplies are not sufficient to have over supplied the market and force prices down.**

2.2.16 Production in Ireland and the UK show the same seasonal pattern, although the UK pattern lags the Irish profile by about two months. In both cases, prices and production followed opposite trends. That is, a strong relationship exists where increasing production leads to decreasing prices. Unlike the southern Member States, no seasonal behaviour is shown in December (Figure 2 2.4).

2.2.17 In conclusion, only in France and, to a less extent, in Portugal and Italy, do producers try to adapt to seasonal price signals. In the rest of the countries it seems that it is difficult to break down the seasonal, biological, production patterns resulting in producers selling most of their production when prices are decreasing.

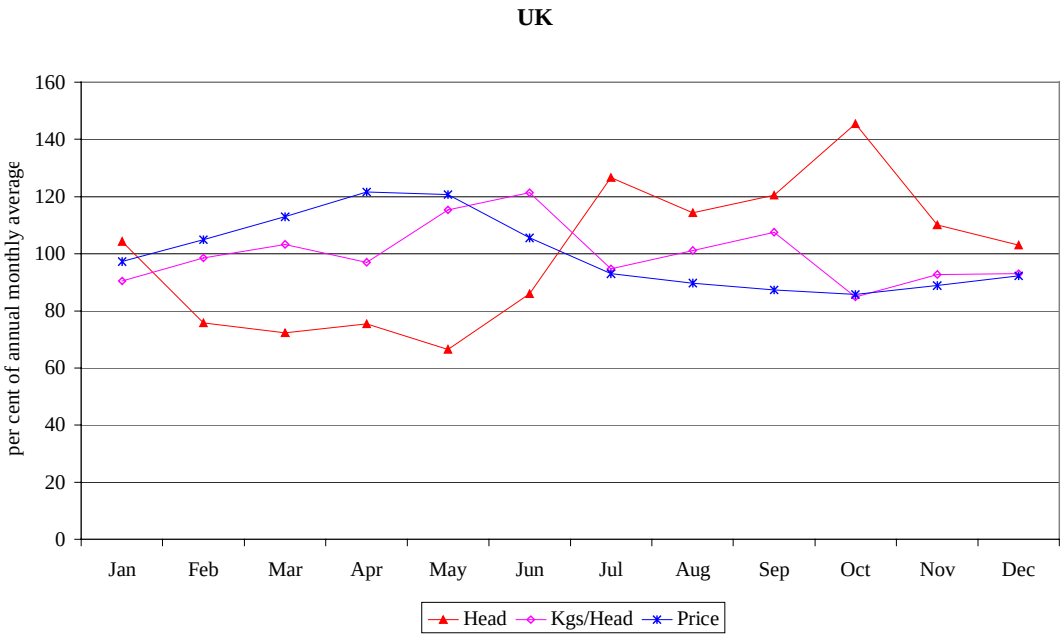
2.2.18 The above analysis has been repeated for the goat sector (Figures a2.2.1 to a2.2.6, in annex to chapter 2 in the appendix). In this case, seasonal goat production patterns have been compared with lamb prices as these prices are taken into account to calculate the premium. The situation at EU level is not very relevant as it is heavily influenced by Greece, the main producer. Nevertheless, the two relationships found for lamb are also observable for goats, that is, the negative relationship between slaughter numbers and carcase size and the higher variability of production figures in relation to prices. It is also noticeable that lighter carcasses are associated with higher prices. Repeating the situation in the lamb sector **the seasonal price patterns for goats have not changed and for that reason we have calculated monthly average values over the 1992-1998 period.**

Figure 2.2.3
Seasonal pattern of lamb slaughtered in the EU (1992-98 average)

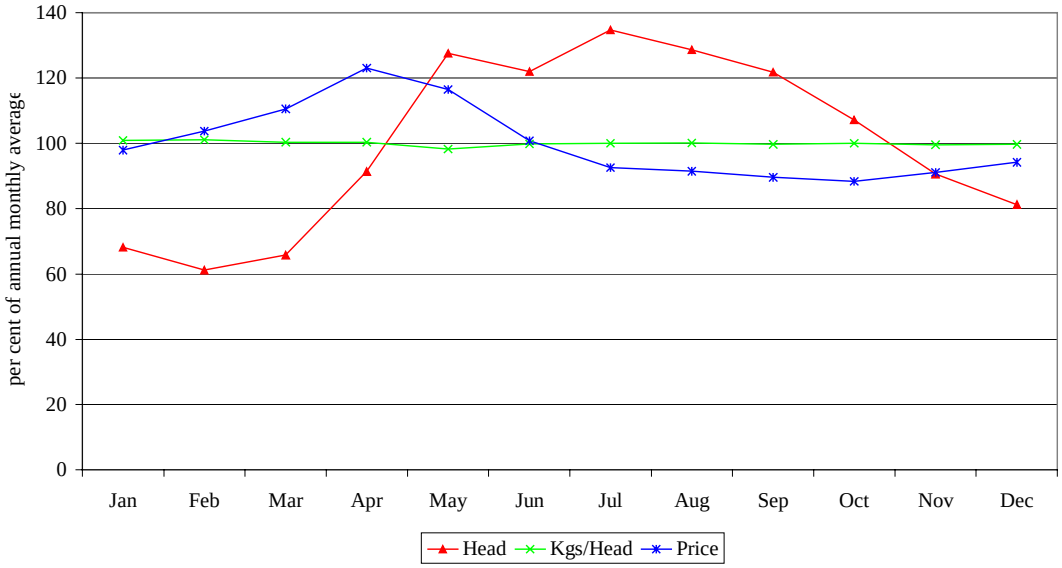


Source: EUROSTAT (several issues). Agricultural markets

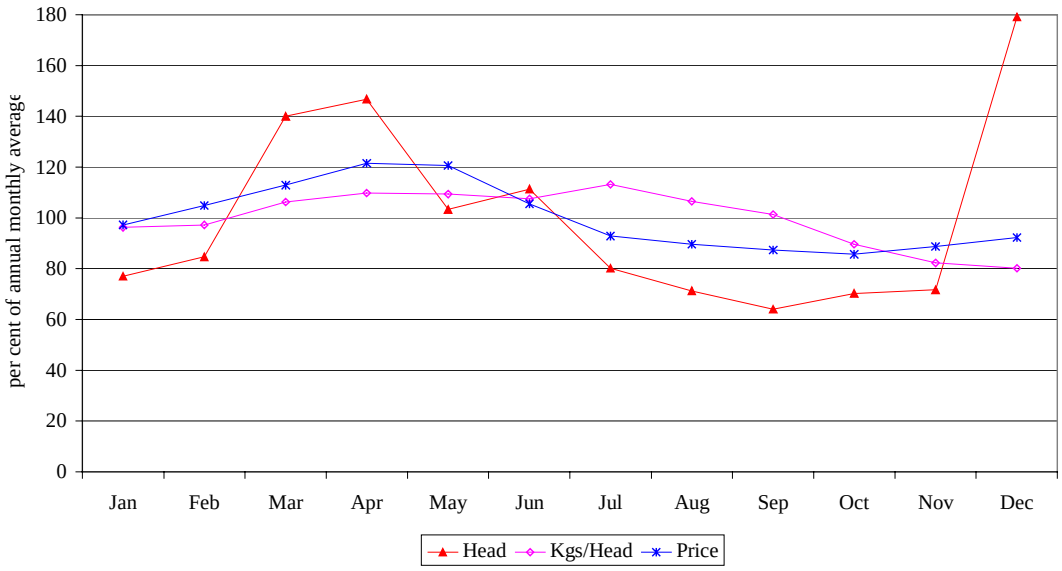
Figure 2.2.4
Seasonal pattern of lamb slaughtered in EU countries (1992-98 average)



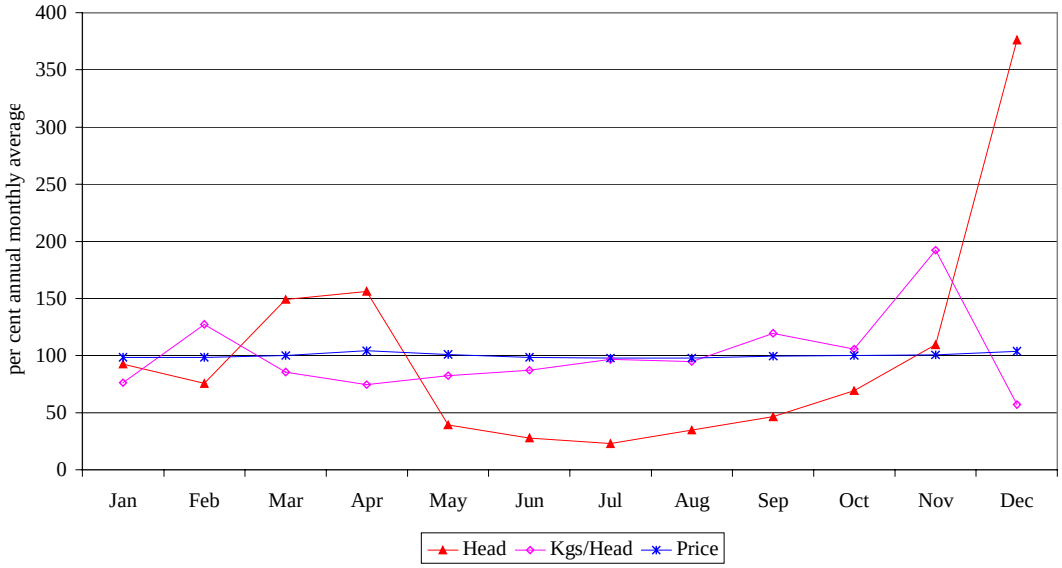
Ireland



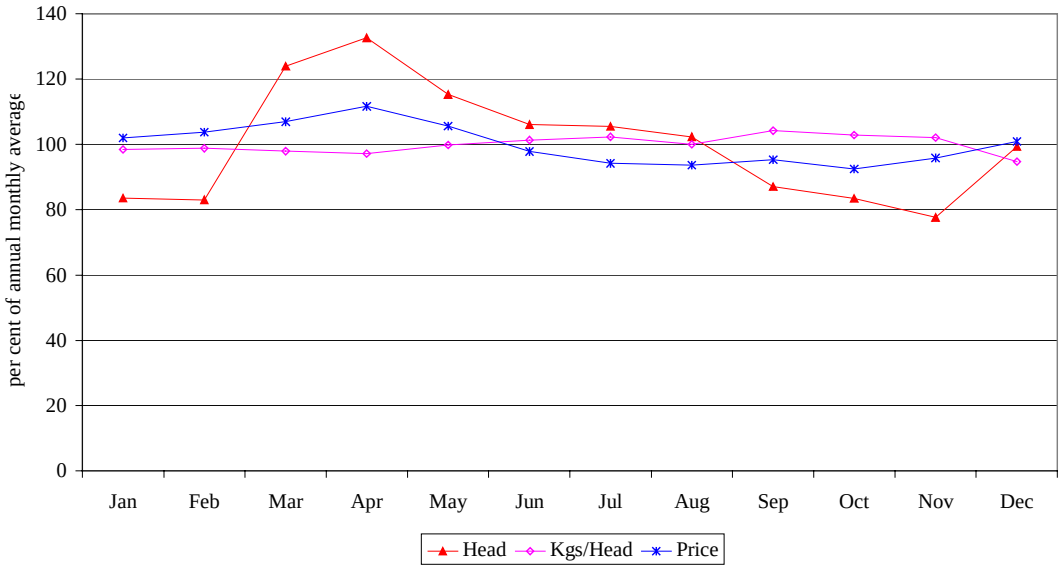
Portugal



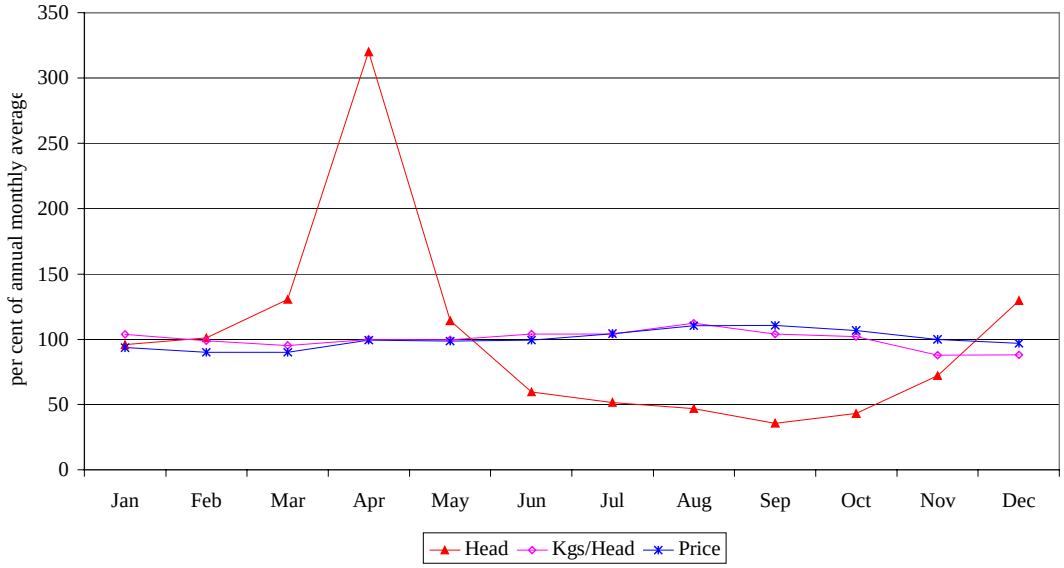
Italy



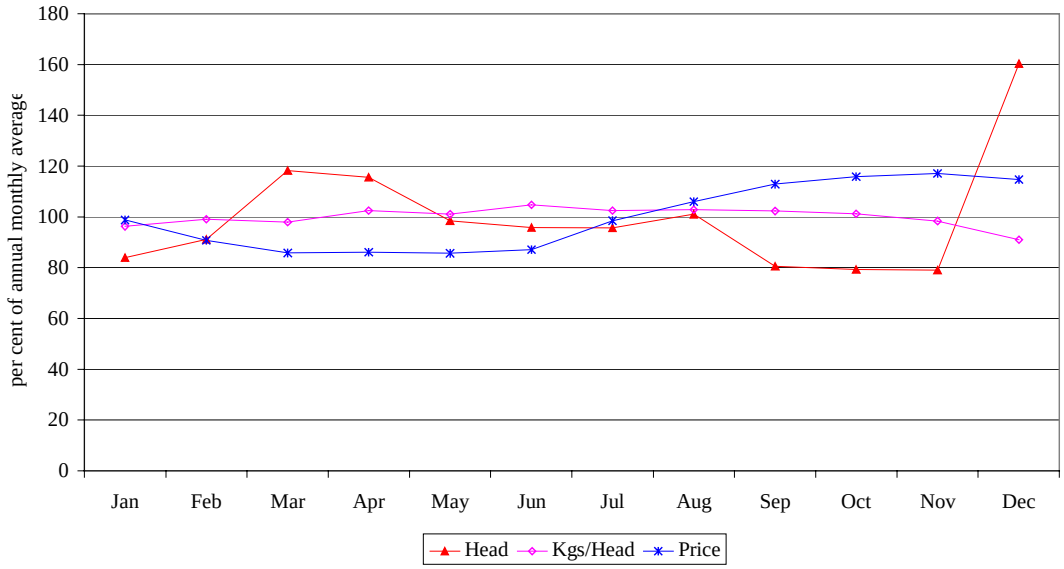
France



Greece



Spain



Source: EUROSTAT (several Issues). Agricultural Markets

2.2.19 In terms of the analysis at country level, similar results have been obtained for the goat sector to the lamb sector. France has adapted its seasonal production pattern to price behaviour. Italy and Portugal are in an intermediate position. In Greece seasonal behaviour of prices and production patterns are of the opposite direction. Finally, in Spain no seasonality is observed during the year with the exception of December which is associated to higher consumption due to Christmas.

Price differences due to quality

2.2.20 This is an extraordinarily difficult issue as quality is a subjective topic. There exists an attempt to classify carcasses based on two different criteria for northern and southern countries. In the northern countries, carcasses are defined in terms of conformation and fat content. Accordingly, carcasse conformations are classified as excellent (E), very good (U), good (R), fairly good (O) and poor (P) and within each category five subdivisions are defined relating to fat content. In southern countries, carcasses below 13 Kg are subdivided in three subdivisions: 1) less than 7 Kg; 2) between 7 and 10 Kg; and 3) between 10 and 13 Kg. Prices for each category are recorded from private slaughter houses and sent to Brussels. However, not enough information exists on quantities slaughtered of each category. Based on a report from the Commission on the implementation of Council Regulation 2137/92 concerning the Community Scales for the classification of carcasses of ovine animals and determining the Community standard quality of fresh a chilled sheep carcasses and extending Regulation 332/91, some information can be obtained based on the SEUROP grid for quality classification data as shown in Table 2.2.2, for France, Ireland and UK. Although the use of such information as a proxy of quality could be questioned, it is the only reference which objectively classify carcasses attending to some "quality" standards.

2.2.21 There is a higher level of concentration in carcasses of "average quality" (R3). In the three cases, around 20% of slaughtered production is classified as very good, while another 15% in France; and 6% in both Ireland and UK are sold under the category of fairly good. Only a residual part is sold under the excellent category. Nevertheless, it must be noted that the data is drawn from a small sample and should only be considered as indicative of the situation.

2.2.22 The total receipt per ewe is improved when the farmer sells high quality lambs, if the market recognises this quality by a higher price. (Table 2.2.3). In Ireland, where the price of high quality (E3) lambs is only 1% more than the price of "normal" (R3) lamb, only 2% of lambs are in categories more expensive than R3 lamb. In France and the UK, the price of E3 lambs is 15 to 17% higher than the price of R3 lamb, leading to a total receipt per ewe 12% higher when selling an E3 lamb. More than one third of the lambs are in categories more expensive than R3. **We can conclude that the premiums do not prevent farmers responding to quality market signals, when they exist.**

2.2.23 As identified previously, the analysis presented here is only an approximation to the problem of quality and must be considered qualitative rather than quantitative for two reasons. First, because historical records are not available to check if producers have adapted to new market signals over time and secondly, because the SEUROP grid is a carcase classification with little to do with the quality perceived by consumers. Furthermore, consumers do not buy a whole carcase but cuts of them so they are not able to evaluate conformation.

Table 2.2.2
Prices and quantities slaughtered for different lamb quality categories
(Euro/Kg and %)

	France		Ireland		UK	
	Prices	Quantities (%)	Prices	Quantities (%)	Prices	Quantities (%)
E1			3.18	0		
E2	5.11	0.1	3.33	0		
E3	4.84	0.2	3.23	0.2	3.48	0
E4	3.98	0	3.24	0		
E5	3.63	0	3.04	0		
U1	3.55	0	2.73	0		
U2	4.71	4.4	3.32	1.5	2.76	2.3
U3	4.57	17.2	3.17	17.7	3.11	21.4
U4	3.88	1.3	3.12	3.4	3.02	7.1
U5	3.35	0	3.07	0.2	2.74	0.1
R1	3.48	0.3	3.03	0		
R2	4.43	15.6	3.13	8.9	3.19	6.4
R3	4.2	39.6	3.19	55.1	2.97	42.9
R4	3.44	3.9	3.02	3.1	2.99	13
R5	3.25	0.1	2.48	3	2.71	0.3
O1	3.17	0.6	2.78	0		
O2	3.69	2.3	2.9	3.3	2.6	3.7
O3	3.86	13.2	3.15	2.5	2.91	2.9
O4	3.27	0.9	2.99	0	2.72	0
O5	3.02	0				
P1	2.94	0	2.77	0.1		
P2	3.3	0	2.38	0.9		
P3	3.15	0				
P4						
P5						

Source: European Communities (1997)Document number CB-CO-97-239-EN-C

Table 2.2.3
Impact of quality prices on income and production

		France	Ireland	UK
Kg/ewe		15.5	17.7	16.1
Price (Euros/kg)				
R3 lamb		4.20	3.19	2.97
	E3 lamb	4.84	3.23	3.48
Lamb sales (Euros/kg)				
R3 lamb		65.1	55.2	47.8
	E3 lamb	75.0	55.9	56.0
	E3/R3 (%)	+15%	+1%	+17%
Lamb sales + premium (Euros/kg)				
	R3 lamb	85.1	75.2	67.8
	E3 lamb	95.0	75.9	76.0
	E3/R3 (%)	+12%	+1%	+12%
Quantity of lamb sold at a higher price than R3 lambs (%)		37%	2%	35%

Source: Table 2.2.2

2.2.24 In southern countries higher quality and higher prices are assigned to lighter carcasses. As an example, the case of Spain has been used to show the evolution of prices for the two carcasse categories for which prices are recorded and sent to the Commission, CI (between 12 and 13 Kg) and CII (between 13 and 16 Kg), is shown in Figure 2.2.5. A constant difference of 100 pesetas/kg. is shown to exist between the two categories. On the other hand, Table 2.2.4 shows the distribution of lamb meat production between light and heavy lambs. Taking average values for the period 1989-91 it can be shown that there has been a significant increase in light lamb meat production (20%) while heaving lamb production has slightly decreased (-3%). As a consequence, heavy lamb carcase weight has increased.

Figure 2.2.5
Price patterns for lambs of different caracse weights in Spain

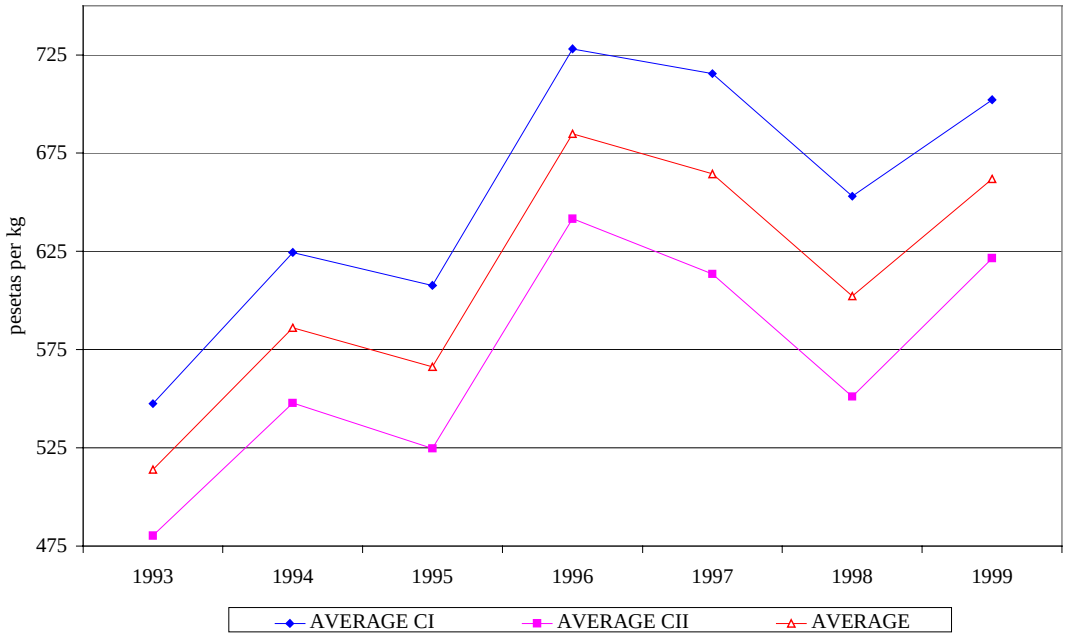


Table 2.2 4
Evoloution of lamb production in Spain (1986 - 1997)

	Light lamb		Heavy lamb	
	‘000 head	Av. carcase wt. (kg)	‘000 head	Av. carcase wt. (kg)
1986	2971	6.7	11866	12
1987	3021	6.5	12627	12
1988	3520	6.4	13367	11.8
1989	3364	6.5	13169	11.8
1990	3549	6.5	14322	12
1991	4594	6.7	14322	12
1992	4605	6.7	14158	11.9
1993	4513	6.7	13887	11.9
1994	4730	6.8	13422	11.8
1995	4582	6.9	13414	12
1996	4523	6.8	13127	11.9
1997	4596	7	13338	12.2

Summary and conclusions

2.2.25 The objective of this section was to analyse if the CMO for sheep and goatmeat allowed producers to adapt to market signals. The main market signal we have considered is prices. Thus, the study has focused on producers reactions to market prices from different points of view.

2.2.26 As a first step, we have calculated supply elasticities, that is, how producers react to changes in market prices. **The conclusion is that farmers do not respond either in the short term or in the long term to changes in prices, at least at the aggregate level considered in this study. Also we have found clear evidence that producers exhibit certain production habits, that is, there is a strong correlation between the quantity supplied in year t and that supplied in year t-1 which is reasonable given the nature of the biological system the producers are working with.**

2.2.27 The second step has been to analyse producer reactions to changing prices within the year. That is, how they adapt to seasonal price behaviour. **In conclusion, only in France and, to a less extent, in Portugal and Italy, do producers try to adapt to seasonal price signals. In the rest of the countries it seems that it is difficult to break down the seasonal, biological, production patterns resulting in producers selling most of their production when prices are decreasing.**

2.2.28 As a final step, and assuming that higher prices correspond to higher quality meat, we have studied if producers respond to price quality signals. **The conclusion is that in some countries price differentials are not very high (i.e. Ireland) but when differences exist the premia do not prevent farmers responding to quality market signals.**

2.2.29 In general terms, it can be concluded that producers are adapting to market signals. However, it is difficult to establish a causal link between these issues and the CMO. Recent food scares have created in consumer's minds the necessity of looking for products of higher quality and food safety. To what extent the CMO has contributed to such trends is difficult to assess but, in any case, it has not put any significant constraints on producers.

2.3 TO WHAT EXTENT DOES THE SYSTEM OF PREMIA (DEFICIENCY PAYMENTS) ALLOW FOR IMPROVEMENTS IN EFFECTIVENESS AND EFFICIENCY OF PLANNING AND MANAGEMENT OF HOLDINGS IN THIS SECTOR.

Introduction

2.3.1 The importance of the premium payments to the income of individual businesses has been identified in earlier sections of this report. As a consequence of this importance, the rules of eligibility for premia have potential to impact considerably on the planning and management of individual holdings. This section will discuss the ways in which the rules of the system of premia can impact on the enterprise planning and management process. It will discuss the ways in which the rules of the CMO permit management actions to be taken and consequently allow a subjective assessment of the *extent* to which the CMO impacts on *effective and efficient* planning and management. In the context of this question *effective* planning and management is considered to mean productive management, i.e. management that is capable of meeting the overall objectives established for the business. *Efficient* management is considered to be the situation which occurs when the desired results (objectives) are achieved at least cost. Thus the *extent* to which the CMO impacts on *improving* the *effective* and *efficient* management is related to the extent to which the freedom of action of a business manager is influenced or constrained by the rules of the CMO.

2.3.2 However, before discussing the impact of the rules of the system of premia payments it is important to recognise that in principal the rules place no restrictions on who can keep sheep and goats or on the number of sheep and goats they keep and the way they manage them. To the extent that this is the case the CMO places no restrictions on efficient planning and management of a sheep and goat enterprise. However, this is to grossly simplify the situation. This is because although in principal the CMO places no restrictions on the freedom to keep and manage a sheep or goat enterprise, the premium payment is so important to the profitability of the enterprise that in practice the rules of the eligibility for premium place considerable restrictions on planning and management. This is confirmed by the rapid growth in sheep numbers observed in most Member States between 1980 and 1992 and the subsequent stabilisation since the introduction of quotas in 1992.

2.3.3 In drawing this section together, a wide range of producers, producer organisations, trade bodies and policy administrators were asked to comment on their perceptions of the constraints imposed on the planning and management of sheep and goat production by the CMO. Nevertheless, in relation to the size of the whole sheep and goat sector the number of producers and organisations consulted was small and the ensuing evaluations can only be considered to be qualitative in nature.

The impact of the components of the system of premia on planning and management

2.3.4 A number of components of the system of premia can be identified as impacting on planning and management of which the main elements can be identified as:

- Quota and ring fencing;
- Retention periods;
- Distinction between heavy and light lamb production; and
- Calculation of the premium.

Quota and ring fencing

2.3.5 The importance of the premium to the viability of a sheep enterprise, as discussed in chapter 1, results in a fundamental requirement for producers to have quota for the sheep or goats they keep. This situation has the potential to impact on effective management in two ways. Firstly, it can result in technically inefficient producers, who without the payment of premium would return such low levels of income from their sheep enterprise that they would be unviable in the short to medium term, remaining in production. Conversely, it restricts entrepreneurial and efficient producers from expanding their businesses because, without premium payments, the marginal return may be such as to reduce the reward for taking an entrepreneurial risk to unattractive levels. In some Member States, the trading of quota is done on the open market which has created an extra asset value for producers and equally created a barrier to entry for new or expanding producers because of the capital required. Equally however, the trading of quota does provide a mechanism for economically efficient redistribution of quota to those who value it most highly. However, market forces are shown to work as during 1999 in some Member States, particularly Ireland and the UK, the consultants were advised by farmers and quota traders that there was no demand for quota and prices had fallen. In Ireland, it was asserted that considerable quantities of quota were left untraded and returned to the national reserves. Equally, in this situation of low or zero value for quota, some producers may continue to farm sheep or goats, when they would prefer not to operate under the "use it or lose it" element of the CMO rules whereby if a producer does not use the quota himself for two consecutive years in five quota will be returned to the national reserve without compensation. This will particularly be the case in Member States where quota has gained a value by being regarded as a capital asset and producers who wish to reduce the size of their sheep or goat enterprise would like to benefit from the sale of an asset.

2.3.6 The element of "ring fencing" of quota also has the potential to impact on efficient planning of an enterprise by restricting the free movement of quota between regions adding a further element to the previous discussion. Introduced for socio-economic reasons, the "ring fencing" of quota has potential to lead to localised problems of concentration of quota into restricted areas within the ring fenced area and consequent environmental pressure. This issue has not been explored further in this analysis because of the shortage of readily available data. Nevertheless, unverified information from quota traders in Ireland asserts that some ring fenced

areas have a surplus of quota and other areas a shortage. In the UK quota administrators acknowledge that there is a surplus of quota in non-LFA areas and a shortage in LFA areas. One potential reason for this situation is the relative profitability of competing enterprises. By definition non-LFA areas are less disadvantaged, agriculturally, than LFA and are capable of sustaining a greater number of competing enterprises. This situation concurs with the discussion in Chapter 1 that, although sheep production has generally maintained its relative position of profitability to other enterprises, there are alternative enterprises which return better levels of profitability. Equally, this circumstance helps to explain why, throughout the EU, there is unused quota available to producers, (see also section 2.2.4 and Table 2.2.2).

2.3.7 By providing entitlement to the "deficiency payment" so important to a viable sheep or goat enterprise the quota element of the CMO has a considerable bearing on the planning of the structure and size of a sheep and goat enterprise. It has considerable potential to distort the efficient allocation of resources to sheep and goat production by keeping technically inefficient producers in business, resulting in slower structural change taking place than would otherwise be the case. However, the socio-economic consequence of a structural change resulting in fewer, larger sheep and goat farmers employing fewer workers and creating less requirement for rural services could be considerable. The principle of ring fencing was introduced in partial recognition of this circumstance and the desire to retain sheep and goat production in those areas where few alternatives for employment exist.

2.3.8 This issue of quota management demonstrates the conflict which exists between trying to provide the basis for an efficient business structure for the industry and the socio-economic challenge of maintaining rural employment within the same policy instrument.

Retention periods

2.3.9 To be eligible for a premium payment producers have to keep the number of ewes and she-goats necessary to fulfil the quota limit for a period of 100 days, known as a retention period. The specific dates of the retention period are determined by the individual Member State. Discussion with producers in several Member States show them to be concerned that the timing of the retention period impacts on the efficient management of their enterprises. Producers have to be sure that they have sufficient animals throughout the retention period to match the number of premium claims they make. Producers argue that this restricts their ability to sell ewes and she-goats during this period. Equally however, producers recognise the need to have such a measure in the rules of the premia system to police and administer the regime.

2.3.10 The most vociferous arguing of this issue comes from the UK and Ireland, who have a distinct seasonal production pattern which results in a situation where for management purpose it may be advantageous to sell barren ewes during the retention period. In France and Spain, production systems are more likely to result in extended lambing periods: nevertheless, the same issue is raised in these countries where they too observe that it is not efficient to keep a non-productive ewe for longer than is

necessary. Equally, producers argue that prices for cull ewes are distorted by the increase in supplies when the retention period ends. Nevertheless, an equal or greater number of producers point out that the circumstance is easily overcome by keeping a greater number of ewes than they hold quota for thus allowing the sale of non-productive ewes during the retention period. This situation is confirmed by census data which, not withstanding that the census date and the premium application dates are different, show clearly that more ewes are held on farms than are required to meet the quota entitlement, Table 2.3.1

Table 2.3.1
Relationship between ewe and she goat numbers and quota by Member States

	1993			1998		
	Census (1)	Quota (2)	(1)/(2)	Census (1)	Quota (2)	(1)/(2)
	'000 head			'000 head		
Greece	10759	9617	1.12	10231	10167	1.01
Spain	20183	17859	1.13	19406	18720	1.04
France	8808	7292	1.21	8474	7010	1.21
Ireland	4676	4825	0.97	4460	4614	1.03
Italy	8802	7894	1.12	9175	7955	1.15
U. Kingdom	20486	19527	1.05	20379	19177	1.06
EU – 15	79441	72020	1.10	79010	73092	1.08

2.3.11 It is concluded that the operation of the retention period as a requirement to qualify for premia payments has a significant impact on the *efficient* and *effective* planning and management of a sheep and goat enterprise. In particular it results in more ewes and she-goats being farmed than would be the case if the retention period did not exist. In addition, it restricts the freedom of a producer to sell ewes and she-goats at the most opportune time from a technical management point of view**.**

Distinction between heavy and light lamb production

2.3.12 In many southern Member States the production of light weight lambs of pale or "rose" flesh is an element of the traditional production system based on dairy sheep systems. However, these systems do not necessarily qualify for the full rate of premia. To qualify for the full rate of premium requires animals to be weaned and fattened to a higher weight, supported by a complex administrative system to prove that heavy lambs are being produced. This has led to a number of producers in Spain and France modifying their production systems to achieve the objective of receiving full rate premium. Nevertheless, this change will be in response to market conditions and the perception that the extra support and total value of the lamb is greater than the cost of fattening the lambs. In this circumstance it has to be acknowledged that this is an efficient and effective management decision because it improves the total profitability of the enterprise. However, it is a response which implies that the reward from the

market place is not sufficient to offset the reward from the policy instrument and so policy has distorted the producers response to a market signal which may pay a higher price for the light weight lamb but the extra 20% premium for "heavy" lamb production is greater than the loss in the value of the lamb resulting from taking it to a higher weight and the extra cost incurred in keeping the lamb to a heavier weight.

2.3.13 The presence of a differentiated heavy and light lamb premium and the option of managing a system to qualify for full rate (heavy lamb) premium impacts on the planning and management of some dairy sheep systems.

Calculation of the premium and uncertainty over the value of the premium

2.3.14 The most significant element of the operation of the premia system, because it is a deficiency payment system, is that it operates retrospectively That is, the final calculation of the premium is dependent upon the difference between an average market price during the year and the basic price. Consequently the definitive value of the premium cannot be determined until the end of the marketing year, which in some cases can be eighteen months after the management decision to mate sheep has taken place. Furthermore, the market price used is that for the whole of the EU and may bear little resemblance to the market conditions in an individual Member State. A further consequence of this mechanism is that producers have little knowledge of the level of support they will finally obtain for their sheep enterprise when they plan forward. This is in marked contrast to the support measures for beef for example, which is the most typical competing enterprise, where support measures are known in advance. A further consequence of operating a deficiency payment is that as the general level of market price improves the level of support declines. This issue was discussed more fully in the previous section (paragraph 2.2.2 and 2.2.3). Nevertheless, this element of the mechanism for determining the level of premium will impact upon the planning and management decisions of producers when considering how they respond to market signals. In some circumstances, it may be more *efficient*, in terms of planning to meet a management objective of profit maximisation, to keep extra ewes on a low cost production system and collect premium payments than to respond to a market signal and improve the value of the lambs sold. In the extreme circumstance these eligible ewes need not produce any lambs. Clearly, the CMO for sheep and goatmeat adds another dimension to the planning process by having to consider the policy income situation as well as the market income situation.

2.3.15 The operation of a deficiency payment results in businesses planning their future activities with a level of uncertainty over the level of support they will receive. It requires a level of judgement to be made between the "market risk" of price changes, associated with for example improving the quality of the lamb, the cost of improving lamb quality to gain higher market prices and the "policy risk" of a level of assured, but variable, income. This situation is of greatest consequence for the mixed enterprise businesses who need to balance the mix between enterprises. Some competing enterprises e.g. beef have an assured level of support income making planning slightly easier for this enterprise. Following the Agenda 2000 changes to the operation of extensification premium in the beef sector the balance between assured

income from beef premia and extensification support and the unknown (at the time of decision making) support to the sheep sector has gained in significance in the effective and efficient planning of a farm business with both beef and sheep enterprises. Replacement of the current deficiency payment principle with a fixed rate of premium announced in advance of the marketing year would, for mixed enterprise businesses, improve the *efficiency* and *effectiveness* of planning and managing the business by allowing businesses to plan with certainty with regard to support payments.

2.3.16 The previous discussion has identified the element of market risk compared to policy risk incurred by operating a "deficiency payment" system in the planning and management of a business. It must however, be recognised that although there is an element of uncertainty as to the final level of payment there is a certainty that, if prices are below the basic price level, support will be forthcoming. To remove the premium payment completely would create even greater uncertainty over income levels and the planning and management of a business would be made more difficult.

Conclusion

2.3.17 The discussion above identifies that a number of elements within the operation of the premia system have potential to make a significant impact on the effective and efficient planning and management of a sheep or goat enterprise. These can be summarised as:

- the management of animal numbers to meet the qualifying criteria to be eligible for support,
- the management of quota to avoid forfeiting quota for non-use,
- the assurity of support, although the final value is not known in advance, balanced against the risk of market price fluctuation,
- in mixed enterprises the balancing of the requirements of different commodity support mechanisms.

2.3.18 By adding a number of extra dimensions to the planning and management of a sheep enterprise it is concluded that the CMO influences to a *limited extent* the planning and management decision making process of a sheep and goat enterprise. With the exception of maintaining ewe and she-goat numbers equal to the number of premium claims made for the retention period the CMO makes no demands on the management of a holding. With the exception of this rule, the CMO allows complete freedom of action to improve the effectiveness and efficiency of the planning and management of a holding. Consequently against the criteria established in paragraph 2.3.1, the system of premia make only limited demands on the freedom of action of planners and managers of holdings and it is therefore concluded that the system of premia allow to a considerable extent for the improvement in effectiveness and efficiency of planning and management of the holdings in the sheep and goat sector. That is the system of premia has little influence on improvements to the *management efficiency* of a holding. However, this does not mean that the CMO does not influence *economic efficiency* of the holding, just as any other market place or business issue (for example, market price and demand trends, and the availability of land, labour and

capital) will, by introducing planning and management considerations or constraints as outlined in the previous paragraph.

2.4 IN WHICH WAY DID THE DIFFERENT ELEMENTS OF THE CMO FOR SHEEP AND GOATMEAT PERMIT PRODUCERS TO DEVELOP "QUALITY" PRODUCTION WHICH CORRESPONDS TO CONSUMERS' REQUIREMENTS (IN PARTICULAR IN REGARD OF A GROWING COMPETITION THROUGH IMPORTS OF CHILLED MEAT)?

2.4.1 The key terms in this question include: *different elements; quality, consumer requirements* and *imports*. Furthermore the question addresses the issue of "permission". *Permit* implies that the different elements of the CMO impose restrictions on the freedom of action of a producer to adjust his management systems to market signals. It must also be recognised that it is not possible to state causation between 'the different elements of the CMO' and changes in 'quality' of production.

2.4.2 The definition of 'quality' is, itself, a confounding issue. 'Quality' has been defined in many ways, from being objective and measurable, to being subjective and dependent on individuals' perceptions and needs. In this section, 'quality' is defined as being made up of various attributes which are desired by consumers (Northen, 2000). In addition to typical 'sensory' quality attributes (including taste, tenderness etc.), consumers often also require attributes such as high 'animal welfare', specific 'country of origin' or 'organic' production. These latter 'credence' attributes must be communicated by labels (for example 'Protected Designation of Origin' labels, or the new European 'Organic Farming' logo).

2.4.3 In defining 'quality' in this subjective way, it may be argued that a quality product will meet consumers' requirements, therefore one indicator of 'quality' would be the demand for it.

2.4.4 Whilst no pan-EU studies on consumers' quality requirements for sheepmeat have been identified, it is evident that there are different consumer requirements for red meat in the different Member States. Becker (2000) presents the results from a consumer survey on quality attributes desired by consumers in six EU countries (including Spain, Italy, Ireland and UK) for beef and pork. The results indicate wide differences in quality attributes desired. Assuming that similar results would be found for the same consumers when consuming sheepmeat, differences in preferred quality attributes across EU Member States must be acknowledged. Most obvious is the preference of many consumers in Southern Member States to consume pale coloured, lean sheepmeat – leading to younger, lighter lambs and smaller carcases/joints. In contrast, many consumers in more Northern Member States prefer red coloured meat with higher fat levels, which come from older, larger animals.

2.4.5 The 'element' of the CMO considered to have the biggest impact on producers being able to maintain/develop quality of production is the method of payment of the premium. It has been recognised in other parts of the study that there are no specific criteria relating to carcase conformation or fat levels in the current CMO for sheep and goatmeat, nor is the premium related to such criteria. In as much as lambs with E or U conformation and lower fat levels are often referred to as superior 'quality' stock relative to lambs with O or P conformation and high fat levels, then the CMO does not positively encourage or discourage 'quality production'.

2.4.6 Of the attributes desired by consumers, it is most likely that carcase classification will affect sensory attributes (such as taste and tenderness); clearly, other 'credence' quality attributes (such as 'animal welfare', 'organic' production, 'country of origin' etc.) will not be affected by the classification system. However, the extent to which measurable carcase conformation and fat levels can really serve as indicators of specific quality attributes is open to debate. Little published data exists, and it would appear that there are no strong scientifically proven links between classifications and sensory quality.

2.4.7 Not withstanding the remaining question about the relationship of carcase classification and sensory attributes, it may still be concluded that no elements of the CMO for sheep and goatmeat *encourage* producers to develop quality production which corresponds to consumers' requirements. Neither however, does the sheep and goatmeat CMO *prevent* producers from responding to market signals: the proportional net gain in income, before deducting costs, is reduced by the presence of the premium and consequently the CMO does not provide positive encouragement for producers to improve quality, Table 2.4.1. Conversely however, because the premium is equal for all ewes, individual producers who achieve better than average market prices through improved quality or other market initiatives will potentially achieve higher margins. Consequently in terms of permitting (allowing) producers' the freedom to respond to market signals and improve the quality of product it is concluded that the sheep and goatmeat CMO is neutral.

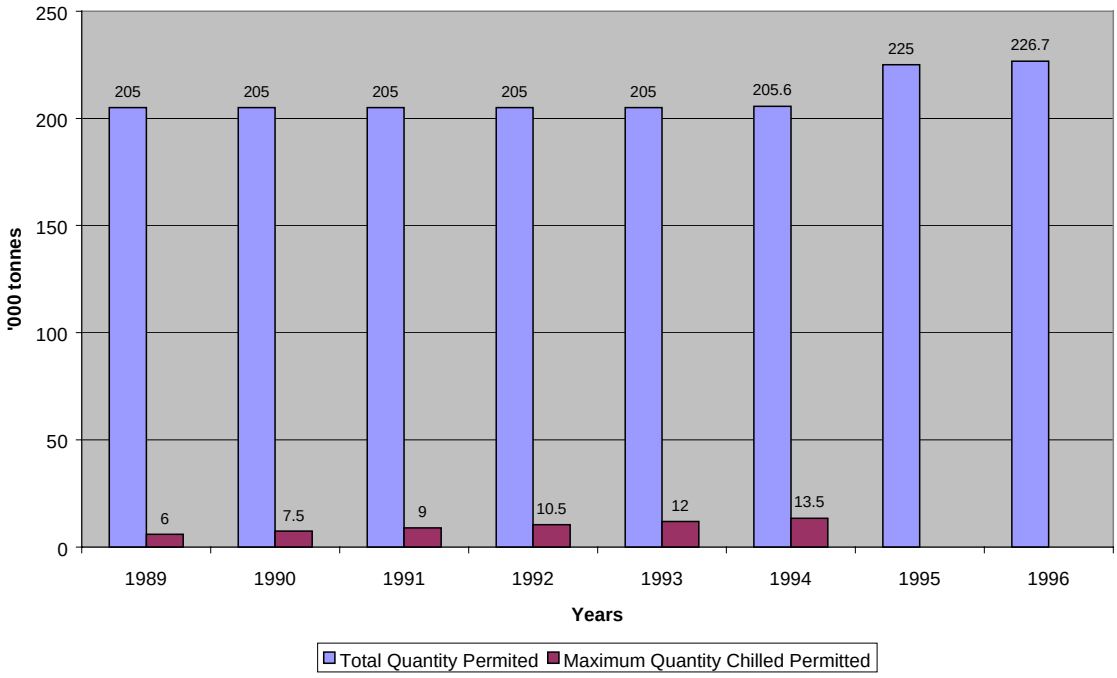
Table 2.4.1
Influence of the presence of a ewe premium on the level of income improvement due to improved lamb quality

	Market return	Ewe Premium	Market return + ewe premium
18 kg low quality @ 3 Euro/kg	54 Euro	20 Euro	74 Euro
18 kg high quality @ 4 Euro/kg	72 Euro	20 Euro	92 Euro
Gain	33%		24%

2.4.8 With regard to the issue of chilled meat imports, the main indicator used is the demand for (trend in) imports of chilled sheepmeat from New Zealand (NZ) into the EU. Pre-1995 a voluntary restraint agreement (VRA) existed between New Zealand and the EU-12. Figure 2.4.1 indicates the total amount of sheepmeat that could be imported from New Zealand, including *within this total figure* the limit that could be imported chilled (as opposed to frozen). It can be seen that whilst the amount of chilled sheepmeat as a percentage of the total imported grew between 1989 to 1994 (from 2.9% to 6.6% respectively) it still represented a relatively small percentage of the total.

2.4.9 The most recent agreement for imports of sheepmeat from New Zealand into the EU came with the final (Uruguay) round of GATT. At that time, a limit of 225,000 tonnes (raised to 226,700 tonnes in 1996) of NZ sheepmeat entering the EU (without levy) was set. The major difference between the pre- and post-1995 position was the abolition of a maximum level of chilled product within the total figure.

Figure 2.4.1
Import Limits under the EU/NZ VRA for Total and Chilled Sheepmeat



Source: MLC

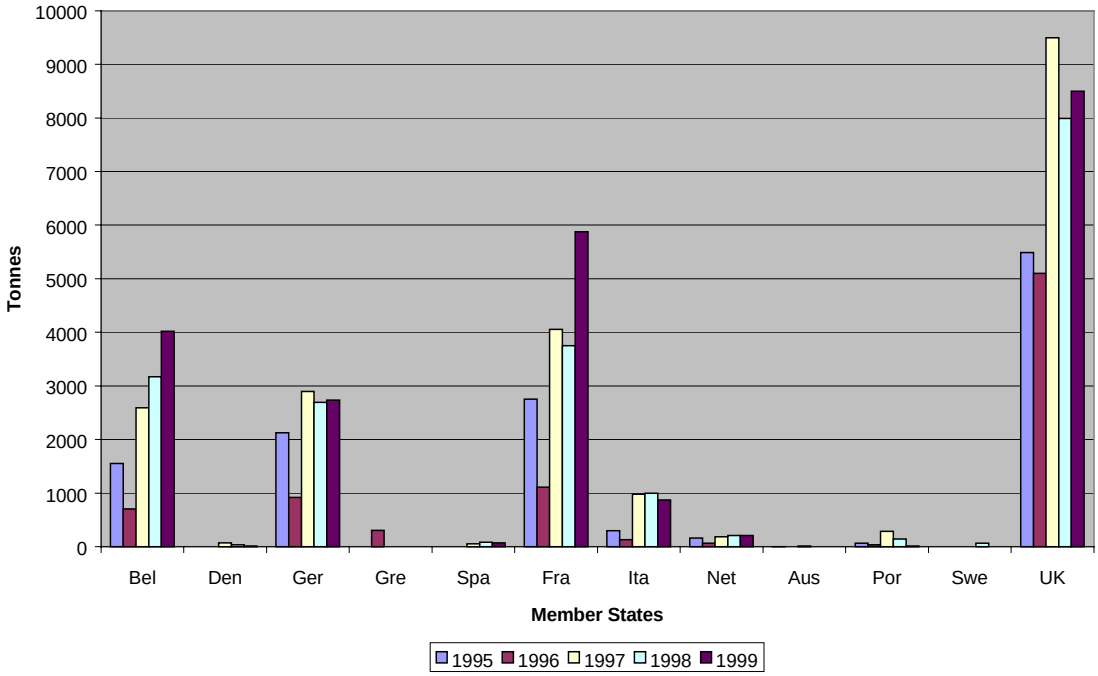
2.4.10 Considering imports of *chilled* sheepmeat from NZ, Figure 2.4.2 indicates the amount imported into specific EU countries in the years since 1995. It can be seen that the majority is bought by the UK, with France, Belgium and Germany also offering significant markets for the chilled product. In terms of growth, the figure indicates that France and Belgium are the major growth markets. In general it can be seen that the market for chilled sheepmeat into the EU is growing (17,700 tonnes in 1996 to 20,000 tonnes in 1998).

2.4.11 Figure 2.4.3 details the imports of NZ chilled lamb into the UK, by time of year. The seasonality of production in New Zealand meant that it has traditionally filled the gap in sheepmeat production in the early months of the calendar year, particularly in the UK. The figure also demonstrates the changing quantity imported in a particular month; specifically, the growing quantity imported in March.

2.4.12 There is some concern in the EU, and particularly the UK and Irish, sheep sector, that New Zealand intends to increase its levels of chilled imports into the UK

and elsewhere (at the expense of frozen product), which would lead to direct competition between EU new season lambs and New Zealand lamb in the spring/early summer months.

Figure 2.4.2
Quantity of Chilled Sheepmeat Imported into EU Member States by NZ (1995-1999)



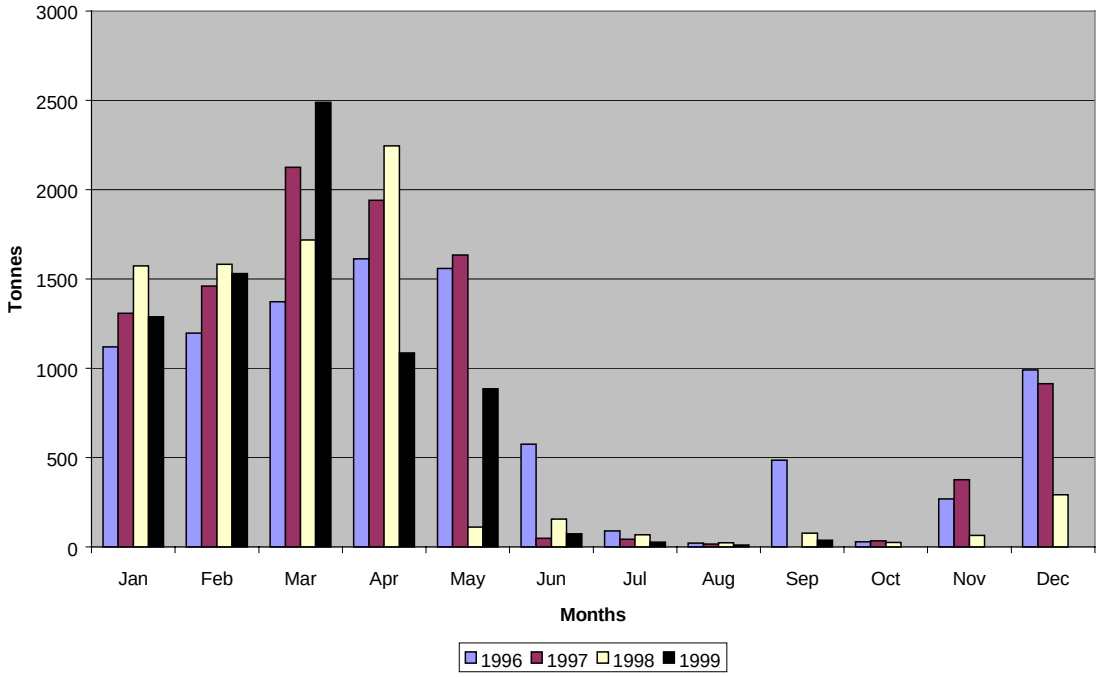
Source: MLC

2.4.13 The ability of EU producers to compete against imports will be influenced by a number of issues including:

- Relative 'quality' of product in EU and third countries.
- Seasonality of production in third countries
- The relative cost base in third countries.
- The relative strength of domestic and third countries' currencies.

2.4.14 Taking New Zealand as an example, the seasonality of sheep production in New Zealand is the opposite of that in the EU. Consequently New Zealand produces low cost lamb at a time of year when EU production requires a high cost base. In terms of production costs Connolly (1998) compares New Zealand with Ireland and the UK (Table 2.4.2)

Figure 2.4 3
Monthly Imports of NZ Chilled Lamb into the UK, 1996-1999



Source: MLC

Table 2.4.2
Comparative costs per kg lamb carcase in New Zealand and Ireland, 1995, UK – 1994 (IR£/kg dw)

	New Zealand	Ireland	UK
Direct Costs	0.38	0.95	1.01
Overhead costs	0.82	0.97	1.05
Total costs	**1.20**	**1.92**	**2.06**

Source: Adapted from Connolly (1998)

2.4.15 The indicative figures from Table 2.4.2 show the lower cost base of New Zealand sheep production relative to Ireland and the UK. A major determinant of this difference is the lower price of agricultural inputs in New Zealand, and lower labour input and cost per animal. This lower cost base makes the export of lamb from New Zealand to EU Member States viable.

2.4.16 Secondly, by embracing distribution technology, New Zealand is able to export chilled lamb to the EU, which helps New Zealand exporters in selling different cuts of meat into different markets, for example, legs to France and shoulders to Germany. New Zealand achieves a market advantage because of this. Finally, whilst the Euro has been weak recently relative to many other currencies (making imports into

'Euroland' Member States relatively more expensive), the relatively strong pound has made imports into the United Kingdom relatively cheap.
2.4.17 Of the above factors, the two with the potential to affect 'sensory' quality attributes are: i) the distribution technology, and the ability to extent the shelf life of lamb; and ii) the seasonality of production (where younger lambs are often more tender than older lambs).

Conclusions and Recommendations

2.4.18 The CMO for sheep and goatmeat does not link levels of premia with any quality criteria discussed above. Hence, it is concluded that the regime has not actively encouraged, or discouraged, 'quality' production. Even if the regime did offer incentives for producers to deliver lambs of particular carcase classifications, there is currently very little evidence of any association between such classification and sensory (or other) quality attributes.

2.4.19 Given the likely differences in 'quality' requirements across Member States, it must be questioned how a *centrally operated* CMO could generate the incentives necessary to satisfy all of the different quality requirements.

2.4.20 There is no evidence to indicate that imports of chilled lamb are of superior 'sensory' quality to similar age lamb from EU countries. However, assuming that demand for a product indicates that it meets consumers' requirements in terms of quality, then the growth in imports of NZ chilled lambs (Figure 2.4.2) over the past five years suggests that the NZ sheep sector is continually meeting the requirements of EU consumers.

2.4.21 However, it is important to recognise that the seasonality of production in New Zealand allows them to import young (tender) lambs into the EU at a time when mainly older (old season) lambs are available domestically. Consequently the seasonal profile of chilled imports may allow NZ lamb to gain some 'sensory' quality advantage over the domestic product with which they are competing. In addition, the marketing effort to brand 'New Zealand' lamb is likely to have helped improve EU consumers' perceptions of its image 'quality' (but this is not easily measurable). Finally, the lower cost base of NZ producers enables them to compete on price with producers in EU Member States.

2.4.22 Given the uncertainty regarding the relationship between carcase classifications and 'quality' attributes, the consultants **recommend** that further research be conducted into determining this relationship. If a clear relationship is found, then the Commission should investigate incentives to persuade producers to deliver the desired classification grades for specific markets.

2.4.23 A wider **recommendation** must be that producers in the EU learn from New Zealand in terms of the latter's ability to target different markets (Member States) with different cuts of meat, thus enabling them to gain maximum benefit from both hind and forequarter cuts.

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CHAPTER THREE

THE IMPACTS OF THE CMO FOR SHEEP AND GOATMEAT ON RURAL AREAS AND ON THE ENVIRONMENT

3.1 IS THE SUPPLEMENTARY "RURAL WORLD" PREMIUM RELEVANT AS A COMPLEMENT TO THE COMPENSATORY ALLOWANCES FOR LESS FAVOURED AND MOUNTAIN AREAS PROVIDED FOR IN COUNCIL REGULATION 950/97? IF THIS IS THE CASE, IS THE LEVEL OF THE SUPPLEMENTARY PREMIUM ADEQUATE IN ORDER TO COMPENSATE THE SPECIFIC HANDICAPS OF PRODUCERS OF SHEEP AND GOATMEAT IN LESS FAVOURED AREAS?

Introduction

3.1.1 The concept of a LFA was introduced in 1975 when Council Directive 75/268 introduced a special system of aids in "order to ensure the continuation of farming, thereby maintaining a minimum population level or conserving the countryside in certain less-favoured areas....". The Council Directive also gave clear guidance on what constituted a LFA. They were to incorporate any area of land characterised by a considerable limitation of the possibilities of using the land (for example altitude, aspect, soil quality) and an appreciable increase in the cost of working it (for example, a need for special equipment or buildings, distance from market resulting in high transport costs, poor soil fertility and short growing season requiring higher levels and cost of inputs). The importance of livestock production in the LFA was recognised at this time with the introduction of a compensatory allowance for the "permanent natural handicaps and to assist farming activities" based on livestock numbers on a holding. This Council Directive has subsequently being amended as is now enshrined in Council Regulation 950/97. The objectives of this Regulation include the desire to maintain farming systems in the LFA through maintaining "a viable agricultural community and thus helping to develop the social fabric of rural areas by ensuring a fair standard of living for farmers...". Regulation 950/97 continues the provision for livestock compensatory allowances established in 1975. Following from the Agenda 2000 reforms these payments will now be paid on an area basis decoupled from livestock numbers.

3.1.2 Sheep and goatmeat production is found to a disproportionate extent in the Less Favoured Areas (LFA) of the Community. In 1995 almost 80% of all sheep and goats were located in the LFA and 77% of claimants were found in the LFA. This compares with 55% of the land area of the Community categorised as LFA. There are few agricultural enterprises other than sheep and goat production that can utilise the natural resource of many of the most disadvantaged hill and mountain LFAs. Consequently, if sheep and goat production was not viable it is likely that considerable areas of LFA would be abandoned and desertification would occur. If this was to occur considerable environmental change would also be likely to take place. Similarly as human activity declined the social economy of these areas would also change with negative consequences for rural society. Consequently the EU would be failing in the

principle objective established as the reason for supporting the LFA in 1975 and continued in Council Regulation 950/97.

3.1.3 The importance of sheep to these fragile areas was further recognised in 1990 when following from the introduction of stabilisers in 1989 (Council Regulation 3013/89) it was recognised that the loss of income resulting from stabilisers would be *"likely to have unfavourable consequences"* in LFA. Provision was made for a flat rate payment to compensate for the loss of income resulting from the introduction of stabilisers (Council Regulation 1323/90). The first payments were made in relation to the 1991 marketing year. In 1995 almost 20% of the total sheep support budget for the EU of 12 Member States was paid out as "rural world" measures.

3.1.4 It is clear that the commonality in objectives between Council Regulation 950/97 and Council Regulation 1323/90 (as amended) mean that the Rural World Payment (RWP) is relevant as a compliment to the compensatory allowances for LFA.

Is the level of the supplementary premium adequate in order to compensate the specific handicaps of producers of sheep and goatmeat in less favoured areas?

3.1.5 To establish whether the RWP is adequate firstly requires the establishment of criteria against which to make a judgement. The RWP was established to compensate for the loss of income occurring in the LFA as a result of the introduction of the stabiliser. To meet this objective the income of sheep producers in LFA should logically be maintained at least at the same level as the income achieved by LFA sheep producers before the introduction of stabilisers. Equally however, if the measure is successful it would be expected that the incomes of the LFA sheep and goat producers should follow the same yearly pattern as the incomes of non-LFA sheep and goat producers.

3.1.6 Nevertheless, it should be recognised that the RWP is not specifically designed to compensate for the specific handicaps of producers in the LFAs. This objective is specifically addressed by the compensatory allowance mechanism of Regulation 950/97. Consequently, in combination the RWP and the compensatory allowances should result in the income of LFA producers matching the average level of income found throughout the agricultural sector of the Member State concerned.

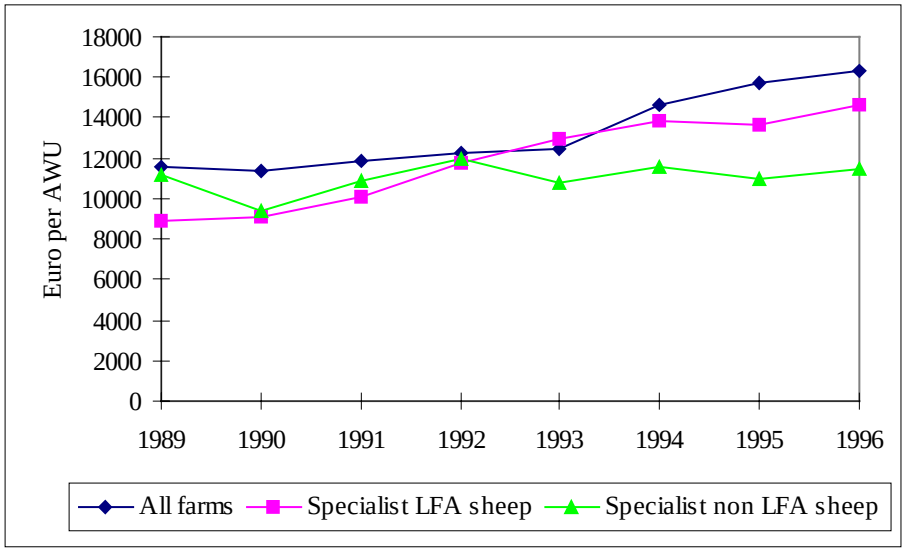
3.1.7 It has been established earlier in this report (section 1.1) that the most suitable indicator of the level of income for all of those employed on agricultural holdings is Farm Net Value Added per Agricultural Work Unit (FNVA/AWU). Figure 3.1.1 shows the trend in FNVA/AWU for LFA and non-LFA specialist sheep producers compared to the all farm average.

Impact at an EU level

3.1.8 With regard to the FNVA/AWU non-LFA and LFA specialist sheep producers show a very similar level of income over the three year period from 1990 and 1992. However between 1992 and 1993 the FNVA/AWU of the two groups of specialist

sheep producers diverges before subsequently following the same pattern. Specialist LFA sheep producers are shown from 1992 to 1996 to achieve better incomes at the EU level than the non-LFA producers. This will be due in large part to the payment of the RWP which was increased in value in the 1992 marketing year as other headage payments made under Regulation 950/97 have remained unchanged. Furthermore in relation to FNVA/AWU LFA specialist sheep producers have in general achieved incomes equal to or better than the all farm average over the period 1992 to 1996. This has not been the case for non-LFA producers.

Figure 3.1.1
Farm Net Value Added per Agricultural Work Unit of sheep producers categorised by farm location European Union



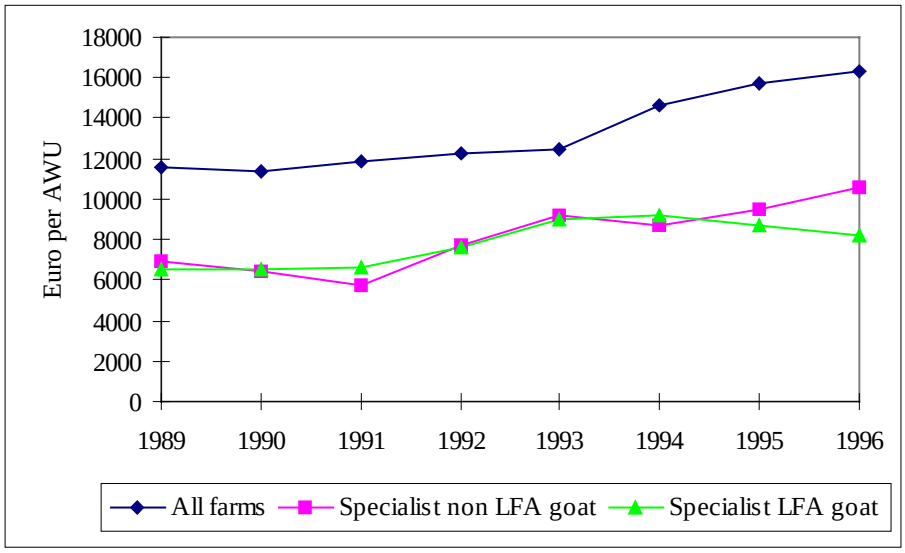
Source: FADN

3.1.9 Considering the position of LFA and non-LFA producers against an all industry average the situation described in section 1.1 is further confirmed. Only in 1992, 1993 and 1994 can LFA sheep producers be considered to have achieved an income comparable to the all industry average in all the other years considered they have fallen short of the industry average although nominal income has improved steadily since 1989. However, the poorer performance of the non-LFA producers results in them only achieving a comparable income with the all industry average in 1991. Since that date they have seen their relative position deteriorate both in terms of total nominal income and in proportion to the all industry average. Indeed non-LFA specialist sheep producers can be considered to be disadvantaged by the lack of a RWP to them.

3.1.10 When the situation with goat producers is considered, Figure 3.1.2, the presence of all LFA animal subsidies is such that the FNVA/AWU of both non-LFA producers and LFA producers have maintained their equality, although in 1996, the LFA producer FNVA/AWU has moved ahead of the non-LFA situation. However, there is insufficient data to conclude whether this is a peculiar circumstance of the

year or the start of a trend for the income to diverge. In relation to the RWP for goat producers across the EU measured against the criteria of compensating for any loss of income which may result from the introduction of the budget stabiliser then it is concluded that the level of payment is adequate to compensate for the specific handicaps of the LFA.

Figure 3.1.2
Farm Net Value Added per Agricultural Work Unit of goat producers categorised by farm location European Union



Source: FADN

Impact at Member State Level

3.1.11 Chapter one has already demonstrated that significant and consistent differences in the impact of the sheep and goatmeat CMO occur at Member State level. The underlying problems identified in that chapter namely, representative price variations and technical coefficient problems result in a similar situation occurring when the impact of the RWP is considered, (see appendix, annex to chapter 3, Figures 1 to 5).

3.1.12 In the UK the LFA specialist sheep producer has consistently achieved a better FNVA/AWU than his non-LFA counterpart. Equally however he has not achieved an income comparable with the industry average. Similarly in Ireland and France the RWP has not been sufficient for LFA specialist sheep producers to achieve an income comparable with the industry average. Nevertheless, the RWP has enabled LFA producers in Ireland to achieve a better income than non-LFA producers since 1994, prior to that date the non-LFA sheep producer had reported better incomes. Equally however, it should be noted that the improvement since 1994 has not been achieved by an improvement in nominal incomes on the LFA holdings but is the result of a decline in incomes on the non-LFA holdings. Similarly in France the LFA producers

have achieved better FNVA/AWU than the non-LFA producer since 1993 again by maintaining their nominal income level while the non-LFA producer has seen his income fall. In contrast producers in Spain and Greece have consistently achieved FNVA/AWU better than the Member State industry average. Repeating the pattern found in France and Ireland both Greek and Spanish LFA producers have seen their relative positions improve since 1993. In the case of Spain the relative position of the LFA producer has been above the non-LFA producer since 1993, having been below before that date. In Greece the LFA producers moved from a position of lower income than the non-LFA producer between 1989 and 1992 to parity in 1993 and 1994 and better performance in 1995 and 1996.

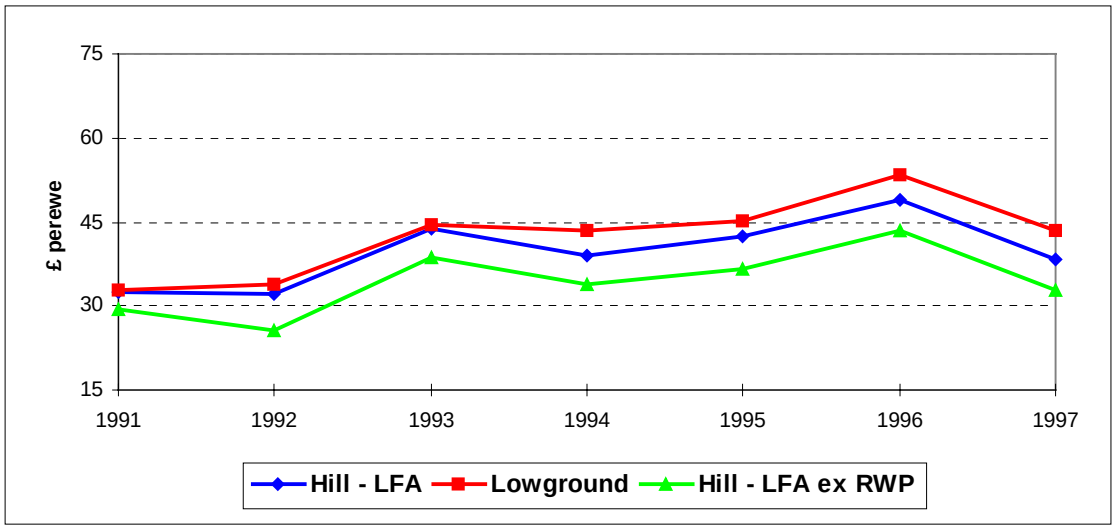
3.1.13 At Member State level considerable variation in the impact of the RWP occur. In general FNVA/AWU of LFA producers have been better than non-LFA producers since 1993. However, the northern Member States have not been able to achieve parity with overall average industry incomes. Nevertheless, when making a judgement against the objective of the RWP being a compensation for the loss of income resulting from the introduction of stabilisers which would be *"likely to have unfavourable consequences"* for LFAs the evidence leads to the conclusion that it has achieved this objective. This is because in general LFA producers have achieved better incomes than the non-LFA producers since 1992. Indeed against this criteria it could be concluded that the rate of RWP is too high and should be reduced to the levels paid in 1991 when FNVA/AWU were more likely to be comparable with non-LFA producers. However, this assertion ignores other potential impacts on FNVA/AWU including changing structures of the industry and different cost structures between LFA and non-LFA holdings. One way of validating this observation is to consider enterprise gross margins of differing production systems as this provides a means of looking purely at the sheep enterprise, ignoring other contributions to the full farm income and the fixed cost structure of the business.

3.1.14 Insufficient detail and sample sizes between non-LFA and LFA goat producers at individual Member State level makes it invalid to analyse the FADN data for goat producers in the same way as that carried out for sheep producers except for Greece (see appendix, annex to chapter 3, figure 6). In this Member State the LFA goat producer has consistently out performed his non-LFA counterpart. Since 1993 the gap in income between the LFA and non-LFA goat producer has widened.

Enterprise Gross Margins

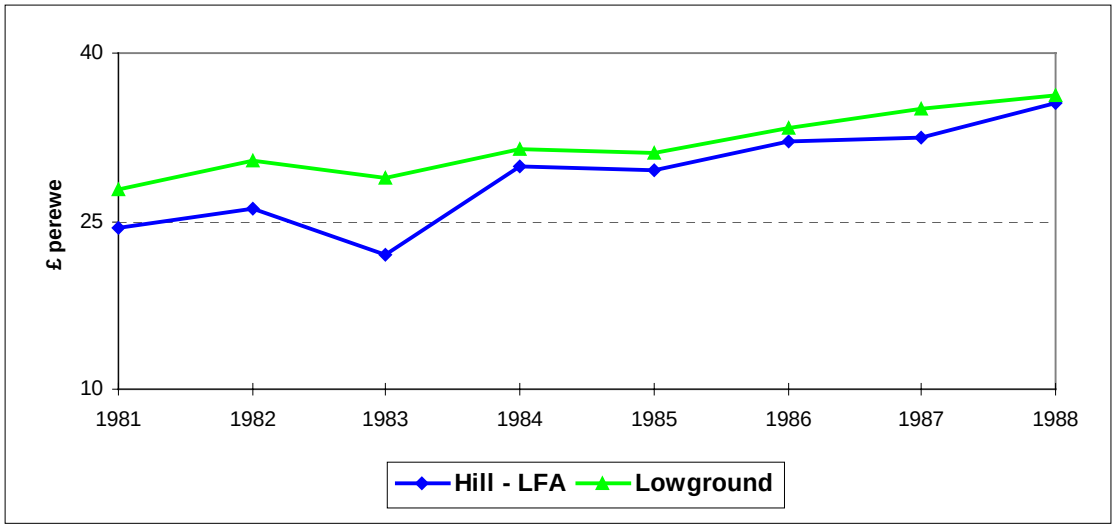
3.1.15 Chapter 1 drew attention to the paucity of a time series of enterprise gross margin data in many Member States. In deed it is only in Great Britain that enterprise data is reported in a way that an assessment of the importance of the RWP can be made. Figures 3.1.3 and 3.1.4 detail the gross margin per ewe of a lowground non-LFA production system with a hill sheep production system typical of the most disadvantaged areas of the British LFAs

Figure 3.1.3
Sheep enterprise gross margin per ewe in Great Britain 1991 - 1997



Source: MLC

Figure 3.1.4
Sheep enterprise gross margin per ewe in Great Britain 1981 - 1988



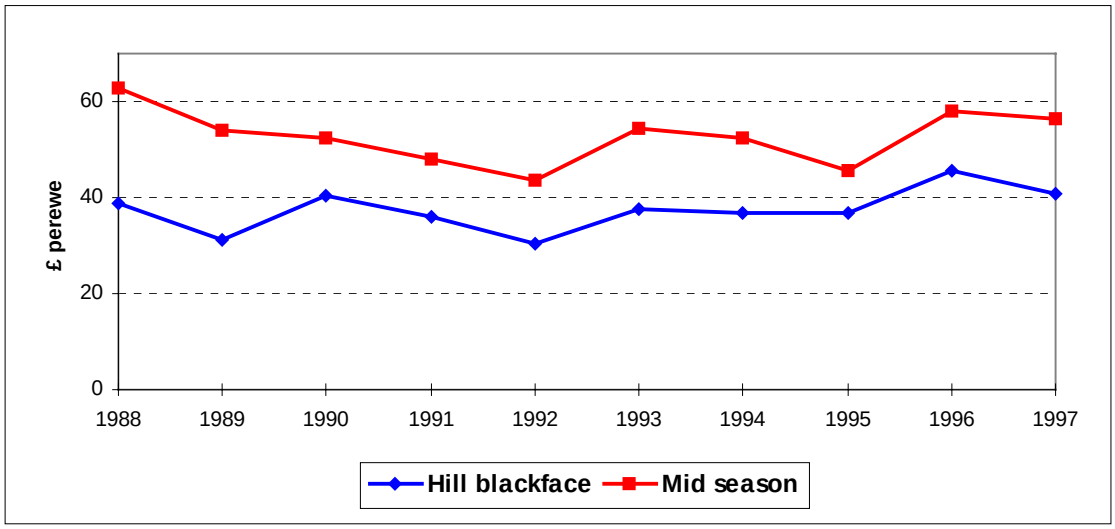
Source: MLC

3.1.16 Figures 3.1.3 and 3.1.4 show that the enterprise gross margin of the Hill LFA producer including all support payments has been very similar to, but generally lower than, the Lowground producer in both the 1980s and the 1990s. However, when the RWP payment is excluded in the 1991 to 1997 period the Hill LFA producer clearly loses and his gross margin per ewe diverges from the Lowground producer. In Great Britain the RWP payment has achieved its objective of compensating the LFA producer for any loss of income which has resulted from the introduction of the

stabiliser. This situation contradicts the full farm situation revealed by the FNVA/AWU. The differences that occur must therefore result from the fixed cost structure of the two systems in turn associated with different flocksizes and business structures.

3.1.17 Enterprise gross margin data from Ireland does not allow the identification of specific support payments. However, what it does show, Figure 3.1.5, is that those businesses in the most disadvantaged areas, Hill Blackface systems, have lower gross margins per ewe than the mid-season lamb producers who farm on more favoured areas. Table 3.1.1. details the proportionate difference between the gross margins of the two systems in Ireland. Thus in 1988 hill blackface gross margins were 38% lower than the mid season gross margins. The difference between the two system fluctuates widely between years and it is not possible to conclude that the difference has narrowed since the introduction of the RWP however, neither has the gap widened. Without the rural world premium the gap in gross margins between the two systems would have widened. Consequently, the RWP is important in maintaining the relative position of the two production systems and must be considered to meet the objective of the RWP preventing *"unfavourable consequences"* which may have arisen from the introduction of budget stabilisers.

Figure 3.1.5
Sheep enterprise gross margin per ewe in Ireland 1988 - 1997



Source: National Farm Survey, TEAGASC

3.1.18 Analysis of Irish Gross Margin data, like the British Gross Margin data, does not wholly support the results of the full farm analysis. While lower hill blackface sheep gross margins would concur with the lower LFA FNVA/AWU (Annex to chapter 3 figure 2) from 1989 to 1993, it does not support the improvement in relative positions which occurred since 1994. Structural differences in farm size and the fixed cost base are playing an important part in the differences between the FNVA/AWU and the enterprise gross margin per ewe.

Table 3.1.1
Proportionate difference in sheep enterprise gross margin per ewe in Ireland 1988 - 1997

	% difference between hill gross margin and mid season gross margin		% difference between hill gross margin and mid season gross margin
1988	38	1993	30
1989	42	1994	29
1990	22	1995	19
1991	24	1996	21
1992	30	1997	27

Source: National Farm Survey, TEAGASC

3.1.19 Extending the enterprise gross margin analysis to other Member States was not possible because suitable sources of enterprise gross margins over an extended time period could not be identified. Consequently, the results from Britain and Ireland can only be used to inform the debate in relation to these two Member States and to draw attention to contradictions in income data which may exist in other Member States.

Conclusion and Recommendations

3.1.20 Analysis of FNVA/AWU clearly identify a change point in time series data coinciding with the introduction of the RWP in 1991 and more particularly with the increase in the RWP introduced in 1992. At or around these dates full farm income indicators show LFA specialist sheep farmers across all Member States to have achieved better relative income positions than their non-LFA counterparts. The improvement is such that it could be concluded that the current RWP is set too high to compensate producers for loss of income brought about by the introduction of stabilisers to the CMO. However, in trying to validate this finding by isolating the sheep enterprise from the whole farm situation by using gross margin analysis a contradictory situation is revealed for Britain and Ireland. In Great Britain the RWP is fundamental to hill sheep enterprise gross margins being within 10% of lowground sheep gross margins and holding their long term relative position to the lowground producer. Consequently for Great Britain it is concluded that the RWP premium is set at a satisfactory level to maintain the income position of the LFA sheep producer. A similar analysis in Ireland shows hill producers to under perform producers in more favoured areas at the gross margin level. However, the relative position between the two production systems has changed little over time so that the RWP payment is again of fundamental importance to the two production systems maintaining their relative income levels.

3.1.21 The results of the assessment of FNVA/AWU and Gross Margins in relation to LFA and non-LFA producers illustrate the difficulties of apply a common policy measure across all Member States. In Great Britain, the RWP payment is shown to be sufficient for LFA gross margins to match non-LFA gross margins and leads to the judgement that the RWP is set at an adequate level. When Ireland is considered the LFA gross margins are shown to consistently fall short of the non-LFA gross margins, but that their relative positions have been maintained. In this situation it is concluded that the RWP is set at a level which does not distort the long term situation, but if it was to fully compensate for the handicaps of the LFA and bring all enterprise gross margins to the same level then it is set too low. However, the objective of the RWP was to maintain income at the levels occurring before the introduction of the budget stabilisers, it is the role of Regulation 950/97 to compensate for the physical handicaps of the LFA producer. Set against this interpretation of the sheep and goat CMO then the RWP is set at an adequate level in Ireland.

3.1.22 However, when full farm incomes are considered across all Member States then two further variables are revealed as impacting up on the analysis, namely those of the fixed cost structure and the physical structure of the holding. Throughout all Member States considered at the full farm level the LFA sheep producer is shown to have improved his position relative to his non-LFA counterpart since 1992. Contrasting this with the gross margin analysis carried out for Britain and Ireland where the gross margins of the LFA producer are equal to lowground producers in Britain and below lowground producers in Ireland the difference at FNVA/AWU level can only be accounted for by different farm structures.

3.1.23 Before reaching a final conclusion on the adequacy of the RWP one further dimension should be considered. That is that a general policy objective of CAP is to maintain production and income in LFAa. It is acknowledged that for many parts of the LFAs sheep production is the only, or one of the few, agricultural enterprises that can be carried out. Consequently the LFA producer FNVA/AWU for sheep or goat production should be close to the all farm average for that Member State even if it is better than a non-LFA producer who could consider other enterprises. The analysis of the FNVA/AWU shows that within the EU as a whole the FNVA/AWU of specialist LFA sheep producers was similar to the all farm average in 1992, 1993 and 1994 but has fallen back since then, and that since 1992 the LFA sheep producer has achieved better FNVA/AWU than his non-LFA colleague.

3.1.24 Having regard for the objectives of the CAP and sheep and goatmeat CMO policy objectives and considering the apparent contradictions in the indicators chosen, FNVA/AWU and enterprise gross margins, it is concluded that the RWP is set at a level which, in conjunction with the compensatory allowances provided for by Council Regulation 950/97, is adequate to compensate for the specific handicaps of the sheep and goatmeat producer in the LFA.

3.2 DID THE CMO FOR SHEEP AND GOATMEAT HAVE SIGNIFICANT EFFECTS ON THE QUALITY OF THE ENVIRONMENT

Introduction

3.2.1 The sheep industry throughout the European Union is concentrated in some of the most environmentally sensitive and ecologically valuable areas of Europe. Consequently the management of the environment in these areas is greatly influenced by the presence of sheep grazing and the human activity associated with sheep farming in these areas. In Northern Europe sheep have traditionally grazed both hill and mountain areas and lowground marsh land where few agricultural alternatives exist. Some of these areas are world renown for their biodiversity and ecological value e.g. the Cairngorms, English Lake District, Romney Marshes, Western Ireland, the Pyrénéés. In southern Member States, traditional sheep farming practices, for example transhumance and dryland arable/livestock farming systems, have played significant roles in the management of hill and upland scrub woodland pastures and dryland arable areas e.g. the *Dehesas* in Spain, the Luberon Region of France, Abruzzi in Italy and Pertouli in Greece. Thus, changes in the structure and management of the sheep sector has potential to have a major impact on the environment. Consequently this section seeks to address the following question.

> *Did the CMO for sheep and goatmeat have a significant effect on the quality of the environment, in particular as concerns:*
>
> *Overgrazing expressed in livestock units per hectare*
>
> *Maintenance of landscapes of ecological value*
>
> *Prevention of fires*

3.2.2 To address this question, firstly the relationship between sheep and goat management practices and the environment will be discussed so as to establish ways in which sheep and goat husbandry may impact up on the environment. Secondly, attempts will be made to quantify the extent to which changes in the environment may have taken place since 1992 in those areas heavily dependent up on sheep. For the effect to be significant any changes identified will have to have resulted in a 5% change in the indicator chosen since 1992. Nevertheless, the relationship between, man, animal and the environment can take a considerable period to reveal itself.

3.2.3 Establishing suitable *indicators* by which to assess the quality of the environment is complex. Nevertheless, the core indicators proposed for this evaluation are, *the number of sheep and goats per hectare*, which is used to reflect on the issue of overgrazing, *physical descriptors of the landscape e.g. area of land types, bird populations, invertebrate populations,* which can be used to assess the maintenance of landscapes and *the number of forest fires per year and the area of forest effected* which can be used to consider the issue of the prevention of forest fires. A fuller discussion of these indicators is included in the introduction to each sub-section of this section.

The interactions between sheep and goat management practices and the environment.

3.2.4 Interactions between sheep and goat management practices and the environment are complex. Environmental impact can result through the selective grazing habits of sheep and goats, the density of sheep and goats creating physical damage to land cover, the use of supplementary feeding resulting in animals congregating at a single point and the increased use of anthelminthics, herbicides, and fertilisers. A review of the relationship between sheep husbandry and the environment in the UK and Spain can be found in Ashworth *et al.* (1997). Furthermore, human activity associated with sheep and goat husbandry, for example transhumance and daily movement of sheep around pastures also impacts on the ecological environment by preventing concentration of grazing at one point in the landscape. The presence of humans in the countryside also impacts on the environment through maintenance of field boundaries, water courses and vernacular buildings, by the cutting of shrubs for firewood and by the controlled burning of shrubs to maintain open landscapes. Human presence also helps to prevent wildfires by early identification and control.

3.2.5 On the extensive pastures and grazings of northern European Member States the balance of mixed herbivore grazing can have consequences for the ecological balance of the environment. In The United Kingdom and Ireland the combined grazing of cattle and sheep (and wild herbivores e.g. deer) has been a traditional husbandry practice on many rough grazings and the changing balance between animal species can have an impact up on the environment through the different grazing habits and "footprint" (physical size of animal and related ground pressure) of the species. Consequently in this later case it is not only the total stocking density which impacts on the environment but the balance of animal species within that total stocking density. In some southern European Member States, e.g. Spain, the availability of irrigation water has played a major part in changing the enterprise mix on some dryland arable/livestock systems. Irrigated cereal crop production has resulted in the replacement of seasonal sheep grazing in some parts of Spain by intensive arable cropping. In these situations, **policy measures in other commodities, e.g. beef production and cereal production, and structural policy initiatives, e.g. water supply, have an affect on the sheep and goat sector which is independent of the commodity policy for sheep and goats**. For this reason **we would recommend caution in attributing the cause of environmental change to individual commodity regimes**. While recognising that these interactions between policy measures are important this report does not address them and **we recommend that an evaluation of the inter-relationships between independent policy measures is carried out**. Nevertheless, a changing structure of the sheep sector can impact on the environment in a number of ways, particularly through changing the grazing balance which can lead to over or under grazing and changes in biodiversity which in turn can lead to significant risk of landscape change through for example fire and erosion. These issues are discussed further in the following sections.

Grazing Balance

3.2.6 Changes to the number and distribution of sheep, along with changes to the number of shepherds and farming practices can impact on the environment. One of the most visible changes that may occur as a result of changing grazing balance is over or under-grazing. The most easily measured *indicator* of grazing balance is that of stocking density per hectare of land. However, while this measure provides a crude measure of grazing pressure it has a number of weaknesses. Firstly by considering all land no recognition is taken of the land not used for sheep grazing, for example cropping areas. Secondly, in its simplest form stocking density takes no account of the balance between herbivore species and the number of wild herbivores is difficult to incorporate into the calculation. Thirdly, environmental impact of grazing pressure can be heavily influenced by the seasonal pattern of that grazing pressure. To incorporate this circumstance into a single grazing density indicator is difficult if not impossible. Fourthly different land types and different regions can demonstrate different grazing affects at the same stocking density and so it is impossible to define a single grazing density threshold at which environmental change occurs. Furthermore, in most Member States, the impact of changed grazing balance is often of a localised nature occurring around feed facilities, water sources, villages (as a consequence of the ending of transhumance) or animal accommodation.

3.2.7 Access to land can also be a problem in relation to grazing balance by preventing animals from grazing in some parts and leading to concentration in other parts. Problems of access to land can result from poor infrastructure e.g. roads, water sources, accommodation for shepherds, or through land owners not being willing to allow grazing preferring instead to keep areas free of livestock to allow hunting or the gathering of wild fruits etc.

3.2.8 The problems of grazing balance can also be heavily influenced by the structure of land ownership and tenure. In the West of Ireland, for example, in the late 1990s over-grazing on common (shared) pastures was recognised to be occurring. In this land tenure situation each farmer has the right to use a proportion of the common land however he chooses. By contrast in the UK, the use of common (shared) grazing is determined not by a share of the area a farmer can use, but by a limit on the number of animals he can graze on the shared facility. In France the use of common grazings often carries an obligation to graze different numbers of animals at different times of the year. However, in all Member States, the efficient use of common grazing requires a number of farmers to agree on management practices; achieving this agreement is not always easy!

3.2.9 Nevertheless, as an indicator of change and potential impact of grazing on the environment, changes in stocking densities have been considered, Table 3.2.1. Figures 3.2.1 and 3.2.2 show the change in sheep stocking density over the period 1988 to 1997. In this analysis stocking density has been taken as the total number of sheep divided by the utilised agricultural area (UAA).

3.2.10 Against the criteria of a significant change being a 5% change in stocking density between 1992 and 1997, **the European Union of twelve Member States**

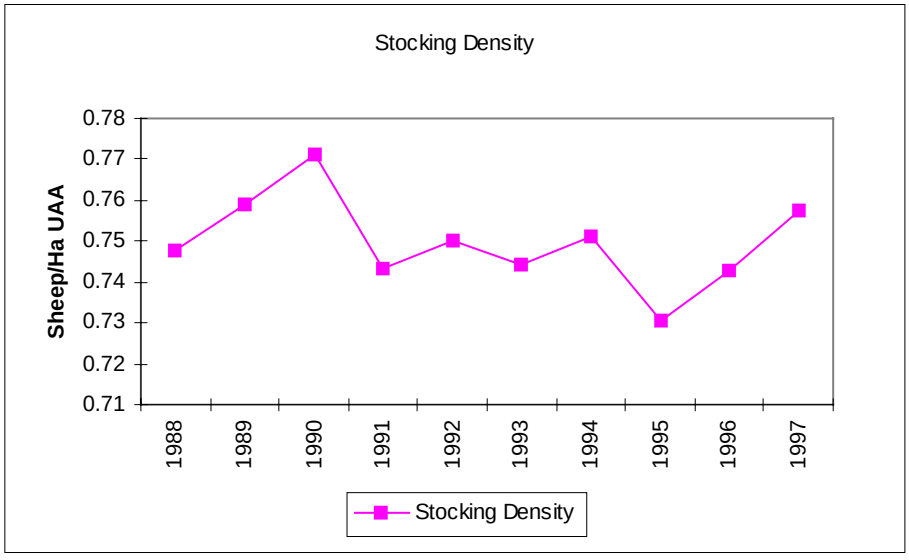
shows no significant change in grazing pressure due to sheep. However, significant regional variations are shown in table 3.2.1, and all Member States with significant sheep populations show a significant change in sheep stocking density**. Greece, France and Ireland all show a reduction in stocking density while the UK and Spain show an increase in stocking density**. Nevertheless, for the reasons outlined above this indicator is a weak measure of the potential environmental impact of grazing pressure.

Table 3.2.1
Change in stocking densities

	88-97	92-97	88-97	92-97
	Per cent change in stocking density			
	Sheep/ha UAA		Sheep & Goats/Ha UAA	
EU - 12	1	1	n/a	n/a
UK	20	13	n/a	n/a
Greece	-10	-8	-7	-6
Spain	9	8	5	0
France	-13	-8	-13	-4
Ireland	20	-10	n/a	n/a

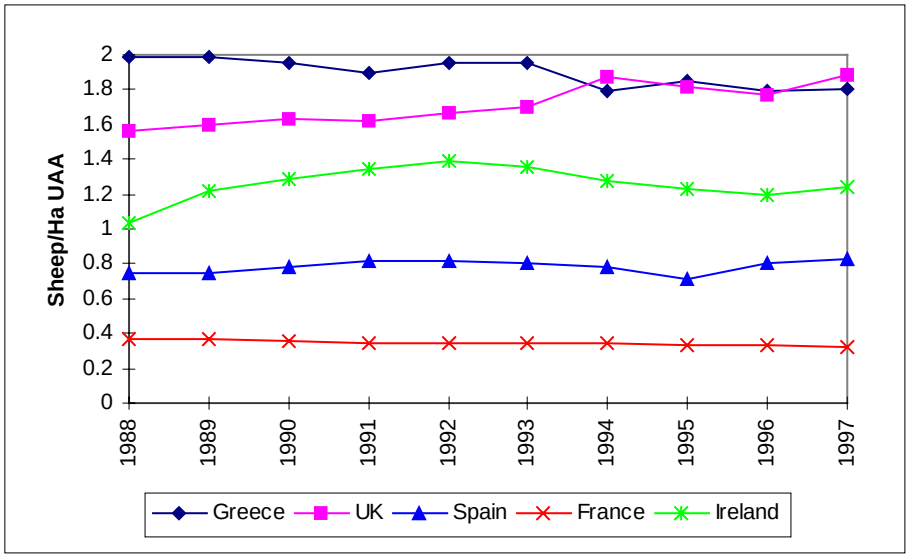
Source: Derived from Eurostat (1998)

Figure 3.2.1
Number of sheep per hectare UAA in the EU - 12



Source: Derived from Eurostat (1998)

Figure 3.2.2
Number of sheep per hectare UAA
in major sheep producing Member States



Source: Derived from Eurostat (1998)

3.2.11 An alternative stocking density measure is to consider the sheep stocking density per hectare of permanent grass, Table 3.2.2

Table 3.2.2
Change in stocking densities of sheep per hectare
of permanent grassland

	88-97	92-97	88-97	92-97
	Per cent change in stocking density			
	Sheep/ha UAA		Sheep & Goats/Ha UAA	
EU - 12	7	2	n/a	n/a
UK	24	18	n/a	n/a
Greece	-10	-8	-8	-6
Spain	2	-4	-2	-4
France	-6	-1	-4	0
Ireland	43	6	n/a	n/a

Source: Derived from Eurostat (1999)

3.2.12 On the basis of this alternative indicator again **no significant change in stocking density has taken place at an EU level since 1992**. Similarly, regional differences are apparent with **significant increases in stocking density occurring in**

the UK and Ireland and significant decreases occurring in Greece. Spain and France show no significant change when using this indicator. It should be noted that by comparing the indicators in table 3.1.1 and 3.1.2 that the grazing density changes in Ireland change from a reduction in grazing pressure to an increase in grazing pressure. The reasons for this are not immediately apparent but table 3.1.1 implies a reduction in ewe numbers has occurred. However, in combination with table 3.1.2 the implication is that although there are fewer sheep they are being farmed more intensively as permanent grassland has been switched to other crop enterprises. Consequently, this situation illustrates that using sheep numbers per hectare of permanent grassland has the weakness that it does not include rotational grassland which is recorded as part of the arable crop cycle. Neither does it reflect the sheep farming practises of some Member States, for example Spain, where sheep are routinely grazed on arable stubbles.

3.2.13 In spite of the weaknesses of the indicators used one can draw the strong conclusion that the application of a CMO for sheep and goatmeat has contributed to significant regional variations in response to the policy signal. Consequently, the impact of the CMO on grazing pressure is not consistent among Member States.

3.2.14 However, while changes have undoubtedly occurred proving cause and effect with the CMO is more difficult. **Indeed on the basis of sheep quota use one can conclude that the CMO has had no significant impact on the grazing patterns because all Member States have surplus rights remaining in their national entitlements, Table 3.2.3, consequently there are fewer sheep grazing the land. However, as illustrated by the Irish situation above, this is a flawed argument because it assumes that the area of land used by sheep is unchanged**

Table 3.2.3
Proportion of quota rights used in 1998

	Per cent used
EU	92.52
UK	98.38
Greece	92.23
Spain	96.50
France	89.39
Ireland	93.10

3.2.15 Environmental changes associated with changing grazing balance can be grouped into three categories;

Overgrazing,
Landscape maintenance; and
Fire prevention

Overgrazing

3.2.16 Overgrazing is a very difficult concept to define, and without a workable definition it is difficult to assess the impact of any policy measure on the feature. Most definitions of over grazing are subjective, for example in the UK article 9 of the CMO for sheep and goatmeat is implemented by withholding support where "*land is grazed with too many livestock so that growth, quality and diversity of the vegetation is adversely affected*". (MAFF, 1996)

3.2.17 In the UK since this subjective clause was introduced the number of premium claims rejected have been less than 0.01% of all claims and on **the basis of this indicator over-grazing is not a significant problem in the UK**. Nevertheless, the environmental agencies of the UK would not concur with this conclusion and will draw attention to specific examples where they consider overgrazing to have occurred and where producers have not been penalised. Discussions with the administrators of the sheepmeat CMO in the UK however, highlight a conciliatory approach to the issue of overgrazing. They acknowledge that overgrazing may be more wide spread than the above indicator would suggest, however they prefer to warn the producer that if he does not modify his grazing practices he will in future lose some or all of his sheep premium. To further encourage changes in management practices and encourage improvements in the natural environment a number of aid packages have been proposed which compensate producers for reducing sheep numbers in some situations.

3.2.18 In paragraph 3.2.8 it was noted that in the past overgrazing had occurred in the West of Ireland but the use of agri-environmental funds to compensate for reducing sheep numbers had reduced the problem. Consequently, although it is difficult to conclude that the CMO has led to more than sporadic instances of overgrazing it cannot be denied that increased sheep grazing pressure has occurred alongside the evolution of the sheep and goatmeat CMO, tables 3.2.1 and 3.2.2 and figures 3.2.1 and 3.2.2.

Landscape maintenance

3.2.18 Sheep farming is carried out across a wide range of landscapes from montane to lowland grazing marshes. The impact of changes in sheep grazing on landscape biodiversity is therefore complex. Grazing balance is recognised to have an impact on the species mix found within the grassland. Grass cover is also considered to have an important role to play in the ecology of grassland birds, particularly ground nesting birds. Furthermore several husbandry practices, particularly associated with animal health, are implicated in changes to biodiversity associated with invertebrate populations. In this latter case it is difficult to demonstrate cause and effect between the CMO and husbandry practices although the two are clearly related.

3.2.19 The increasing use of fences to control sheep, with free grazing inside these fences, instead of traditional shepherding practices also has an influence on the landscape by changing animal grazing behaviour and restricting the free movement of fauna. While it is difficult to conclude that these changes are a direct response to the

sheep and goatmeat CMO they are the result of the necessity of farmers to reduce man power costs in an effort to achieve a fair standard of income.

3.2.20 To provide a response to the role of sheep in preserving landscape biodiversity requires an analysis of a considerable range of indicators from physical measures of the area of different landscape types within Member States and the EU to changes in bird populations, grass species mixes and invertebrate numbers. While indicators of these type exist it has not been possible within the time scale of this evaluation to make a judgement of the impact of the sheep and goatmeat CMO on landscape maintenance. Nevertheless, it is considered that the impact of the sheep and goat CMO on grazing pressure and fire prevention are suitable surrogate indicators of landscape maintenance from an ecological and biodiversity perspective.

Fire prevention

3.2.21 Sheep and goat husbandry in many Southern Mediterranean Member States has been associated traditionally with seasonal grazing of pastures and the many shrubs associated with them, for example the *mattoral* in Spain and *garrigues* in southern France. These grazing practices have played an important role in managing scrub woodland and fire prevention by preventing the build up of an understorey of combustible material. In some situations sheep and goat grazing has been used to manage fire breaks, (Ashworth *et al. 1997*).

3.2.22 In the opening section of this chapter it has been shown that in Spain, Greece and France that stocking densities of sheep and goats have declined. Changes in farming systems to include more intensive land management around villages (Ashworth *et al. 1997*) has also led to abandonment of the grazing of peripheral scrub woodlands. These changes in farming practice can lead to increased incidence of forest fire, table 3.2.4. However, a different experience is shown in other parts of Europe. Hetier (1993) showed that although the incidence of fire had increased in Spain and Greece over the 1980 to 1990 period the incidence of fire had declined in Italy and was little changed in France. Hetier concluded that the incidence of fire was influenced by a complex mix of animal husbandry and human activity including changes in cultural activities like the cutting of scrub woodlands for fuel.

3.2.23 On the basis of this limited examination it is concluded that **the incidence of forest fires has increased in some Member States and declined in others since the introduction of the CMO for sheep and goats. It is unclear therefore the extent to which structural changes in the sheep sector can be associated with the incidence of fires.**

Table 3.2.4
Forest Fires in Mediterranean Countries of the EU. 1970-1990.

		1970-75	1975-80	1980-85	1985-90
Spain	Number of fires :/year	3175	5612	8314	12078
	Area burnt (000 ha / year)	100	232	246	283
France	Number of fires :/year	3559	5550	3651	3873
	Area burnt (000 ha / year)	39	44	41	39
Italy	Number of fires :/year	4924	4074	11854	10167
	Area burnt (000 ha / year)	66	88	164	126
Greece	Number of fires :/year	-	1620	1184	1370
	Area burnt (000 ha / year)	-	28	50	63
Portugal	Number of fires :/year	-	-	-	-
	Area burnt (000 ha / year)	-	-	55	92

Source : Hetier, 1993.

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CHAPTER FOUR

CONCLUSIONS AND RECOMMENDATIONS

4.1.1 This report has been complied to assess three principle issues. Each question has been addressed in detail in the preceding chapters of this report. This final chapter draws together the conclusions and recommendations arrived at during the preparation of these chapters. The three principle issues addressed were:

- The impact of the premia and their fixation on producers' income (Chapter one);
- The impact of the market organisation for sheep and goatmeat production (Chapter two); and
- The impact of the CMO for sheep and goatmeat on rural areas and on the environment (Chapter three)

THE IMPACT OF THE PREMIA AND THEIR FIXATION ON PRODUCERS' INCOME

4.1.2 To address the issue of the impact of the premia on producers' incomes the core indicator of Farm Net Value Added per Agricultural Work Unit of specialist sheep and goat farms has been used. However, because a significant proportion of the sheep and goat flock are found on mixed farm business, where possible the results have been validated by considering enterprise gross margins. Using these indicators a number of questions have been evaluated including:

- The extent to which the level of premia is fixed in an adequate way to maintain the income of sheep and goatmeat producers (section 1.1):
- Has the system of premia and individual limits changed in a significant way the distribution between categories of holdings? (section 1.2)
- Is the differentiation of premia by categories of producers relevant? (section 1.4)
- The analysis then turned to consider the way in which the premia is fixed by considering how relevant the respective elements of the method of calculation are, (section 1.3) and
- How far the method of calculating the aid is compatible with and effective management and administration, (section 1.5).

The conclusions reached in this evaluation are summarised below.

Level of income

4.1.3 With regard to maintenance of sheep and goatmeat producers' incomes it is concluded that:

- At the all EU level the FNVA/AWU of sheep producers was generally lower than the all producer FNVA/AWU throughout the period from 1989 to 1996. Nevertheless, it improved from a low point in 1990 to achieve parity in 1992 and 1993 before loosing ground in 1994, 1995 and 1996. Only in the period 1992 to 1994 was the specialist sheep producer FNVA/AWU within 10% of the all farm figure. In all other years the income of the specialist sheep producer is judged to be significantly below the all farm performance. Over the period 1989 to 1996 specialist goat producers have been unable to match or come within 10% of the FNVA/AWU of the average producer in the European Union. Excluding sheep and goat subsidies results in both sheep and goat FNVA/AWU falling well short of the all farm average. Indeed it should be noted that between 1992 and 1995 the nominal FNVA/AWU of specialist sheep producers excluding subsidies declined and the subsequent recovery in 1996 only brought the nominal FNVA/AWU back to the level recorded in 1992.

- When specialist sheep and goat farm incomes are restated at 1996 ECU purchasing power, without the support payments the real FNVA/AWU of both sheep and goat producers has at best been maintained and at worst declined slightly. When the support payments are included in the FNVA estimates a small improvement in real FNVA has been achieved for both sheep and goat producers.

- **At the level of the EU, the level of premia has been broadly set at a level which allows specialist sheep and goat producers to maintain their real income levels.** Considerable variation occurs between years as to the relative position of specialist sheep and goat producer incomes against the all industry average and no consistent trend can be identified to show that sheep and goatmeat producers have improved their relative position to the rest of the industry.

- **The situation in individual Member States shows considerable variation from the all EU position.** The incomes of specialist sheep and goat producers in some Member States (the UK, France, and Ireland) are shown to consistently fall short of the industry average for the country while others consistently achieve better results than the all farm average (Greece). Similarly some Member States show growth in nominal incomes (the UK and Spain) while others show a static or declining situation (France and Ireland). Variation in income trends between Member States adjusted to 1996 purchasing power are also shown to exist. Most notable is the steady decline in the real value of Greek sheep farmer incomes compared to the maintenance of real incomes in Ireland and France and growth in Spain and the UK.

4.1.4 **Consequently it is concluded that** a common rate of permia for all Member States makes a significant contribution to the maintenance of producers' income. However, the diversity of production systems across Member States results in substantial variation in the impact of the premia on producers' results in a situation where **the level of premia cannot be consider to be set in an adequate in order to maintain the income of sheep and goat producers in different Member States.**

Individual limits

4.1.5 With regard to the system of premia and individual limits changing in a significant way the distribution of income between categories of holdings it is concluded that:

- The FNVA/AWU increased by a greater proportion for specialist meat producers between 1990 and 1996 than it did for specialist dairy producers or those holdings with a mixed meat and dairy production system. However, while dairy sheep have the lowest FNVA/AWU at a global EU level, at a country level, they have generally better or equal results than meat sheep in each country. This divergence between the EU global situation and individual Member State results from the weighting of the UK and Ireland, where there are no significant dairy flocks, in the EU average.

- Since 1992 specialist sheep producers in the LFAs have achieved a better FNVA/AWU then their counterparts in the non-LFAs.

- Over the time period considered there has been structural change in the distribution of the sheep population. The number of holdings keeping sheep have declined and the proportion of ewes in the largest flock sizes has increased in all Member States. Sheep husbandry is more and more specialised and less and less a complementary activity in multiple purpose farms. This is more the result of a long trend of other farm activities which are themselves more and more specialised, than an effect of the CMO. It is likely that this trend would be faster if the ewe premium was not there as without the premium payments FNVA/AWU would have declined in real terms causing economic hardship for producers who, as a consequence, would have been likely to leave the industry.

- It is concluded that redistribution of income has occurred to a limited extent with more income being diverted to the LFA producer and the bigger producer. However, this change is associated with structural change in the industry which is the result of a complex interaction of all commodity regimes, the business environment and personal circumstance. **Consequently, cause and effect cannot be identified with the sheep and goatmeat CMO and no judgement can be reached on the level of significance of the CMO on the redistribution of income.**

Differentiation of producers

4.1.6 The relevance of the differentiation of premia by category of producer was assessed by considering two factors, the physical importance of the categories determined by the distribution of animals in the different groupings, and the difference in incomes between the different systems. However obtaining suitable financial data was difficult (see paragraph 1.4.11. to 1.4.19) and the financial results presented have to be considered as indicative of the situation. Nevertheless, it is concluded that:

- Dairy ewes account for almost 30% of the EU ewe population and she-goats represent 10% of total ewes plus she goats at EU level. Considering a 10% threshold as being the point at which the number of animals in any specific category justifies consideration as a distinct part of the population then it is concluded that both dairy sheep and goat production systems should be considered as distinct production systems for support purposes. Equally the majority of sheep and goats in the EU are farmed in the LFA so on the same 10% threshold basis it is justified to consider the LFA and non-LFA producers as distinct groups. This does not however mean that they should necessarily receive different rates of support.

- Considerable variation in trends in producer incomes occurs between Member States. Milk oriented enterprises achieve a higher Farm Net Value Added per Annual Work Unit (FNVA/AWU) in Italy and Spain even though they receive less animal subsidies. In France and Greece the FNVA/AWU from sheep milk farms and sheepmeat farms are of a similar level. With the exception of France and Greece, milk orientated farms achieve a considerably higher FNVA/AWU as a result of milk production (22% in Italy and 32% in Spain) even though dairy sheep farms have a much higher cost base and require more labour than meat enterprises.

- Considerable variation also occurs in income trends among goat producers. In the case of Greece, goat producers reach a higher FNVA/AWU than in the case of milk sheep producers. In Italy, results are comparable while in France goat producers earn around a 25% less than sheep milk producers. In Spain goat producers were shown to be achieving FNVA/AWU similar to the agricultural average and above sheep producers.

- However, considerable differences exist in the cost structures and levels of support given to this sector between Member States. Furthermore, the limited availability of suitable income data require that the conclusions be considered indicative of the situation. Consequently**, because of these substantial differences in the cost structure between goat, sheep milk and meat enterprises and the lack of comparable enterprise costing data between Member States it is not possible to make a judgement on the appropriateness of the current differential.**

Elements of the calculation

4.1.7 With regard to the way in which the premium is calculated and the relevance of the respective elements a complete review of the elements was carried out. On the assumption that a "deficiency payment" is the optimal way to support the sheep and goatmeat sector, three core and relevant components of the system were identified, namely: the basic price, the market price and the technical coefficient. The following conclusions were reached.

- In the context of a deficiency payment system, the calculation of a basic price is fundamental to the operation of the CMO. The criteria used to derive the basic price, as defined in Council Regulation 2467/98, are logical influences on the market place and are therefore considered to be relevant. However, the vagueness and lack of transparency of the actual indicators used to measure each criterion leads the consultants to question the *detailed* process/method by which the basic price is determined. It must be concluded that the mechanism is politically motivated and largely subjective.

- The process of arriving at the market price is complex and has several inherent weaknesses. The greatest weakness is the inability of the process to accurately represent differences in the range of weights across Member States, where there is a variance in prices at different weights of lamb. A second major weakness is the use of a liveweight to deadweight coefficient which does not appear to be based on recent research into typical killing out percentages, and which does not vary by seasonality of production or weight of lambs. A third weakness is the lack of representatives of deadweight selling in the calculation. A final weakness is the absence of goats from the calculation of the market price and the associated question raised over the accuracy of the market price for those Member States where goat production is significant.

- There are two categories of weakness in the calculation of the technical coefficient. The first category relates to the 'non-calculation' of the coefficient for Greece, Spain, Italy and Portugal, and the use of the 0.131 figure. There appears to be no obvious reason for this figure and no information exists regarding its calculation. For example, given the information in Table 1.3.3 it is clear that this figure is not an accurate representation for Spain or Greece. The second category of weakness relates to elements of the calculation for the remaining Member States. For example, the figures of 15% gross indigenous production coming from ewe carcases, and 7 kg of meat from light lambs are based on assumptions that may not be accurate. Likewise, the premium given to light lamb and goat producers is not based on a technical coefficient for light lambs/goats, but on the heavy lamb coefficient.

- Final payment of a premium based on an averaging process will result in winners (those where individual Member States have an average price

above the average and/or the technical coefficient below the average) and losers (those where individual Member States have an average price below the average and/or the technical coefficient above the average). It is concluded that the averaging process does indeed produce winners and losers. It is also demonstrated that wins are not necessarily balanced by loses. For example, from the illustration 1.3.69 -1.3.73, Spain wins both for technical coefficient and market price estimates, whereas UK and Ireland lose for both elements. However, this analysis should be seen within the context of the final outcome: lamb income per ewe. When this is considered it can be seen that Spain has a *lower* income than all other Member States illustrated, whereas France had a higher than average lamb income per ewe and Ireland's position in relation to the EU average fluctuated between years.

Effective management

4.1.8 With regard to effective and efficient management and the need for the complexity that currently exists it is was considered that the ratio of administrative cost to the support budget would be a suitable indicator from which to make an assessment. However, it quickly became clear that such information was not readily available among Member States. Consequently a more pragmatic view was taken of simply reviewing the level of complexity in comparison to other systems. The following conclusions were reached:

- On a practical level the administrative complexity of the sheep and goat CMO is considerably greater than for several other commodity regimes with larger budgets. Many of these complexities are forced on the regime by retaining the deficiency payment principle.

- In respect of producing timely data the current mechanism is considered to be effective because the EU is able to report an all market average price within one week of the end of the marketing week being reported upon. Nevertheless, a number of the weaknesses already identified bring into question the extent to which the price reported is a fair and accurate estimate of the average market price for heavy lamb in the EU.

- In principle the method of calculating the technical coefficient provides an effective means of calculating the weight of lamb produced per breeding ewe. Determination of the technical coefficient to be used in the calculation of aid is an area where a number of simplifying actions are taken (see paragraph 1.5.17) which while improving the efficiency of the process are likely to reduce the effectiveness of the process.
- Although it is concluded that the mechanism for calculating the aid in general provides an effective means of managing and administering the CMO against its chosen policy mechanism of deficiency payment, because it delivers the necessary information for the calculation of the deficiency payment to be made, it does not necessarily result in an efficient or an accurate estimate of income loss.

- Having regard for the complexity of a system which requires information on both prices and production for transformation through a complex conversion process into a headage payment and where each transformation process adds further doubt to the accuracy and validity of the final outcome, it is concluded that the current administrative complexity does not provide good value in proportion to the aids available.

- A deficiency payment by definition needs to establish the difference between actual market prices and the politically determined basic price and consequently requires weekly market price reporting to establish the income loss. Additionally, as the deficiency payment is paid on the basis of production per ewe the necessity to calculate a technical coefficient remains. Consequently, it is concluded that the only way in which a significant reduction in the administrative complexity could be achieved would be by abandoning the principle of a deficiency payment as the means of supporting the sheep and goatmeat sector and replacing it by some form of fixed headage or area payment. This would remove completely the requirement for calculations of technical coefficients and income loss.

- The need for price reporting would remain for as long as Private Storage Aid (PSA) remained as an option for supporting the sheep sector. PSA has not been evaluated in this report. Nevertheless, there remains a requirement for market price information to be collected so as to be able to trigger PSA. Furthermore, to be effective PSA needs to be triggered quickly thus, it requires weekly price information. To remove the administrative complexity of market price reporting completely would require the abandonment of PSA as a market intervention measure.

THE IMPACT OF THE MARKET ORGANISATION FOR SHEEP AND GOATMEAT PRODUCTION

4.1.9 To address the issue of the impact of the market organisation for sheep and goatmeat production and to inform this debate the following questions were considered:

- Do individual limits have a significant impact on the level of supply? (section 2.1);

- To what extent has the CMO allowed producers to adapt to market signals (section 2.2);

- To what extent does the system of premia allow for improvements in effectiveness and efficiency of planning and management of holdings (section 2.3);and

- In which way did the elements of the CMO permit producers to develop quality production? (section 2.4).

Availability of supplies

4.1.10 Availability of supply will be influenced by three issues, the number of breeding animals, the number of animals slaughtered and carcase sizes. The objective of the quota system was to control supply, prevent over supply and therefore to improve market stability. Consequently to be significant the level of supply since 1992 should have been stabilised: it is against this criterion that the question was assessed. With regard to the impact of individual limits on the level of supply it is concluded that:

- Since 1992 breeding ewe numbers have declined in all Member States, with the exception of Italy, from the level found in the reference year chosen by individual Member States for the establishment of quotas. At an EU level, the number of ewes has decreased by 6% since 1992, by establishing individual limits on entitlement to support, and given the importance of support to the viability of the sheep enterprise, the EU have effectively frozen the size of the sheep flock in the medium term. Furthermore, by introducing the concept of ring fencing support the EU have reduced the flexibility of the industry to modify its structure. The introduction of individual quotas has effectively contributed to a stabilisation of ewe numbers throughout the Community as a whole and in the main producer countries and therefore, had a significant effect on the capacity of the industry to produce sheepmeat.

- In the goat sector, the introduction of individual limits has not changed the pre-1992 situation which was characterised by a relatively stable situation (with the exception of Spanish statistics). Regional differences have, however, occurred showing a dichotomy between Member States with Spain and Portugal showing a decline since 1992 and Italy a significant increase. With the exception of Italy, the CMO applied to the sheep and goat sector has not introduced distortions in she goat numbers. Globally, the introduction of quotas has been effective in stabilising ewe and she goat numbers.

- At EU level, the carcase weight has been stable since 1988 although a slight increase of about 1% has occurred since 1992. Similarly, at Member State level, differences are not significant The introduction of individual limits has provoked the following trends in slaughterings: in the case of Ireland, Greece, Spain and the UK the situation is broadly one of stabilisation since 1992 although in 1996 and 1997 there was a decline in slaughterings in the UK. A decline also occurred in Ireland in 1997. However, slaughterings in both Ireland and the UK increased in 1998 but still remained at or slightly below 1992 levels. In contrast France and Italy have shown a steady decline in slaughterings since 1992.

- The net effect of the changes in breeding animal numbers, the numbers of animals slaughtered and carcase weights has been for the tonnage of sheep and goatmeat produced in the EU to have reduced since 1992. From 1991 to 1998, the total quantity supplied to the market has reduced by 9% which is more less the percentage by which EU sheepmeat net production increase between 1988 (including the former East Germany) and 1991. **Consequently the introduction of individual limits to premia in 1992 has had a significant effect on the level of supply of sheep and goatmeat by halting the expansion seen throughout the 1980s and early 1990s, leading to a more stable level of production and the potential to provide some stability to the market place in terms of supplies.**

Adaptation to market signals

4.1.11 With regard to the extent to which the CMO allows producers to adapt to market signals it is concluded that:

- The rules of the CMO do not place any physical constraints on producers adapting production to meet consumer needs. However, the way in which the calculation of the premium is made has the potential to dissuade those flocks which produce less lamb per ewe than the standard from responding to market signals as they have the potential to achieve a lower income from the market place and premium combined, even at higher prices per lamb, than their starting position. As a result the CMO can result in a psychological barrier to producers adapting to market signals.

- Using econometric analysis to identify trends in producer marketing behaviour it is concluded, at the aggregate EU level, that farmers do not respond either in the short term or in the long term to changes in prices, at least at the aggregate level of the EU. Only in France and, to a less extent, in Portugal and Italy, do producers try to adapt to seasonal price signals. In the rest of the countries it seems that it is difficult to break down the seasonal and biological production patterns resulting in producers selling most of their production when prices are decreasing. In some Member States (e.g. Ireland) the price differentials between quality levels as specified using the SEUROP classification grid are not very high and may not be sufficient to repay the extra costs involved in producing higher "quality" animals.

- **In general terms, it can be concluded that producers are adapting only slowly and in a limited way to market signals. However, it is difficult to establish a causal link between these issues and the CMO but, in any case, it has not put any significant constraints on producers.**

Planning and management

4.1.12 With regard to the extent to which the system of premia allow for improvement in effectiveness and efficiency of planning and management of holdings the following conclusions have been arrived at:

- In principal the rules of the CMO place no restrictions on who can keep sheep and goats or on the number of sheep and goats they keep and the way they manage them. To the extent that this is the case the CMO places no restrictions on efficient planning and management of a sheep and goat enterprise. However, this is to grossly simplify the situation as a number of components of the system of premia can be identified as impacting on planning and management of which the main elements can be identified as: quota and ring fencing, retention periods, the distinction between heavy and light lamb production and the calculation of the premium.

- By providing entitlement to the "deficiency payment", so important to a viable sheep or goat enterprise the quota element of the CMO has a considerable bearing on the planning of the structure and size of a sheep and goat enterprise. It has considerable potential to distort the efficient allocation of resources to sheep and goat production by keeping technically inefficient producers in business, resulting in slower structural change taking place than would otherwise be the case. However, the socio-economic consequence of a structural change resulting in fewer, larger sheep and goat farmers employing fewer workers and creating less requirement for rural services could be considerable. This issue of quota management demonstrates the conflict which exists between trying to provide the basis for an efficient business structure for the industry and the socio-economic challenge of maintaining rural employment within the same policy instrument.

- The operation of the retention period as a requirement to qualify for premia payments has a significant impact on the *efficient* and *effective* planning and management of a sheep and goat enterprise. In particular it results in more ewes and she-goats being farmed than would be the case if the retention period did not exist. In addition, it restricts the freedom of a producer to sell ewes and she-goats at the most opportune time from a technical management point of view**.**

- In many southern Member States the production of light weight lambs of pale or rose flesh is an element of the traditional production system based on dairy sheep systems. However, these systems do not necessarily qualify for the full rate of premia. To qualify for the full rate of premium requires animals to be weaned and fattened to higher weight, supported by a complex administrative system to prove that heavy lambs are being produced. This has led to a number of producers in Spain and France modifying their production systems to achieve the objective of receiving full rate premium. This is a response which implies that the reward from the market place is not sufficient to offset the reward from the policy

instrument and so policy has distorted the producers' response to a market signal which may pay a higher price for the light weight lamb. Clearly this element of the CMO has potential to impact on the planning and management of some southern Member State producers.

- By adding a number of extra dimensions to the planning and management of a sheep enterprise it is concluded that the CMO influences to a considerable extent the planning and management decision making process of a sheep and goat enterprise. However, with the exception of maintaining ewe and she-goat numbers equal to the number of premium claims made for the retention period the CMO makes no demands on the management of a holding. With the exception of this rule, the CMO allows complete freedom of action to improve the effectiveness and efficiency of the planning and management of a holding. Consequently, the system of premia makes only limited demands on the freedom of action of planners and managers of holdings and it is therefore concluded that the system of premia allows to a considerable extent, for the improvement in effectiveness and efficiency of planning and management of the holdings in the sheep and goat sector. That is, the system of premia has little influence on improvements to the *management efficiency* of a holding. However, this does not mean that the CMO does not influence *economic efficiency* of the holding.

Developing quality products in response to consumer requirements

4.1.13 With regard to the way in which the different elements of the CMO permit producers to develop "quality" production which corresponds to consumers' requirements, it has been concluded that:

- The CMO for sheep and goatmeat does not link levels of premia with any quality criteria discussed above. Hence, it is concluded that the regime has not actively encouraged, or discouraged, 'quality' production. Even if the regime did offer incentives for producers to deliver lambs of particular carcase classifications, there is currently very little evidence of any association between such classification and sensory (or other) quality attributes. Given the likely differences in 'quality' requirements across Member States, it must be questioned how a *centrally operated* CMO could generate the incentives necessary to satisfy all of the different quality requirements.

- There is some concern in the EU, and particularly the UK and Irish, sheep sector, over the levels of chilled imports from New Zealand into the EU distorting the market place. The southern hemisphere location of New Zealand results in the seasonality of sheep production in New Zealand being the opposite of that in the EU. This situation allows them to import young (tender) lambs into the EU at a time when mainly older (old season) lambs are available domestically. Consequently the seasonal profile of chilled imports may allow NZ lamb to gain some 'sensory' quality

advantage over the domestic product with which they are competing. In addition, the marketing effort to brand 'New Zealand' lamb is likely to have helped improve EU consumers' perceptions of its 'quality' image (but this is not easily measurable). Finally, the lower cost base of NZ producers enables them to compete on price with producers in EU Member States. These seasonal competitive advantages make it difficult for EU producers to develop "quality" production systems to compete seasonally with imported chilled product and the justification for doing so should be considered carefully. Perhaps producers should reflect on New Zealand's ability to successfully brand a product and target different markets (Member States) with different cuts of meat, thus enabling them to gain maximum benefit from both hind and forequarter cuts, and consider ways in which they can distinguish and promote the 'sensory' quality of their product from that supplied by New Zealand.

THE IMPACT OF THE CMO FOR SHEEP AND GOATMEAT ON RURAL AREAS AND ON THE ENVIRONMENT

4.1.14 In addressing the final element of the brief the following two supplementary questions were considered:

- Is the supplementary "Rural World" Premium(RWP) relevant and if is it set at an adequate level? (section 3.1); and

- Does the CMO for sheep and goatmeat have significant impacts on the quality of the environment? (Section 3.2).

The Rural World Premium

4.1.15 With regard to the relevance of the RWP this was considered in association with the recognition that other headage payments are made to the sheep producer in the LFA through the compensatory allowance provided for under Council Regulation 950/97. In considering the extent to which the RWP is set at an adequate level the indicator used in the first question of the brief was again used namely: FNVA/AWU and enterprise gross margins. The following conclusions have been reached.

- The commonality in objectives between Council Regulation 950/97 and Council Regulation 1323/90 (as amended) mean that the Rural World Payment (RWP) is relevant as a compliment to the compensatory allowances for LFA. Nevertheless, it should be recognised that the RWP is not specifically designed to compensate for the specific handicaps of producers in the LFAs. This objective is specifically addressed by the compensatory allowance mechanism of Regulation 950/97. Consequently, in combination the RWP the compensatory allowances should result in the income of LFA producers matching the average level of income found throughout the agricultural sector of the Member State concerned.

- Analysis of FNVA/AWU clearly identifies a change point in time series data coinciding with the introduction of the RWP in 1991 and more particularly with the increase in the RWP introduced in 1992. At or around these dates full farm income indicators show LFA specialist sheep farmers across all Member States to have achieved better relative income positions than their non-LFA counterparts. However, in trying to validate this finding by isolating the sheep enterprise from the whole farm situation by using gross margin analysis a contradictory situation is revealed for Britain and Ireland.

- In Great Britain, the RWP payment is shown to be sufficient for LFA gross margins to match non-LFA gross margins and leads to the judgement that the RWP is set at an adequate level. When Ireland is considered the LFA gross margins are shown to consistently fall short of the non-LFA gross margins, but that their relative positions have been maintained. In this situation it is concluded that the RWP is set at a level which does not distort the long term situation, but if it was supposed to fully compensate for the handicaps of the LFA and bring all enterprise gross margins to the same level then it is set too low. However, the objective of the RWP was to maintain income at the levels occurring before the introduction of the budget stabilisers; it is the role of Regulation 950/97 to compensate for the physical handicaps of the LFA producer. Set against this interpretation of the sheep and goat CMO then the RWP is set at an adequate level in Ireland.

- Before reaching a final conclusion as to the adequacy of the RWP one further dimension should be considered. That is that a general policy objective of CAP is to maintain production and income in LFA. It is acknowledged that for many parts of the LFAs sheep production is the only, or one of the few, agricultural enterprises that can be carried out. Consequently the LFA producer FNVA/AWU for sheep or goat production should be close to the all farm average for that Member State even if it is better than a non-LFA producer who could consider other enterprises. The analysis of the FNVA/AWU shows that within the EU as a whole the FNVA/AWU of specialist LFA sheep producers was similar to the all farm average in 1992, 1993 and 1994 but has fallen back since then, and that since 1992 the LFA sheep producer has achieved better FNVA/AWU than his non-LFA colleagues

- **Having regard for the objectives of the CAP and sheep and goatmeat CMO policy objectives and considering the apparent contradictions in the indicators chosen, FNVA/AWU and enterprise gross margins, it is concluded that the RWP is set at a level which, in conjunction with the compensatory allowances provided for by Council Regulation 950/97, is adequate to compensate for the specific handicaps of the sheep and goatmeat producer in the LFA.**

Impact on the Environment

4.1.16 With regard to the relationship between the sheep and goatmeat CMO and the environment it must be recognised that interactions between sheep and goat management practices and the environment are complex. Environmental impact can result through the selective grazing habits of sheep and goats, the density of sheep and goats creating physical damage to land cover, the use of supplementary feeding resulting in animals congregating at a single point and the increased use of anthelminthics, herbicides, and fertilisers. Furthermore, human activity associated with sheep and goat husbandry, for example transhumance and daily movement of sheep around pastures also impacts on the ecological environment by preventing concentration of grazing at one point in the landscape. The presence of humans in the countryside also impacts on the environment through maintenance of field boundaries, water courses and vernacular buildings, by the cutting of shrubs for firewood and by the controlled burning of shrubs to maintain open landscapes. Human presence also helps to prevent wildfires by early identification and control. Identifying suitable indicators of environmental impact is also complex. However, for this simple analysis indicators relating the number of sheep and goats per hectare of land, and the incidence of forest fire have been chosen to illustrate the potential for the CMO to impact on the environment. The following conclusions have been made:

- In spite of the weaknesses of the using the number of sheep and goat per hectare as an indicator (paragraph 3.2.6 - 3.2.12) one can draw the strong conclusion that the application of a CMO for sheep and goatmeat has contributed to significant regional variations in response to the policy signal. Consequently, the impact of the CMO on grazing pressure is not consistent among Member States. Indeed on the basis of sheep quota use one can conclude that the CMO has had no significant impact on the grazing patterns because all Member States have surplus rights remaining in their national entitlements and thus numbers must have declined. However, this ignores the fact that the area of land used for sheep production may have changed.

- It is difficult to conclude that the CMO has led to more than sporadic instances of overgrazing however, it cannot be denied that increased sheep grazing pressure has occurred alongside the evolution of the sheep and goatmeat CMO and created potential for environmental damage.

- Sheep farming is carried out across a wide range of landscapes from montane to lowland grazing marshes. The impact of changes in sheep grazing on landscape biodiversity is therefore complex. Grazing balance is recognised to have an impact on the species mix found within the grassland. Grass cover is also considered to have an important role to play in the ecology of grassland birds, particularly ground nesting birds. Furthermore several husbandry practices, particularly associated with animal health, are implicated in changes to biodiversity associated with invertebrate populations. In this latter case it is difficult to demonstrate cause and effect between the CMO and husbandry practices although the two are clearly related.

- To provide a response to the role of sheep in preserving landscape biodiversity requires an analysis of a considerable range of indicators from physical measures of the area of different landscape types within Member States and the EU to changes in bird populations, grass species mixes and invertebrate numbers. While indicators of these types exist it has not been possible within the time scale of this evaluation to make a judgement on the impact of the sheep and goatmeat CMO on landscape maintenance.

- The incidence of forest fires has increased in some Member States and declined in others since the introduction of the CMO for sheep and goats. It is unclear therefore as to the extent to which structural changes in the sheep sector can be associated with the incidence of fires.

RECOMMENDATIONS

4.1.17 During the course of producing this report a number of research issues have been identified which made it difficult to address the questions being considered. In particular the problems of equating quality with tangible attributes of a carcase that can be rewarded through a support mechanism, demonstrating cause and effect with regard to environmental impact and understanding the relationships between different commodity polices in an holistic way in gaining an understanding of policy/production/environment interface have been identified along with a shortage of enterprise income data, as opposed to full farm income data. Consequently it is recommended that research funding is made available to improve knowledge of these issues.

4.1.18 Following from the evaluation of the sheep and goatmeat regime it is recommended that the European Commission consider the following three options with regard to the sheepmeat and goatmeat CMO:

Option 1: Maintain Status Quo

4.1.19 The analysis within this report shows that the system of calculating the premium is complex and includes many weaknesses. Nevertheless, the current regime broadly meets its objective at an EU level but results in substantial variation in impact between Member States. If the Commission finds that the weaknesses and problems which exist are acceptable within the wider context of providing a workable system and reasonable premium figure, then the first option is to leave the system unchanged. The advantage of this option is continuing with a tried and tested regime which is generally understood by the sheep sector. Nevertheless, it is considered that sufficient weaknesses exist in the current CMO that the following two options should be evaluated more fully.

Option 2: Improve Accuracy of Current System

4.1.20 The report has highlighted several aspects of the various calculations that are not representative of the various Member States' sheep/goat sectors. The second option therefore is to address all of these inaccuracies with the goal of improving scheme representativeness for each Member State. The following changes are recommended:

1. The European Council should adopt a more transparent system of determining the basic price.

2. The Commission should re-assesses the ranges of carcase weights for which prices must be reported. It appears that the current system is less representative for Southern Member States than Northern Member States.

3. The conversion coefficient for transforming from liveweight to deadweight prices should be addressed by the Commission, with a view to introducing a standard conversion factor for converting liveweight price quotes to deadweight. This would not add to the administrative complexity, but would mean a more accurate figure for specific Member States.

4. Market price reporting structures should be reviewed on a three year basis to make sure that the sample of markets/abattoirs fairly represents the marketing methods used in each Member State.

5. The absence of goatmeat prices within the calculation should be reassessed and they should be incorporated into the representative market price calculation for those countries who benefit from a goat premium being paid.

6. Weekly weightings for each Member State, based on slaughterings, to arrive at the weekly EU market price should be used rather than using a constant weighting throughout the year. Consequently, the EU weekly average price would better reflect the different seasonal marketing patterns which occur.

7. The quality of statistical information relating to production should be improved, particularly in relation to Greece, Spain, Italy and Portugal to enable a reassessment of the 0.131 coefficient figure given to the four Southern European countries.

8. The absence of light lambs/goats from the premia calculation (in terms of calculating the technical coefficient) must be reassessed.

9. The figure of 15% GIP from ewe carcases should be re-appraised to assure that it is reasonable for all Member States. Likewise, the 7 kg common weight for light lambs should be re-assessed to assure its accuracy.

10. A more efficient way of arriving at the advance payment should be considered which removes the need for time consuming estimates to be made ahead of the end of the marketing year: for example a simple fixed rate of payment could be used for the advanced payments with the complexity of the calculation required only for the final instalment.

11. One area of complexity with regard to premium payments which the consultants consider should be reviewed is that of being able to convert dairy sheep premium to meat sheep premia if a producer can demonstrate that his production system produces "heavy" lamb. Several administrators in southern European Member States drew attention to the time consuming nature of this exercise in relation to the number of premium payments involved. The justification for such a mechanism within the overall CMO should be re-examined with a view to removing this element of the regime.

4.1.21 The advantage of accepting this option would be to improve the accuracy of the information on which the premium is calculated. The disadvantage is that modifying the administrative system to take account of the above recommendations would further increase the administrative complexity of an already complex regime. Hence, this could only be justified if significant improvements occurred in the accuracy of the premium calculation. No attempt has been made to assess whether the change in accuracy would make a material difference to the overall estimate of the premium payment and therefore justify the increased administration. An assessment of this nature would be required as part of any consideration of taking these proposals forward; it is recommended that a working party be established to carry out this assessment.

Option 3: Simplify Current System

4.1.22 Given the complexity (and associated cost) of the present system of calculating the premium, the final option recommended for further consideration is to simplify the system. For example, by adopting a fixed headage premium, the need for the various elements of calculation would be made redundant. The clear advantage would be in a reduced administrative burden, both to Member States and particularly the European Commission. Adopting a fixed headage premium would also have the advantage of fixing the sheep and goat regime budget in advance. Such a simplification would be more acceptable to the World Trade Organisation (WTO) by being suitably de-coupled from production.

4.1.23 Nevertheless, in this evaluation report it has been shown that the existing system results in winners and losers and that it is justified to consider different production systems and enterprise location in arriving at a rate of payment. This report has also highlighted the variation in income levels within and between Member States depending upon system and location. Consequently, when considering ways of simplifying the existing system it may be appropriate to consider retaining some flexibility so as to make differentiated payments possible. Equally however, this

evaluation report has highlighted the difficulties of quantifying the level of differentiation from the existing data sources and that further research is needed in this area.

4.1.24 It is recommended that a working party be established to explore further the costs and benefits of moving towards a fixed headage, or area, payment as a means of directing the support available from the sheep and goatmeat CMO with a view to reducing the administrative complexity of the current CMO.

GLOSSARY

Annual work units (AWU)

Regularly employed labour is converted into Annual Work Units. One AWU is equivalent to one person working full-time on the holding. A single person cannot exceed 1 AWU equivalent, even if his actual working time exceeds the norm for the region and type of holding. For persons employed for less than the whole year on the holding, the fraction of AWU is calculated as {hours worked / hours per AWU for the region and type of holding}. The AWU for the region is considered to be the normal annual working time of a full-time worker in the region under consideration and on the same type of holding.

(EC, D-G VI Agriculture, VI-A-3 Analysis of the situation of agricultural holdings RI/CC 1256, 08 June, 1999).

Economic Size and European Size Unit (ESU)

The European size unit (ESU) is a unit of measurement of the economic size of the agricultural holding. A farm has an economic size of 1 ESU if its total standard gross margin (SGM) is ECU 1200 of 1990 SGM.

Enterprise Gross Margin

An enterprise gross margin is the annual enterprise output minus the enterprise variable costs. Enterprise output is the revenue from the market place and subsidies for the enterprise adjusted for stock changes between the beginning and end of the year. For livestock enterprises the expenditure on livestock purchases or value of livestock transfers during the year is adjusted for in the output. Variable costs are those costs that can be readily allocated to the specific enterprise and which vary in approximately direct proportion to changes in the scale of the enterprise. It is a measure of the contribution of the enterprise to the fixed costs or general overheads of the business.

Enterprise Net Margin

The enterprise net margin is the *enterprise gross margin* minus a proportion of the farm's fixed costs. Fixed costs are those costs which cannot readily be allocated to a specific enterprise or will not change in scale of individual enterprises, examples include regular labour, machinery costs and general expenses. It is a measure of the contribution of the enterprise to the profit of the farm business.

Farm Net Value Added (FNVA)

FNVA is the total output less the intermediate consumption and depreciation, adjusted to take account of taxes, grants and subsidies linked to production.

It is the indicator of economic performance that measures the remuneration for the family and hired labour, own and borrowed capital and the management of the holding.

(EC, D-G VI Agriculture, VI-A-3 Analysis of the situation of agricultural holdings, Farm accountancy Data Network, An A to Z of methodology. August 1989).

Grazing Livestock Units (GLU)

The average annual number of all the live grazing animals on a holding are expressed in a single unit (Livestock Unit / LU). Coefficients are used to convert species and classes of livestock in LU :

Equines:	0.6
Cattle under one year:	0.4
Cattle 1 - <2 years:	0.6
Male cattle >= 2 years:	1.0
Heifers:	0.8
Dairy cows:	1.0
Other cows:	0.8
Sheep:	0.1
Goats:	0.1.

(EC, D-G VI Agriculture, VI-A-3 Analysis of the situation of agricultural holdings, Farm accountancy Data Network, An A to Z of methodology. August 1989).

Less Favoured Areas (LFA)

Less Favoured Areas are those mountain, hill or other parts of the community where agricultural activity is limited by;

- the existence, because of altitude, of very difficult climatic conditions the effect of which is substantially to shorten the growing season;
- the presence over the greater part of the district of slopes too steep for the use of machinery or requiring the use of very expensive special equipment;
- the presence of infertile land, unsuitable for cultivation or intensification, with a limited potential which cannot be increased except at excessive cost, and mainly suited for extensive livestock production;
- the low productivity of the environment which results in the main indicators characterising the economic situation in agriculture being appreciably lower than the norm;
- low or dwindling population predominantly dependent on agricultural activity, and the accelerated decline of which would jeopardise the viability of the area concerned and its continued habitation

Council Directive of 28 April 1975 on mountain and hill farming and farming in certain less-favoured areas - Official Journal of the European Communities L128/1 19.5.75

Standard Gross margin (SGM)

The Standard Gross Margin (SGM) of an corrsponds to the average value, over a three year period and ina given region, of production minus certain variable costs (Decision 85/377/EEC). The value of the production includes product related subsidies. SGM are:

- defined for each type of crop and livestock enterprise which is found in each region of a Member State or, for Italy, in each altitude zone within a region ;
- determined using average basic data calculated over a reference period of three years, to even out fluctuations in production (e.g. due to bad weather) or in input/output prices; and
- updated every two years, to take into account of changes in price levels and technical performance.

(EC, D-G VI Agriculture, VI-A-3 Analysis of the situation of agricultural holdings RI/CC 1280B, 1 September , 1996).

Type of farming

The type of farming is determined by the relative contribution of different enterprises to the total standard gross margin (SGM) of the holding. The Community farm typology identifies 17 principal types of farming. For example;

Sheep, goats and other grazing livestock farms are defined as meadow and grazing livestock contributing to more than 2/3 of the total SGM, but cattle to less than 2/3 of total SGM

Specialist sheep farms are those where sheep (milk and live animals) contribute for more then 2/3 of SGM.

Sheep and cattle farms are those where the SGM from cattle is >1/3 of the total SGM and the SGM from sheep is >1/3 of the total SGM.

Specialist goats farms are those where goats >2/3 of the total SGM is derived from goat production

(EC, D-G VI Agriculture, VI-A-3 Analysis of the situation of agricultural holdings RI/CC 1280B, 1 September , 1996).