

# **CONTENTS**

1. EXE	ECUTIVE SUMMARY	1
1.1	Aims	1
1.2	Background to the Study	1
1.3	Preparation of Results	
1.4	Key Conclusions	
2. INT	RODUCTION	3
3. OVI	ERVIEW OF BEEF MARKET IN 2005	4
3.1	Livestock Subsidies	4
3.1.1	Less Favoured Area Support Scheme (LFASS)	5
3.2	CAP Reform	6
3.3	The Beef Sector in Scotland	6
3.4	Review of Beef Sector in 2005	8
3.4.1	y y	
3.4.2	<u> </u>	
3.4.3	Processing Capacity	9
3.4.4	<del>-</del>	
3.4.5	5 Cull Cows	10
4. STU	DY RESULTS	11
4.1	Hill Cattle Production	11
4.1.1		
4.1.2		
4.1.3	<u> </u>	
CONCL	USIONS AND DISCUSSION	33
4.2	Key Points Arising from the Results Analysis	33
4.3 Econoi	Interpretation of the Study Results with Particular Regard to Future nic Performance and Recent Structural Changes in the Sector	35

# 1. EXECUTIVE SUMMARY

# 1.1 AIMS

The purpose of this study was to establish gross margin data for LFA hill cattle farms for the 2005 calendar year. The study followed on from the 2004 LFA Hill Cattle & Sheep Study and aims to provide information on the relative profitability of the LFA hill cattle sector post CAP Reform. The data gathered from the 19 suckler herds in the sample, will provide the basis for technical and economic analysis of the results from a historic and comparative perspective.

#### 1.2 BACKGROUND TO THE STUDY

The period under study, 2005, was the first year of the Single Farm Payment Scheme (SFPS), introduced as a result of the reform of the CAP from 1<sup>st</sup> January 2005. The major thrust of the CAP Reform has been to decouple support payments from production across the main agricultural sectors within the EU.

The beef sector in Scotland has particular importance, providing £463m of output (27% of agricultural output) in 2005 (ERSA 2006). Although this figure is not split between LFA & non-LFA farms, some 83% of all beef breeding cows in Scotland (497,744 head in total) are within the LFA area, along with 59% of all prime cattle (454,899 head) (ERSA 2006). Suckled beef production is therefore crucial to the current mix of farming in the upland (LFA) areas of Scotland.

A number of commentators have estimated that suckler cow numbers could fall by up to 30% post CAP Reform due to the switch to decoupled payments. This study provides an initial indication of the profitability of hill cattle farming in the light of CAP Reform.

In 2005, the beef sector showed an improvement in prices for the first half of the year, at which point prices fell rapidly due to increased supply of domestic and imported beef.

### 1.3 Preparation of Results

The units in the study were made up of 16 combined hill cattle and sheep enterprises and 3 purely beef units. A weighted average gross margin has been produced together with league tables of performance and a comparison with the 2004 results. It is important to note that the Single Farm Payment has not been included in the 2005 gross margin due to its decoupled nature. This means that the subsidy allocated to hill suckler cows in 2005 is much lower compared to 2004.

# Weighted Average Gross Margin for the hill suckler cow enterprise was found to be £172/cow compared with £367/cow in 2004

# 1.4 KEY CONCLUSIONS

- Weighted average gross margin reduced by £195/cow between 2004 and 2005, almost exactly the amount of direct headage subsidy received in 2004. It is therefore obvious that much of the fall in gross margin is a result of the shift from direct production support to the Single Farm Payment Scheme.
- Output remains the most important factor in determining top performers.
- As a result of the reduction in subsidy income, technical and management efficiency of the suckler cow enterprises has become more important in determining gross margin performance.
- The LFASS payment is an important contribution to gross margin and continues to vary considerably between participants on a per cow basis. The potential move to area based LFASS payments will further reduce the need to maintain cow numbers.
- Despite the reduction in gross margin of some £195/cow, the level of variation within the sample remained close to 2004, demonstrating that the majority of the variation is due to characteristics of the individual business.
- Total variable costs also showed a wide range in performance although the coefficient of variation did reduce from 60% to 38%. This was due to the absence of quota leasing costs in 2005, which were present on two farms in 2004.
- There has not been the structural change in the sector that was anticipated by many commentators. This can be explained by the lack of detailed information that individuals had access to on which to base forward planning. Examples of this information are size of the Single Farm Payment and the effect of the end of the OTMS, etc.

# 2. INTRODUCTION

This study represents a continuation of the rolling programme of Enterprise Cost Studies undertaken by SEERAD. The objective of the study is to identify the gross margins for LFA hill cattle herds in Scotland in 2005 and provide an interpretation of the physical and economic factors contributing to the results.

The study covers the period 1 January 2005 to 31 December 2005. Participants of the 2004 study were asked whether they would like to continue to provide information on their hill cattle enterprise and the sample was created on that basis. This ensured continuity in the sample relative to 2004 and allows a better comparison of results between years than would otherwise have been the case.

A gross margin has been calculated for the individual hill cattle enterprises as detailed in the section on results. In addition, league tables showing the relative performance of each unit in the study ranked against the others of the same type have been completed. Within each league table the various factors contributing to gross margin performance have been analysed in order to identify the key indicators of performance.

Throughout the report, the methodology used has been in accordance with the Special Studies Methodology Manual produced by SEERAD.

# 3. OVERVIEW OF BEEF MARKET IN 2005

The study results relate to the period 1<sup>st</sup> January 2005 to 31<sup>st</sup> December 2005.

All participants were located in either the Scottish LFA or the Highlands & Islands Enterprise area of Scotland.

#### 3.1 LIVESTOCK SUBSIDIES

The SFPS began on 1<sup>st</sup> January 2005, bringing the decoupling of subsidies from production. Therefore, the Suckler Cow Premium, Extensification Premium and Slaughter Premium were no longer paid to beef producers. After considerable discussion and consultation, SEERAD decided to make use of the National Envelope provisions within CAP Reform and effectively deducted 10.13% from all beef related Single Payment entitlements in Scotland to provide a fund to channel support to suckled calf producers in order to incentivise them to remain in suckled calf production.

As a result, a new scheme, the Scottish Beef Calf Scheme (SBCS) was introduced from 1st January 2005. The scheme provides a payment on calves which are a minimum of 75% beef bred and at least 30 days old. The calves must have been born on a Scottish holding on or after 2 December 2004 and have remained there for a minimum of 30 days. These calves must also be registered on the Cattle Tracing System and have a valid cattle passport.

The payment given to farmers is dependant on the number of animals claimed under the Scottish Beef Calf Scheme up until 31<sup>st</sup> December 2005.

The payment rates for 2005 were as follows:

**Table 1 - Payment Rates Under the SBCS** 

Number of calves claimed	First 10 calves claimed	Calves claimed thereafter
Payment Rate (£/head)	£79.32	£39.66

As the amount of funding is effectively fixed, the payment per calf will vary dependent on the number of calves claimed in any one year.

# 3.1.1 <u>Less Favoured Area Support Scheme (LFASS)</u>

The LFASS remained largely similar to its 2004 format. The payment rates were maintained at the same level as the fragility markers introduced in 2003, the main farm locations and the grazing category attributed to the land were used to calculate payments. The payment rates are detailed in table 2.

**Table 2 - 2004 LFASS Payment rates** 

Land Category	Areas with lower	Mainland areas of	Islands
	transport costs	disadvantage and	'Very Fragile'
	'Standard'	higher transport	
	Rate per adjusted	costs	Rate per adjusted
	Ha (£)	'Fragile'	Ha (£)
		Rate per adjusted	
		Ha (£)	
More	39.00	45.00	47.00
Disadvantaged			
Land (categories A			
& B)			
Less	33.50	39.50	41.50
Disadvantaged			
Land (categories C			
& D)			

Note that the grazing category of the land is based upon the stocking rate on the farm in 2001, with A being the lowest and D the highest grazing category. Adjustments are made to the IACS forage area as follows:

**Table 3 - LFASS Grazing Categories** 

Category	Stocking Density	Hectare Value
A	Up to 0.19LU/Ha	0.167
В	0.20 to 0.39 LU/Ha	0.333
С	0.40 to 0.59 LU/Ha	0.667
D	0.60 or more LU/Ha	0.800

Payments were then further adjusted to take account of the Enterprise Mix between breeding cows and breeding ewes on the holding as follows:

Table 4 - Effect of Enterprise Mix on LFASS payment

Enterprise Mix	Hectare Multiplier
If 50% or more livestock units (lus) are	1.70
cattle	
If 10% or more, but < 50% of lus are	1.35
cattle	

That is the LFASS payment is effectively increased by 35% or 70% dependent on the relative number of breeding cows on the holding, incentivising retention of suckler cows in the LFA.

Payment relating to the 2005 LFASS is normally made in March/April 2006.

The payment is made as part of the Scottish Rural Development Plan. The LFASS is currently under review as part of the Scottish Rural Development Plan Consultation for the period covering 2007 to 2013. Within this document is a proposal for the development of the LFASS. No major changes will be made to the scheme until 2010, as the government is awaiting the outcome of an EU review which will conclude in 2008.

It is proposed that the new scheme will remain broadly similar to the scheme currently in place. However, the proposed 'interim' scheme will move to an area-based payment that no longer takes account of the enterprise mix on the holding.

#### 3.2 CAP REFORM

The Single Farm Payment (SFP) Scheme began on 1<sup>st</sup> January 2005. Scotland elected to base payments on a historic decoupled basis with deductions of 3.0% for EU modulation, 3.5% for UK modulation and 4.2% for National Reserve.

All beef producers had a further deduction of 10.13% from the beef related part of their entitlement under the Beef National Envelope.

#### 3.3 THE BEEF SECTOR IN SCOTLAND

ERSA (2006) indicated that there were 497,744 breeding cows in Scotland, an increase of 1,764 head on the previous year. Including beef heifers in calf, there was a marginal drop to 545,890. This effectively brings to an end the steady increase in cow numbers that has occurred since FMD in 2001.

The Scottish beef sector contributed £463.8m of output in 2005, equivalent to 27% of total Gross Output of Scottish Agriculture. This figure includes £47.719m of subsidy payments through the SBCS & the OTMS but excludes £61m of LFASS (i.e. a total output net of subsidy of £416.1m).

In 2004, the total output from the beef sector equated to £634.4m, of which £235.38m were direct subsidies (i.e. a total output net of subsidy of £399.02m).

Net of subsidy, the beef sector provided an increase of 4.2% in gross output year on year.

# 3.4 REVIEW OF BEEF SECTOR IN 2005

# 3.4.1 <u>Fattening Cattle</u>

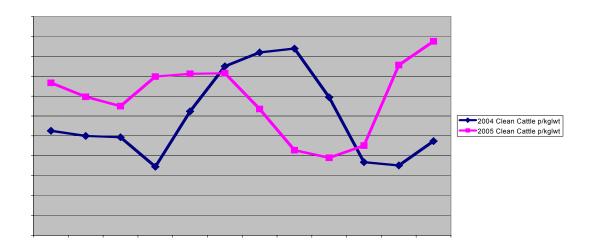
Prices in the beef sector in the UK began well and remained so until late summer when prices dropped substantially before improving again in the last quarter. In the first quarter of 2005, deadweight prices were up 7% on the same period of 2004 as supplies were tight as a result of farmers finishing more calves in the last quarter of 2004 in order to access the last Slaughter Premium claims.

The price then dropped back slightly into the second quarter as the number of beef slaughterings increased. This increase was related, again, to the changes in the subsidy schemes and the ending of the requirement for retention periods.

This increased level of slaughterings continued into the third quarter of 2005 pushing finished prices down. In mid-October, steer prices reached a low point of 176.4p/kgdwt, some 7p/kg down on the same period of 2004. The last quarter saw an improvement in price due to reduced imports from Brazil as a result of a FMD outbreak in one of their main beef producing regions, the Avian Flu scare and increased demand in the run-up to Christmas. This resulted in steer prices improving to 198.6p/kgdwt by mid-December.

Scottish beef still retained its price premium over beef from the rest of Britain which varied from some 10p/kgdwt up to 17p/kgdwt in the third quarter of the year when the UK price dropped. Over the year, MLC estimated that the average premium for Scottish beef was 15p/kgdwt over the average price for England & Wales.

Figure 1



Source: ERSA 2006

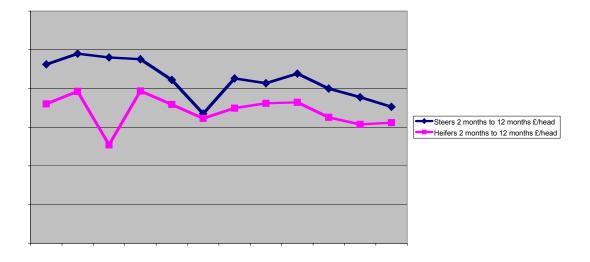
# 3.4.2 Store Cattle

Store cattle prices started 2005 at a similar level to the same period of 2004, as finishers remained hopeful about the prices available for finished stock, going forward. Prices then declined from a peak of £490/head in February to £335/head for steers and from £392/head to £323/head for heifers in June, £69/head and £71/head down on the same period of 2004. This also demonstrated a reduction in the differential between steers and heifers from around £100/head to around £20/head, as would be expected following the ending of the coupled subsidy schemes.

Store prices then improved towards the third quarter, stretching the differential between steers and heifers up to around £80/head. Store prices then dropped again as finishers decided to pay less as a result of reduced finished prices.

In the last quarter, prices for stores sold at 18 months were 16% and 9% lower than 2004 prices for steers and heifers, respectively, in the light of limited confidence for finished prices in 2006.

Figure 2



# 3.4.3 <u>Processing Capacity</u>

On 7<sup>th</sup> November 2005, cull cows were reintroduced into the beef market. By the end of the year, 4 plants in Scotland were able to slaughter and test for BSE for human consumption. There are two processing plants which are still dealing with cattle which were born before 1<sup>st</sup> August 1996. The number of plants available to process cull cows for human consumption has now gone up to 10.

# 3.4.4 Auction Markets

The number of prime cattle going through Scottish auction markets was 3% up on 2004, at 168,928. The total value of these sales was £83,429,050, again 3% higher than the value of 2004 sales. However, the average price per head was 1% down on 2004 at £493.87.

Store cattle numbers were down slightly (0.1%) on 2004 at 320,402. However, the total value of these sales was 7% down on 2004 at £144,473,442, therefore the average price per head was also 7% down at £450.91.

# 3.4.5 Cull Cows

During the first half of 2005 the number of cull cows going into the Over Thirty Months Scheme (OTMS) was down 6% on the same period of 2004. This was mainly as a result of reduced throughput in England and Northern Ireland. However, in Scotland the number of culls was up by 12%.

On 7<sup>th</sup> November 2005 the OTMS came to an end and cull cows could be marketed for human consumption if they were born after the 1<sup>st</sup> August 2006. Those born before this date will go through the new OCDS (Older Cattle Disposal Scheme) after 21<sup>st</sup> January 2006, the payment rate for these cattle being fixed until 31 December 2006 at 360 euros/animal.

Of the cull cows which entered the beef market, prices were around 60p/kg liveweight at the end of the year.

# 4. STUDY RESULTS

The following study results are the actual costs of suckler cow production on the farms surveyed in Scotland for the 2005 year, compared with those analysed in the 2004 study year. The results section contains a weighted average gross margin comparing 2005 results against 2004 results followed by performance league tables showing the relative physical and financial performance for each participant. Average performance was calculated for the top third, bottom third and whole sample to illustrate the range of performance between the participants.

### 4.1 HILL CATTLE PRODUCTION

This section analyses the physical and financial performance of the 19 suckler cow enterprises in the 2005 study compared with the 32 suckler cow enterprises in 2004.

The herds were mainly spring calving although some also had cows calving in the summer and autumn.

The herd size in 2005 varied from 14 cows to 409 cows, with an average size of 84 cows. In 2004, the average size was 71 cows, with 12 cows in the smallest herd and 369 cows in the largest.

One participant was organic – HCS 27.

In accordance with the SSSM, the main factor in calculating the output from these herds was the transfers of weaned calves out of the herd. As most herds kept their calves until a much older age, the sale values were unavailable; transfer values were used to estimate output were appropriate.

These transfer values relate to calves that were transferred out of the breeding herd to store or finisher enterprises. It was assumed that all calves were transferred at weaning and that the value of the calf at transfer was £250 for a heifer calf and £300 for a steer calf. None of the participants kept male calves entire. This practice was maintained from the 2004 study.

In addition to calves being transferred out of the suckler cow enterprise some herds also transferred home bred in-calf heifers into the enterprise as replacements. These were valued at £650/in-calf heifer.

These transfer values are based on market values for stock of the appropriate class at the time period the study period was in operation.

They are meant to represent reasonable estimates of the livestock values for each class of animal in the absence of actual prices received.

# 4.1.1 Weighted Average Gross Margin

The table overleaf shows the weighted average gross margin achieved by the 19 herds included in the study in the 2005 calendar year alongside those analysed in 2004.

The table shows that the weighted average gross output across all the herds was £367/cow in 2005, dropping to a net output of £293/cow when adjusted for replacement charges and weaned calf valuations.

Variable costs were £120/cow in 2005 compared with £127/cow in 2004.

Giving a Weighted Average Gross Margin of £172/cow.

The variances seen in each of the major revenue and cost centres that combine to produce the gross margins are discussed in detail in the next section.

**Table 5: - Hill Cattle Production - Weighted Average Gross Margin** 

				Weighted Avenue:			
	Weighted Average 2005			Wei	Weighted Average 2004		
		2003			2004		
	No. of Farms	Total No.	Mean	No. of Farms	Total No.	Mean	
Herd Size	19	1,597	84	32	2,262	71	
Calves Weaned		1,508	94%		2,143	95%	
		Total	/Cow		Total	/Cow	
		£	£		£	£	
INCOME							
Sales		(6,923)	(4)		(9,354)	(4)	
Transfers Out - females		188,250	118		266,750	118	
Transfers Out - males		225,600	141		318,900	141	
Headage Payments		67,025	42		534,386	236	
LFASS		111,878	70		174,576	77	
GROSS OUTPUT		585,830	367		1,285,258	568	
D 1		120.526	7.5		146.740	65	
Replacement Cost		120,526	75		146,742	65	
Calf Valuation Change		(1,988)	(1)		21,767	10	
NET OUTPUT		467,292	293		1,116,749	494	
<u>VARIABLE COSTS</u>							
Concentrates & Minerals		42,217	26		66,903	30	
Bulk Feeds & Crop By-products		4,980	3		29,612	13	
Coarse Feeds & Keep		5,039	3		6,242	3	
Feed & Keep Taken		52,235	33		102,756	45	
Home Grown Straw		37,279	23		9,350	4	
Purchased Bedding		16,046	10		17,048	8	
Veterinary & Medicines		28,228	18		39,943	18	
Casual Labour		0	0		1,749	1	
Livestock Sundries		9,121	6		12,442	6	
Commissions, Deductions & Levies		4,345	3		3,724	2	
Haulage		3,119	2		6,048	3	
Net Quota Leasing		0	0		18,477	8	
Forage Charge		41,873	26		74,891	33	
TOTAL WADIABLE COOPS		102 247	120		207 420	107	
TOTAL VARIABLE COSTS		192,247	120		286,428	127	
GROSS MARGIN		275,044	172	I	830,321	367	

<sup>1)</sup> Sales are negative due to purchases of calves.

<sup>2)</sup> The female calf transfer value was £250.

<sup>3)</sup> The male calf transfer value was £300.

<sup>4)</sup> The transfer value for heifers, which had calved, was £650.

<sup>5)</sup> LFASS has been adjusted to account for the amounts due to each enterprise.

<sup>6)</sup> Headage payments include SCPS, Extensification and SPS in 2004 and SBCS only in 2005.

<sup>7)</sup> A calf valuation change has been introduced to account for changes in trading stock valuation.

The weighted averages shown do not compare exactly like with like as they show 19 enterprises in 2005 compared with 32 enterprises in 2004.

The gross output of the enterprise was mainly affected by the changes to the subsidy regime, as the headage payments (SCPS, EPS and SPS) were decoupled from the enterprise and the new SBCS was introduced. Gross output dropped from £568/cow to £367/cow, a reduction of 35%. LFASS remained static at around £70/cow.

There was no change in the sales and transfers out figures for weaned of calves between 2004 and 2005.

The replacement cost increased by £10/cow between 2004 and 2005. This was as a result of increased replacement rates in the individual herds, which may be due to the removal of cows born before 1<sup>st</sup> August 1996 from the herds as a result of the closure of the OTMS.

Within the variable costs, there was a big variation in feed costs year on year. This was mainly attributed to bulk feed. This was a result of the change in the sample -i.e. 38% of bulk feed in 2004 was made up by two farms which were close to distilleries. These were no longer in the sample in 2005.

Total feed and straw was £66/cow in 2005 and £57/cow in 2004. This is a combination of feed and keep taken, home grown straw and purchased bedding. The breakdown of total feed and straw is demonstrated in Table 5.1. There appears to have been a substitute effect as the participants in the sample for 2005 were making more use of home grown straw.

Table 5.1: - Breakdown of Total Feed & Straw

Year	2005 (£/cow)	2004 (£/cow)
Feed & Keep Taken	33	45
Home Grown Straw	23	4
Purchased Bedding	10	8
<b>Total Feed &amp; Straw</b>	66	57

Other variable costs such as vet and medicine, livestock sundries, commission and levies, and haulage remained largely similar, year on year.

In 2005, there were no longer costs for net quota leasing and casual labour.

The forage charge for 2005 was expected to increase as a result of increased fertiliser prices. However it dropped from £33/cow to £26/cow. It was noticed that there was less reseeding undertaken in 2005 also, participants reducing the amount of fertiliser they used as a result of uncertainty over their profitability may have been a factor.

4 1 0	T (	A CC .:	1 0	
4.1.2	Factors	Affecting	the Gross	Margin

The	variation	across	the	sample,	possible	reasons	for	the	variation	and	other
comi	ments for	each of	the 1	major rev	enue and	cost cent	tres a	are d	iscussed b	elow.	The
resul	ts for this	section l	have	been pres	sented in t	abular fo	rm.				

# Variation in Herd Size

**Table 6: - Variation in Herd Size** 

Herd Size	2005	2004				
	Cows	Cows				
Weighted Average	84	71				
Mean	84	71				
Median	70	55				
Range – Smallest	14	12				
Range – Highest	409	69				
Standard Deviation	86	65				
Coefficient of	102% 92%					
Variation						
Commentary	As in 2004, there was a wide variation in the herd size of the sample. This was further demonstrated by the higher coefficient of variation. The main impact of herd size on the study was the economy of scale likely to be associated with the larger units.  The herd size was up by 20% on 2004.					

# **Calves Weaned**

**Table 7: - Calves Weaned Percentage** 

Calves Weaned (as a % of Herd Size)	2005	2004
Weighted Average	94%	95%
Mean	96%	92%
Median	95%	96%
Range – Smallest	76%	39%
Range – Highest	132%	125%
Standard Deviation	14%	17%
Coefficient of	15%	19%
Variation		
Commentary	average and mean number the herd size was over 90% and coefficient of variation level of variation was quite have expected. The range also reflects this higher the	om a suckler herd, the weighted of calves weaned as a percentage of %. The standard deviation of 14% on of 15% show that although the clow, it was greater than one would e in the calves weaned percentage han expected variation. Individual below to show the reasons for the
		entage does not take account of herd size and calving pattern from
	an increase in the herd and	percentage of 76%. This was due to the fact that not all cows had calved and size was 71 cows and number of
		percentage of 132%. This occurred ober of calves remaining with their an at the start.

# Calf Output Adjusted for Changes in Calf Valuation

**Table 8: - Variation in Calf Output Adjusted for Changes in Weaned Calf Valuation** 

Calf Output Adjusted for Calf	2005	2004
Valuation Change*		
	£/Cow	£/Cow
Weighted Average	256	265*
Mean	256	246
Median	254	244
Range – Smallest	186	180
Range – Highest	310	329
Standard Deviation	29	34
Coefficient of	12%	14%
Variation		
Commentary	to that seen in the because the variation was mitigated by incl Also, as virtually all t transfers to a store or calf is standardised. from the relative process of each unit and darising from the qualit	
	The distribution in cal weaning percentage.	If output closely follows that of calf

<sup>\*</sup> Calf output adjusted for calf valuation = sale + male and female transfers + calf valuation change

# **Headage Payments**

**Table 9: - Variation in Headage Payments** 

SBCS Payments	2005	2004					
	£/Cow	£/Cow					
Weighted Average	42	236					
Mean	45	216					
Median	42	213					
Range – Smallest	35	76					
Range – Highest	58	401					
Standard Deviation	7	65					
Coefficient of	16%	30%					
Variation							
Commentary	The variation in the level of SBCS payment received wa relatively low. The reason for any change in eligible cal claims was two-fold: number of claims per cow and herd size This is because there was a larger premium available for the first ten calves claimed (£79.32), decreasing to £39.60 thereafter. This means that the larger the herd (and the greate the number of calves claimed), the smaller the average payment per calf.						
	because the herd expanded to calves at foot which had been HCS 18 shows a SBCS pay	S payment per cow at £35. This is through the purchase of cows with an claimed by the previous owner.  The ment of £58/cow. This is because ws – the smallest in the sample.					

# **LFASS**

**Table 10: - Variation in LFASS** 

LFASS	2005	2004					
	£/Cow	£/Cow					
Weighted Average	70	77					
Mean	83	87					
Median	68	77					
Range – Smallest	34	40					
Range – Highest	199	264					
Standard Deviation	44	42					
Coefficient of Variation	53%	49%					
Commentary	LFASS is calculated by the high degree of variation in	formula in section 3.1.1. There is a the LFASS payment.					
	The LFASS payment made up 42% of the gross margin 2005 compared with 21% in 2004. This demonstrates the sh in farm support from direct subsidy payments to area-bas payments and a lower incentive to maintain numbers breeding cows in particular and livestock in general.						
	The variation is mainly d when suckler enterprises ar	tue to larger units benefiting more be operated.					
		s in this study had between 10% and its as cows in order to enhance their					
		ed most from this system as long as n their total stocking density above					
	relative to the larger extens	upland units were disadvantaged sive units who were better equipped inimum stocking requirement of the					

# **Replacement Cost**

**Table 11: - Variation in Replacement Cost** 

Replacement Cost	2005	2004					
	£/Cow	£/Cow					
Weighted Average	75	65					
Mean	62	64					
Median	59	55					
Range – Smallest	9	(9)					
Range – Highest	111	190					
Standard Deviation	32	48					
Coefficient of	52%	76%					
Variation							
Commentary	The variation in replacement factors: -	ent costs can be attributed to three					
	• The replacement rate including the value of	associated with a particular herd sales and purchases.					
	<ul> <li>Whether bulls had b investigated.</li> </ul>	een replaced in the period being					
	Whether the herd incre	ased or decreased over the period.					
	HCS 22 had the lowest replacement cost of £9/cow. This was because the herd expanded from 74 cows to 111 cows due to the purchase of 38 cows, while only 1 cow was sold out of the enterprise.						
	One would expect an increasing herd to carry a large replacement charge however the formula per the SSMM for calculating replacement charge does not reflect this. This is discussed in detail in the conclusions section.						
	HCS 12 has the highest replacement cost of £111/cow. This is because a higher number of cows were sold (107) compared to the number purchased and transferred in (76).						

**Table 12: - Variation in Net Output** 

Net Output	2005	2004					
	£/Cow	£/Cow					
Weighted Average	293	494					
Mean	321	488					
Median	312	493					
Range – Smallest	204	201					
Range – Highest	424	652					
Standard Deviation	57	96					
Coefficient of	18%	20%					
Variation							
Commentary	Output, net of replacement charges and calf valuation change shows a relatively small variation when compared to most of the variables considered so far.						
	The removal of headage payments from the gross margin has reduced the range across the sample, but not the coefficient of variation.						
	The massive range in performance between participants is therefore still an issue.						

Feed & Keep Taken, Straw Bedding and Forage

Table 13: - Variation in Feed, Forage and Bedding Costs

	Feed & Keep		Stra	aw	Forage		All Feed & Bedding	
	2005	2004	2005	2004	2005	2004	2005	2004
	£/Cow	£/Cow	£/Cow	£/Cow	£/Cow	£/Cow	£/Cow	£/Cow
Weighted Average	33	45	23	4	26	33	82	82
Mean	35	46	29	13	27	36	91	95
Median	30	39	19	9	23	34	85	87
Range – Smallest	5	1	1	0	0	6	45	32
Range – Highest	90	137	91	57	57	103	218	205
Standard Deviation	24	32	24	15	18	25	38	40
Coefficient of Variation	68%	70%	80%	118%	66%	69%	42%	42%
Commentary	There remains	a large variat	ion between t	the costs for t	he farms in t	he study. A	All feed & bedding acco	ounted for

There remains a large variation between the costs for the farms in the study. All feed & bedding accounted for 68%, compared to 65% in 2004, of the weighted average total variable costs. The major factors contributing to the variation remain: -

- Whether cows are out-wintered
- Baled silage, clamp silage or straw based diets
- Use of forage replacers i.e. draff
- Type of unit and intensity of production i.e. hill or upland and proportion / use of rough grazing.
- Organic or conventional production system
- Autumn or spring calving herds
- Cubicle or deep straw housing system

Even accounting for the differing systems, the range in feed costs is still very large. The bulk of this variation is likely to be explained by the low cost systems in the sample e.g. the organic and hill farms. However, there still appears to be enough variation that there is opportunity for most businesses to reduce feed costs below current levels. An example of this would be where the calving pattern becomes extended, feed costs increase. This is typical of a situation where tighter management control would reduce costs. The high costs associated with some units raises the question as to whether profit is the main objective for some participants.

# **Veterinary & Medicine Costs**

**Table 14: - Variation in Veterinary & Medicine Costs** 

Veterinary & Medicine	2005	2004
	£/Cow	£/Cow
Weighted Average	18	18
Mean	17	18
Median	14	12
Range – Smallest	2	2
Range – Highest	33	51
Standard Deviation	9	12
Coefficient of	54%	70%
Variation		
Commentary	controlled. The weighted a	and medicine costs were well average was close to that expected for owever there was still a large amount
	The factors contributing to	the variation were: -
		lest cost per cow - the system was e cows were out-wintered and very vention was required.
	<ul> <li>Remote location - on based in the highlands</li> </ul>	e of the two highest cost units were
	Herd health and require	rement for vaccination
	<ul> <li>Stocking density</li> </ul>	
	<ul> <li>Accuracy of allocatio enterprises</li> </ul>	on between suckler and store/finisher
	an opportunity for some demonstrates the individ	and medicine costs shows there is still farmers to reduce their costs. This unal participants' attitudes to herd against catastrophic events (e.g.

Minor Variable Costs: - Livestock Sundries; Commissions, Deductions & Levies, Haulage

All of the above varied widely. Together the minor variable costs accounted for 9% of the weighted average total variable costs. This variation was mainly due to the characteristics of the unit in question, examples are: -

- Commissions, Deductions and Levies by the replacement rate and trading activity associated with the breeding herd (HCS 12 had the highest costs in this category due to the number of cows bought and sold).
- Haulage is affected by location and availability of own transport as well as trading activity. HCS 8 had high haulage costs as this included transport of cows to and from winter grazing. HCS58 was high as it was on an island.

Note that there was no requirement for quota leasing in 2005. This accounted for 6% of the total variable costs in 2004. But for those units, HCS 22 and HCS 55, it was 73% and 57%, respectively.

Unlike the 2004 study, no units incurred casual labour.

# **Total Variable Costs**

**Table 15: - Variation in Total Variable Costs** 

Total Variable Costs	2005	2004
	£/Cow	£/Cow
Weighted Average	120	127
Mean	120	143
Median	104	113
Range – Smallest	70	46
Range – Highest	258	492
Standard Deviation	46	86
Coefficient of Variation	38%	60%
Commentary	coefficient of variation (33 for net output. There we variable costs as in net of three times, the variation in This reduction was mainteleasing charge, however potential for reducing we increasing output is still variation to the due to very low levels of good cost control in the office on slats and low forage constructure.  HCS 27 was the only of variable costs were £99/c.	otal variable costs. This appeared to of feed & bedding costs coupled with her cost centres. Cows being housed sets also contributed to the lower cost organic farm in the study. Its total ow, which was mainly attributed to ed for feeding and bedding. However
		costs at £258/cow. This was very ority of the units and was attributed costs.

# **Gross Margin**

**Table 16: - Variation in Gross Margin** 

Gross Margin	2005	2004							
	£/Cow	£/Cow							
Weighted Average	172	367							
Mean	201	345							
Median	208	329							
Range – Smallest	42	89							
Range – Highest	324	534							
Standard Deviation	82	112							
Coefficient of	41%	33%							
Variation									
Commentary	In 2005 the coefficient of v	variation increased to 41%, despite							
	the range decreasing. This	is likely to be a consequence of							
	headage payments insulating	g poorer performers in 2004.							
	The weighted average gross margin decreased from 2004 to								
	2005, this is was due to the reduction in subsidy payments.								
	It is clear that a number of units need to improve their technical								
	performance.								
		the highest gross margin was the							
		no had low variable costs alongside							
	a good level of calf output.								
	HCC 12 had the 1	anaga manain. This was assisted							
		gross margin. This was mainly							
	attributed to very high varial	ore costs.							
	A more detailed analysis o	f the variation between individual							
	participants is covered in sec	f the variation between individual							
	participants is covered in sec	7.1.J.							

#### Participant League Tables 4.1.3

# **Gross Margin**

The table below page shows the participants ranked by suckler cow gross margin.

**Table 17: - Participants Ranked by Gross Margin** 

SUCKLED CALF PRODUCTION

2005

Farms Ranked By Gross Margin

FARM REFERENCE	GROSS MARGIN £/cow	Herd Size cows	Calves Weaned %	Calf Output £/cow	Calf Outpu Inc Val £/cow	SBCS Payments £/cow	LFASS £/cow	GROSS OUIPUT £/cow	Rep't Cost £/cow	NET OUIPUT £/cow	TOTAL VC £/cow
HCS 13	42	53	95%	256	306	55	37	348	98	300	258
HCS 12	98	409	93%	255	255	41	44	339	111	228	130
HCS 18	105	14	90%	235	186	58	116	409	51	309	204
HCS 57	110	71	76%	209	209	36	40	285	82	204	94
HCS23	135	149	95%	263	260	40	74	377	98	276	140
HCS 24	136	77	87%	240	242	42	68	351	83	270	133
HCS32	176	78	132%	360	252	36	68	464	50	308	132
HCS8	191	112	93%	252	256	40	111	403	82	324	134
HCS 58	192	91	88%	243	243	39	84	366	51	315	123
HCS46	208	33	95%	263	263	51	108	422	110	312	104
HCS 55	214	27	77%	203	247	53	53	309	13	340	126
HCS 22	226	88	86%	193	250	35	34	262	9	309	83
HCS45	234	106	78%	200	254	40	55	295	44	304	70
HCS 6	241	65	106%	289	290	48	46	383	49	334	93
HCS48	270	70	100%	275	243	40	145	459	59	369	98
HCS 56	274	33	101%	270	260	50	68	387	20	358	84
HCS 50	321	69	105%	288	288	47	144	478	66	412	91
HCS39	322	23	109%	265	244	48	199	512	88	403	81
HCS27	324	30	119%	326	310	58	78	461	21	424	99
Average/unit	201	84	96%	257	256	45	83	385	62	321	120
Top 1/3 units	292	48	107%	285	272	48	113	447	51	383	91
Bottom 1/3 units	104	129	90%	243	243	45	63	352	87	264	160

The table shows the participants ranked in order of gross margin, with their corresponding values for the principal factors contributing to gross margin. Average performance values have been calculated for the whole sample, top third and bottom third participants. Finally, a regression analysis was performed to identify the factors most important in defining gross margin performance.

Average gross margin for the sample was £196/cow, with top third participants lifting performance by 46% or £90/cow to £286. Bottom third producers were only able to generate a gross margin of £99/cow, 51% or £97 below the average and less than half that of the top performers.

The average gross margin of £196/cow is £29 above the weighted average. This is due to the influence of HCS 12, a large unit of 409 cows, and 25.6% of the sample being situated at the lower end of the league table.

It should be noted that for the bottom third producers, the income from SBCS payments and LFASS of £103/cow is greater than the gross margin per cow of £99 whilst for the top third producers SBCS payments and LFASS total £156. So the top third producers actually net £53/cow more in subsidy and are able to generate a further margin of £187/cow than the bottom third of producers.

The results show that the most important factor in determining gross margin remains net output.

This demonstrates that the return from increased levels of technical and management input into the beef enterprise has increased following the removal of headage payments under the reform of the CAP implemented in 2005.

By the same token, the return to the poorer performers has decreased on a relative basis.

The shift away from headage payments has increased the gap between the top third and bottom third performers.

Within net output, LFASS and level of replacement costs are still important contributors in determining gross margin. The percentage of calves weaned is only the third most important factor.

The introduction of the SBCS has increased the importance of herd size relative to gross margin. This is due to the increased weighting of payments towards the smaller units.

# **Variable Costs**

The table below shows the participants ranked by total variable cost complete with a breakdown of all variable costs.

Table 18: - Variable Cost breakdown

LEAGUE TABLE Variable Costs Breakdown

# SUCKLED CALF PRODUCTION

2005

FARM REFERENCE	TOTAL VC £/cow	Feed & Keep £/cow	Straw/ Bedding £/cow	Vet & Med £/cow	Casual Labour £/cow	Livestock Sundries £/cow	Comm's Etc £/cow	Haulage £/cow	Quota Leasing £/cow	Forage £/cow	All Feeding & Bedding £/cow
HCS 45	70	33	11	11	0	3	2	0	0	10	54
HCS 39	81	5	31	28	0	4	1	2	0	9	45
HCS 22	83	14	35	11	0	1	1	0	0	21	70
HCS 56	84	18	3	2	0	5	1	0	0	55	76
HCS 50	91	30	12	33	0	10	1	0	0	6	48
HCS6	93	5	18	7	0	12	0	0	0	50	73
HCS 57	94	20	1	16	0	6	4	0	0	46	67
HCS 48	98	12	55	12	0	4	2	3	0	10	78
HCS27	99	19	57	18	0	5	0	0	0	0	<b>7</b> 6
HCS 46	104	40	19	11	0	4	5	0	0	26	85
HCS 58	123	41	18	12	0	8	4	4	0	37	96
HCS 55	126	29	40	10	0	22	1	0	0	23	93
HCS 12	130	20	59	23	0	5	6	2	0	15	94
HCS 32	132	55	48	8	0	2	5	0	0	14	117
HCS 24	133	53	15	19	0	3	1	2	0	41	109
HCS8	134	69	4	14	0	2	1	10	0	33	106
HCS 23	140	39	17	20	0	4	1	3	0	57	113
HCS 18	204	73	22	33	0	56	2	1	0	17	112
HCS 13	258	90	91	31	0	8	1	0	0	38	218
Average/unit	120	35	29	17	0	9	2	1	0	27	91
Low VC - 1/3	84	17	19	15	0	6	1	0	0	25	61
High VC - 1/3	167	63	33	21	0	13	2	3	0	33	129

<sup>1)</sup> All feed and bedding comprises of feed and keep taken, straw and bedding and forage charge.

The table shows that some units are able to operate at much lower variable costs than their counterparts. The average total variable costs incurred for the sample were £120, compared to only £84 for the participants with the lowest variable costs (top third performers). The average for those participants with the highest cost structure (bottom third performers) was £167/cow.

The top third performers' variable cost structure is within £1 of the 2004 value at £84 /cow, whilst the bottom third performers have seen a considerable reduction in their variable cost structure, reducing by £61 on 2004 values to £167/cow. Of this £61 reduction, £47 was due to the quota leasing charges.

The major factor contributing to total variable costs is all feeding and bedding costs, which account for 75% of total variable costs. This is made up of three cost centres – feed and keep, straw and bedding and forage charge. Of these individual cost centres, feed and keep had by far the biggest effect on variable costs, followed by straw and bedding. Forage costs, had only a small effect.

All feeding and bedding costs averaged £91/cow with the top third producers averaging £61/cow compared to £129/cow for the bottom third producers. Within the cost centres, the biggest variation was seen in feed and keep with a difference of £46/cow between top third producers (£17/cow) and bottom third producers (£63/cow).

Effectively there is an element of balancing between the cost centres whereby units feeding less concentrates fed more forage. This is demonstrated by the way in which the sum of all the feed, forage and bedding has the best fit with total variable costs.

The influence of veterinary and medicine costs on total variable costs has increased compared with 2004. This is due to the removal of the quota leasing charges.

Livestock sundries had a similar effect on variable costs to vet and medicine costs. The enterprise with the second highest variable costs (HCS 18) had the highest livestock sundries at £56/cow. This was caused by blood testing costs for the Highlands and Islands Health Scheme.

Commissions etc. and haulage had little impact on total variable costs.

Table 19 on the following page shows the relationship between total variable costs, the major variable costs and the gross margin. Participants are ranked in order of gross margin performance. The term major variable costs is used to identify those variable costs likely to have most effect on gross margin.

Table 19: - Relationship Between Gross Margin and the Major Variable Costs

LEAGUE TABLE SUCKLED CALF PRODUCTION
Relationship between the Major Variable Costs & Gross Margin

2005

FARM	GROSS	TOTAL	Feed &	Straw /	Vet &	Forage	All Feeding
REFERENCE	MARGIN	VC	Keep	Bedding	Med		& Bedding
	£/cow	£/cow	£/cow	£/cow	£/cow	£/cow	£/cow
HCS 13	42	258	90	91	31	38	218
HCS 12	98	130	20	59	23	15	94
HCS 18	105	204	73	22	33	17	112
HCS 57	110	94	20	1	16	46	67
HCS 23	135	140	39	17	20	57	113
HCS 24	136	133	53	15	19	41	109
HCS 32	176	132	55	48	8	14	117
HCS 8	191	134	69	4	14	33	106
HCS 58	192	123	41	18	12	37	96
HCS 46	208	104	40	19	11	26	85
HCS 55	214	126	29	40	10	23	93
HCS 22	226	83	14	35	11	21	70
HCS 45	234	70	33	11	11	10	54
HCS 6	241	93	5	18	7	50	73
HCS 48	270	98	12	55	12	10	78
HCS 56	274	84	18	3	2	55	76
HCS 50	321	91	30	12	33	6	48
HCS 39	322	81	5	31	28	9	45
HCS 27	324	99	19	57	18	0	76
Average/unit	201	120	35	29	17	27	91
Top 1/3 units	292	91	15	29	17	22	66
Bottom 1/3 units	104	160	49	34	24	35	119

This table shows that the top third participants were able to save £29/cow compared to the average participant (£120/cow) in the sample and £69/cow compared with the bottom third of participants. 77% of the savings were secured on feed and bedding costs i.e. savings of £53/cow. These savings were achieved without compromising the gross margin.

It is also worth noting that it is all feed / bedding costs that is the most important variable cost centre regarding gross margin performance.

# **CONCLUSIONS AND DISCUSSION**

# 4.2 KEY POINTS ARISING FROM THE RESULTS ANALYSIS

- Weighted average gross margin for the hill suckled calf enterprise was found to be £172/cow in 2005 (£367/cow in 2004). The major factor in this decrease was the removal of the direct headage payments and the influence of HCS 12 on the weighted average.
- Top performing farms were characterised by their ability to generate more output from their respective enterprises than their less successful counterparts, as well as their ability to control the variable costs incurred by their enterprise.
- There was a large variation in the gross margins across the sample. The coefficient of variation increased from 33% in 2004 to 42% in 2005. This indicates that the majority of producers may be able to improve physical and financial performance.
- Within the sample, top third hill cattle producers were characterised by having a gross margin of £292/cow, £91/cow more than the average and £188/cowmore than the bottom third of producers. They received £33/cow more subsidy than the average producer and £53/cow more subsidy than the bottom third of producers. They were able to operate with variable costs £29/cow lower than the average producer and £69/cow lower than the bottom third of producers.
- As noted above, output was the most important factor in determining top performers. As subsidy income has reduced, technical and management efficiency has become relatively more important, as the previous direct subsidy system is no longer in place to buffer poorer performing herds.
- Calf price only had a limited impact on gross margin. The study was only able to identify improved performance arising from better fertility and not from quality of the cattle sold. This is because the end point of the enterprise was the calf transfer out of the herd at weaning. The calf transfer price was fixed at £250/female calf and £300/male calf. It is likely that, were the quality of the stock able to be measured, there would have been a further increase in variation across the sample.

- The variation in total variable costs reduced considerably from 2004 to 2005 due to the absence of quota leasing charges. However this is still high in comparison to net output variation. This suggests that total variable costs can be more readily managed than net output.
- All feed and bedding is the most significant factor and makes up 68% of total variable costs in the weighted average. The coefficient of variation is 42% for all feed and bedding, the same as in the 2004 study. This high level of variation is due to a number of factors: silage-based diets versus straw-based diets; cattle being housed on straw over the winter versus cattle out-wintered on hill; spring calving versus autumn calving, etc. Furthermore, some participants are limited by their location, facilities or size and so may not be able to adopt certain more cost-effective systems.
- There was little variation in SBCS payments, with the main variables being herd size (larger payments made on the first ten claims) and the number of claims made. The significance of the SBCS on the gross margin was low.
- The LFASS payment became more significant in 2005, providing 24% of net output compared to 16% in 2004. This was due to the decrease in net output following the removal of direct headage payments averaging £236/cow.
- The study included several farms that were based in the Northern Isles. Haulage and feed costs were expected to be high but because the breeding herd does not incur a high level of haulage or feed costs this did not materialise. Had the study included finishing animals, the differential between the island and mainland farms would probably have been more noticeable.
- The formula for calculating replacement costs stipulated by the SSMM did not reflect changes in herd size accurately. It also returned a null value where there were no sales, deaths or transfers out or no purchases or transfers in. So in cases where breeding animals either only came on to the farm or only left the farm, a nil value for replacement cost was returned. This arose mainly for bull replacement costs. This has impacted on the accuracy associated with calculating the replacement costs for some units as well as affecting the standard deviation and coefficient of variance associated with the sample replacement costs as a whole.

# 4.3 INTERPRETATION OF THE STUDY RESULTS WITH PARTICULAR REGARD TO FUTURE ECONOMIC PERFORMANCE AND RECENT STRUCTURAL CHANGES IN THE SECTOR

- The cattle sector in 2005 was no longer heavily supported by direct headage payments. This resulted in the 2004 weighted average gross margin being £367/cow compared to £172/cow in 2005.
- LFASS is still a major factor that contributing to gross margin in 2005. From 2006 it appears likely that this payment will become area based. This will remove a major financial incentive to keep breeding cows on LFA units.
- The reduction in gross margin, coupled with the break in the linkage between stocking rate and subsidy income means that farmers will have to consider the optimum herd size for their enterprise going forward.

There are effectively dual, opposing aims: -

- To reduce cow numbers in order to reduce costs and maximise profits.
- To retain cows to maintain a critical mass in terms of enterprise size i.e. one capable of justifying the infrastructure in place, labour, machinery, etc.

The decision as to at what level to operate is further complicated by the knowledge that income from the SFP will decrease. The status quo is therefore not an option for most producers.

The logical outcome is a protracted period of change over the next five years as the bottom third of producers exit the industry, with the top third of producers increasing their operations to gain economies of scale. The trend will be towards a smaller but more efficient sector, with the rate of change dictated by the strength of the UK beef market.

• The introduction of the SFP and the proposed changes to the LFASS from 2007 will mean that producers have more flexibility in determining their future stocking rates. There is now no subsidy-driven incentive to retain additional cows. Producers will have to assess their enterprise in terms of its efficiency and cost structure in order to ensure that it is able to be profitable without subsidy. This may involve reducing cow numbers in an effort to reduce labour.

- Throughout 2005 farmers appeared to adopt a "wait and see" approach in the absence of hard information on which to make strategic decisions such as: -
  - Size and timing of SFP receipt
  - Future levels of modulation
  - Sustainability of current beef price
  - The future of LFASS
  - Effect of the removal of OTMS
  - Effect of the removal of the export ban
- This lack of hard information has meant that producers have been reluctant to take advantage of the SFP to assist with the restructuring of their business. As farmers now do have certainty regarding some of these issues, the question remains whether this is sufficient to allow the restructuring exercise to take place from now on.
- Throughout the study it became clear during contact with the participants that they were finding it difficult to reach firm conclusions as to their future strategy.