

Report to the NFU Poultry Board



and UK Broiler Growers

# A SUSTAINABLE FUTURE FOR BRITISH CHICKEN

**Final Report**

Savills Agribusiness & Savills Research  
March 2009



**CONTENTS**

1	EXECUTIVE SUMMARY .....	3
1.1	Returns on Investment in the broiler grower sector give growers little or no incentive to reinvest	3
1.2	Growers have relied on efficiency gains to support margins	4
1.3	There is little available margin to share between the integrator and grower	5
1.4	Pricing mechanisms need to reflect volatility in cost of production	6
1.5	Growers, processors and retailers need to work more closely together to achieve benefits for all parts of the chain	7
1.6	Key Recommendations to the industry	7
2	INTRODUCTION.....	8
3	PURPOSE OF STUDY.....	8
4	GROWER CAPITAL INVESTMENT.....	9
5	HISTORIC GROWER MARGINS 1997 – 2009.....	10
5.1	Producer prices	12
6	STRUCTURE OF THE INDUSTRY.....	12
7	CONTRIBUTION OF THE SECTOR TO THE ECONOMY.....	13
7.1	Farm Level	13
7.2	Retail level	13
8	PRODUCER, WHOLESALE AND RETAIL PRICES.....	14
8.1	Retailer analysis	16
8.2	Shopper Behaviour	17
9	BROILER PRODUCTION FINANCIAL SURVEY AND ANALYSIS.....	18
9.1	Supply chain costing issues	18
9.2	Proposal	18
9.3	Current Context	19
9.4	Prospects	20
9.5	Growers	21
9.6	Grower summary:	21
10	BALANCE OF TRADE – UK PRODUCTION AND CONSUMPTION.....	22
10.1	Trade	22
10.2	Production and consumption (supply and demand)	22
11	ANIMAL WELFARE AND COMPLIANCE .....	23
12	EXPERIENCE OF OTHER UK SECTORS AND OVERSEAS BROILER SECTORS.....	23
12.1	US Experience	24
12.2	European Experience	24
13	CONCLUSIONS .....	25
14	RECOMMENDATIONS .....	26
15	IMPORTANT NOTE .....	26
16	APPENDIX 1 - ANALYSIS BEHIND GROWERS SURVEY DATA.....	27

## 1 EXECUTIVE SUMMARY

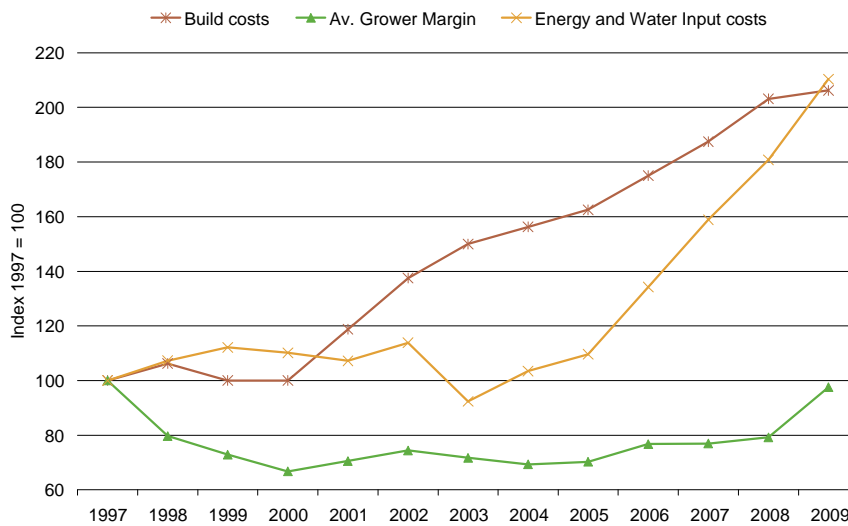
Recent extreme volatility in UK agricultural inputs has highlighted the exposure of the British broiler industry structure. The NFU Poultry Board, under the leadership of Charles Bourns, and NFU Chief Poultry Advisor Robert Newbery, along with many British growers have come together to obtain an independent report on the broiler industry, analysing the grower's position with regard to risk and investment.

Savills has analysed actual data from growers covering in excess of 800,000 square metres of growing space which represents approximately 15% of total UK production. These figures were collated from results during the period of summer 2008. Historic data has also been provided from a smaller sample of growers going back to 1990. We have drawn the following main conclusions from the report:

### 1.1 Returns on Investment in the broiler grower sector give growers little or no incentive to reinvest

- The cost of investing in new poultry sites has more than doubled in the past ten years.
- The acceptable IRR should be 15%, however, based on our financial breakdown the survey says this is not achievable across the sector today.
- UK grower margins initially declined, then remained static for a long period and have only recently shown signs of improvement, whilst over the same period all other costs have risen.
- Energy and Water unit costs have doubled in the last five years, according to NFU data this has translated into a 35% increase on a p/kg basis.

**Figure 1: Build Costs, Average Grower Margin and Energy & Water unit costs**



Source: Broiler Growers Group Data

- After decades of expansion, UK broiler production has fallen in response to poor grower returns, with investment in new housing significantly reduced. Broiler grower productivity growth has been hindered, with an ageing production base. US Integrators are offering longer contracts to induce efficient growers to invest in new technology.

**Table 1: Broiler Grower Financial Breakdown**  
 p/m<sup>2</sup>/wk

<b>Gross Margin</b>	<b>85.00</b>
Total Operating Costs	<b>55.35</b>
Cost of shed	38.85
Interest on avge. cap @ 6%	0.22
<b>Net Margin/(Deficit)</b>	<b>(9.43)</b>

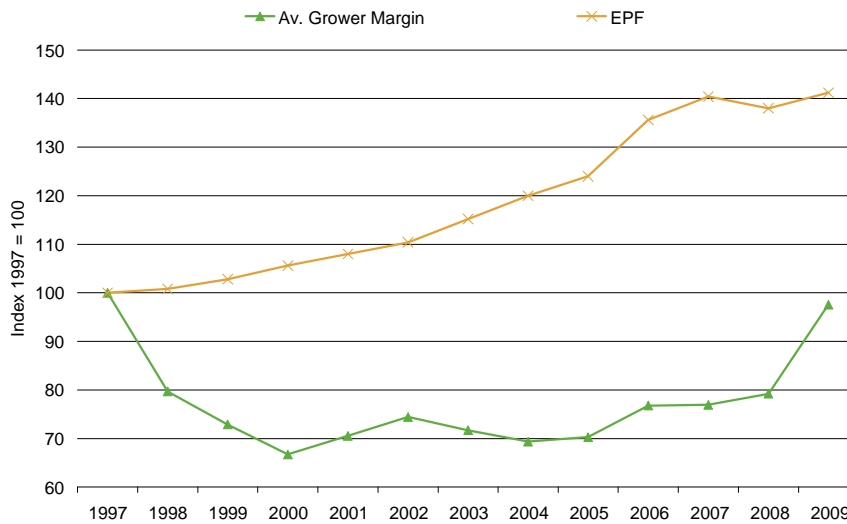
Source: Broiler Growers Data

- Investment in broiler sheds is relatively high risk. Based on our model there is currently no return for risk or for entrepreneurial investment. Therefore, a commercially minded producer is unlikely to invest, and this situation reflects the decline in UK production.
- Significant improvements in the grower margin are required to induce investment in new and energy efficient refurbishment of existing sheds.

**1.2 Growers have relied on efficiency gains to support margins**

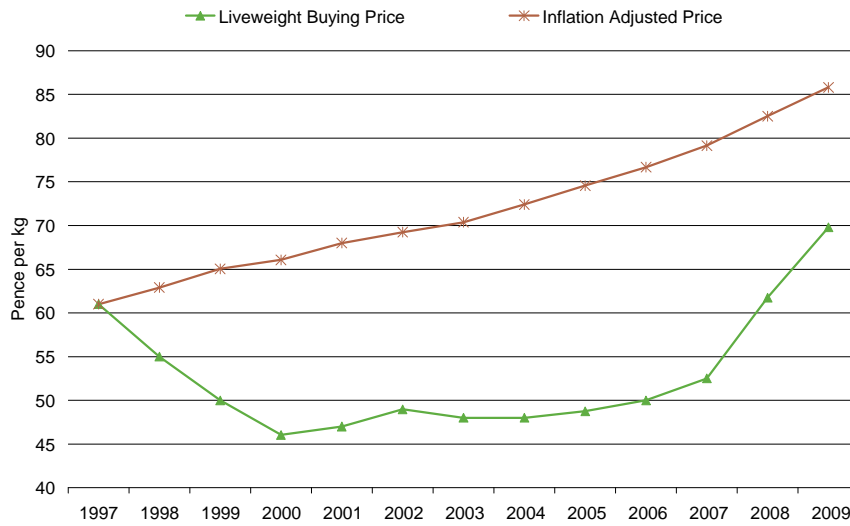
- Producers have had to rely on efficiency gains (EPEF) to support their margins as the price they receive has declined in real terms.
- Further efficiency gains will be increasingly difficult to achieve (most gains have been achieved through better genetics).
- Irrespective of the gains in efficiency, the actual live weight buying price (i.e. the price paid by the integrator to the grower) has fallen well behind the inflation (RPI) adjusted price since 1997.

**Figure 2: Average Grower Margin and European Performance & Efficiency Factor**



Source: Broiler Growers Group Data

**Figure 3: Liveweight Buying Price**

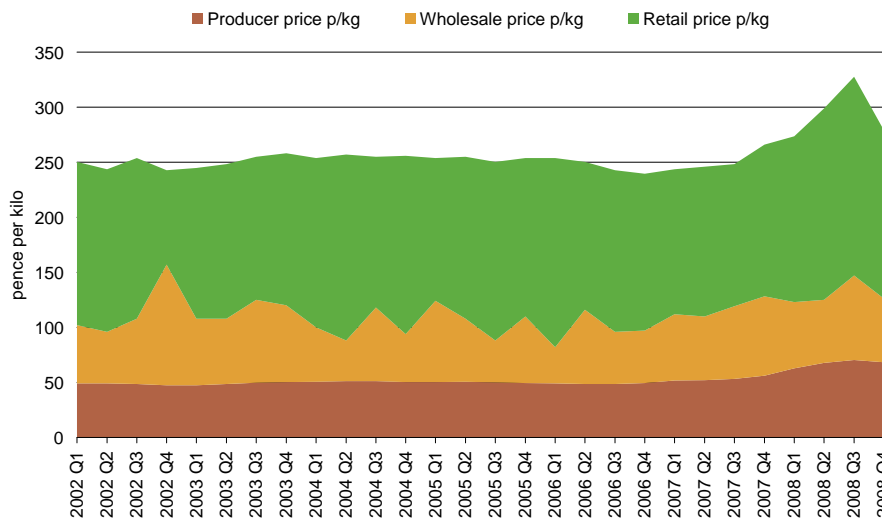


Source: Broilers Growers Data

**1.3 There is little available margin to share between the integrator and grower**

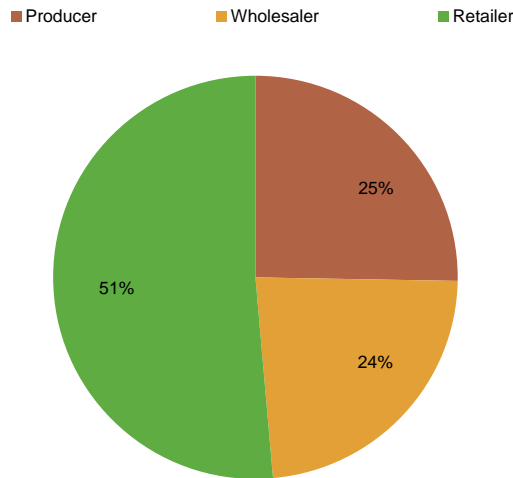
- A fundamental problem faced by the sector is the high margin expectation of retailers.
- A disproportionate margin expectation in the chain leaves significantly less margin to share between the integrator and the grower.

**Figure 4: Estimated average poultry prices**



Source: Defra & Savills Research

Figure 5: Estimated share of average total retail price in 2008



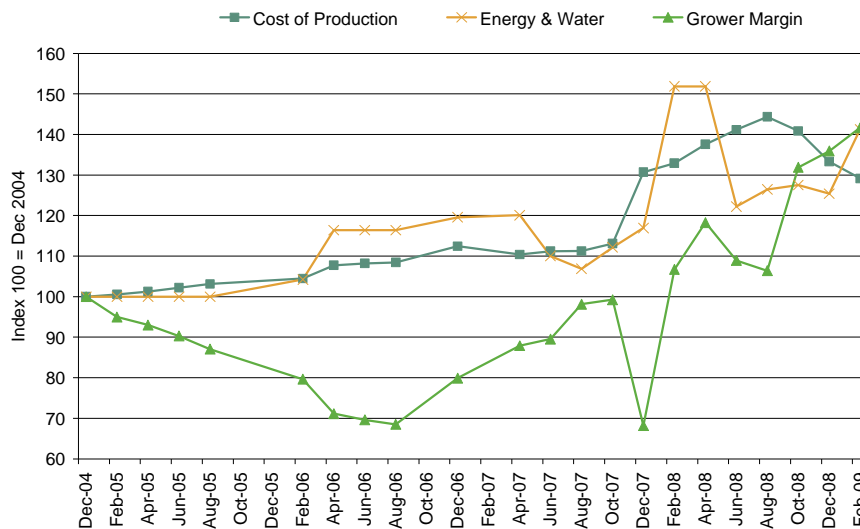
Source: Defra & Savills Research

- The broiler chicken market has seen value growth of 5% in 2008 compared with 2007, but sales by volume have fallen 2% indicating rising prices at the retail level.

1.4 Pricing mechanisms need to reflect volatility in cost of production

- Current pricing mechanisms allow live weight price rises to be obtained for feed and chick price rises, but this is not generally the case for the increase in cost of other farm inputs like energy or new costs born out of new legislative measures for production.

Figure 6: Average Grower Margin and Costs



Source: NFU

- There are examples of good practice in integrator/grower arrangements including feed and energy price ratchets.
- NFU data suggests that the ‘average producer’ endured a period of sustained losses from 2004 to October 2008. Margins have improved post October 2008 but producers have clearly suffered a long period of losses.
- Reducing the price paid to growers now would put the industry under real strain, possibly leading to a producer exodus as has been the case in the UK pig and dairy sectors.

- We believe that the dairy and pig sectors provide some important lessons for the broiler sector. Both have contracted as a result of sustained periods when costs have exceeded income, with serious import competition, creating little or no confidence for farmers to reinvest.

#### **1.4.1 Growers, processors and retailers need to work more closely together to achieve benefits for all parts of the chain**

- In order to reduce costs within the supply chain, all parties need to operate at as close to full capacity as possible.
- An appropriate price mechanism is needed to reward (or penalise) the party with control over a given resource.
- Reinvestment in broiler sheds (which benefits the whole supply chain) requires confidence in long term relationships with retailers. Contract periods are very short (as little as two crops) to justify capital investment requiring a payback period of at least ten years.
- The weak level of sterling makes imports relatively more expensive. A vibrant UK broiler sector is desirable if for no other reason than price risk management and security of supply for retailers in the short and long term.

#### **1.5 Key Recommendations to the industry**

- Benchmark grower production costs using standard margin calculations to further drive efficiencies in the Industry and relay the need to retailers to allow improvement and expansion of the grower base to facilitate meeting future British demand
- Introduce an independent costing service overseen by a trusted 3rd party to improve grower efficiency and enable informed decision making.
- Develop new contracts appropriate to the current situation of lower genetic progress and the need for greater quality control at all stages of the supply chain.
- Processors, retailers and growers should work together to build confidence in supply chains which provide a positive effect on maintaining the UK supply base.
- All parts of the supply chain to work together to reduce waste and cut out inefficiencies. The benefits of such initiatives to be shared equitably by all parts of the chain.

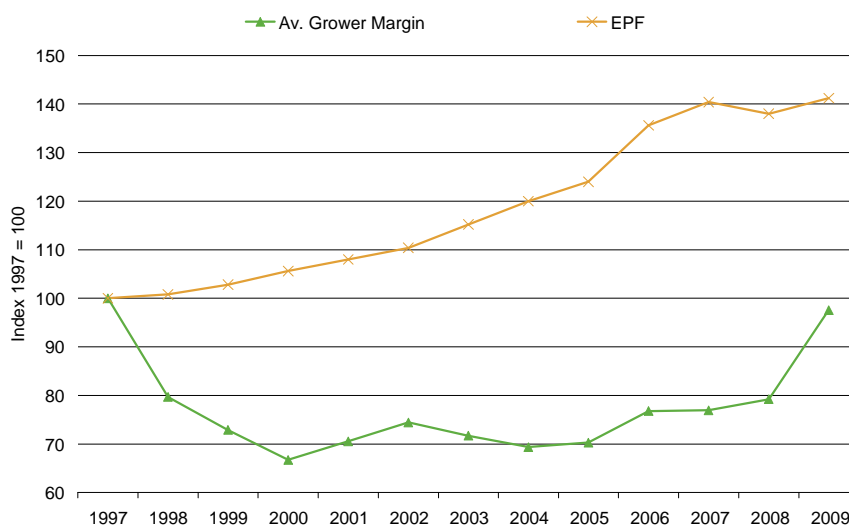
## 2 INTRODUCTION

Savills has been asked by a group of concerned broiler chicken producers to research the current state of their sector and present the findings in report form. The report has been prepared by Ashley Lilley (Savills Agribusiness), Ian Bailey (Savills Rural Research) and Simon Ward (Independent Consultant).

Over the last 10 years, or so, broiler producer margins have been under pressure as a result of increased costs of production, the burden of disease outbreaks and new legislation. At the same time broiler producers are required to satisfy the stringent demands of retailers and consumers.

The reduction in value (in real terms at least) of chicken has consequently reduced producers' returns, although this has partly been offset by improvements in genetic and grower efficiency including increased farm size to spread fixed costs such as management. Unfortunately, achieving further efficiencies is subject to the law of diminishing returns so that short of major scientific breakthroughs in broiler production further gains will have minimal benefits in terms of cost of production.

**Figure 7: Average Grower Margin and European Performance & Efficiency Factor**



Source: *Broiler Growers Group Data*

The increase in European Performance Efficiency Factor (EPEF) suggests that where margins have increased, this has at least partly been due to efficiency gains, which in turn are partly due to improved management and genetics. Therefore not all of the gain in margin is down to the price paid by the integrator. This position however is reversed in 2008/09 due to price increases and the tailing off of EPEF.

## 3 PURPOSE OF STUDY

The main purpose of the study is to assess the financial viability of broiler production in the UK with the aim of producer margins representing a fair return on investment and risk.

The study should allow broiler producers to inform integrators, retailers and other interested parties of the current state of their sector, as well as where the sector needs to be in the future to be sustainable.

#### 4 GROWER CAPITAL INVESTMENT

Current estimates of building costs are £172 to 182 per m<sup>2</sup> (£16-17 per ft<sup>2</sup>) for a greenfield site connected to services (no cost has been put in for a poultry man's dwelling since it is likely to be an appreciating asset and the rental cost is included within the wage cost). The annual cost is derived from a combination of interest charge and estimated life of the asset.

We have assumed that the investment life would be no more than 20 years based on a combination of structure life and risk of obsolescence. The capital investment is single purpose only; chicken sheds do not have an alternative use and any rental value relates only to use as a broiler shed. Consequently it is reasonable to consider the investment as relatively high risk and as such should attract a budgeted return of 10-20%.

The term of the agreement between grower and integrator varies with examples of notice periods as short as two crops (i.e. less than 15 weeks). By granting longer contracts the return on capital needed to justify the investment would be reduced since risk is lower. However, some growers appear to accept the current contract terms. It may be argued that non-commercial returns on investment are consequently acceptable. Twenty year borrowing rates are around 6%. It is unlikely that any other investor would accept this return and the lack of new buildings suggests that growers in practice expect a higher return than currently provided to cover at least some of the risk. A 15% potential return is likely to be necessary to justify expansion or replacement of buildings.

In practice the capital cost of the building is the rental cost. While units are let, the rental payment reflects the potential return from broiler production. When returns are low, rental values can be some way below the build cost.

There is a risk that construction of newer buildings with higher efficiency levels will make contract termination more likely, particularly if a point is reached where there is over supply such as might result from a strengthening of the sterling exchange rate.

It is worth emphasising that expansion of the industry is as important to the integrators, since the growers provide a significant proportion of their market, and to retailers, who need to manage the risk with changing costs of production as economic growth in other parts of the world takes place and currency exchange rates fluctuate.

Future government targets may require a reduction in greenhouse gas emissions and this objective has been echoed by many of the supermarket chains. Several dairy producers have signed up to a reduction in greenhouse gas emissions and it is likely that this will be adopted in other sectors. It is quite possible that a reduction will be applied through legislation. The major means of reducing carbon is through the construction of new energy efficient buildings.

Costings shown in (Appendix 1) are compiled from a survey of growers during the summer of 2008, when energy/heating costs are known to be lower. This is believed to be the largest survey of its type. Cross-referencing with other data such as that supplied by the NFU and integrators shows that there is a high level of agreement at the net margin level, although there is some variation in the individual element making up the margin.

It is significant that if capital is valued at only 6% (i.e. resulting in no profit) the survey and all other costing sources seen show that a loss is generated. This is hardly surprising given that the internal rate of return is only 6 to 7%.

However, this excludes any new shed premium paid by some integrators, lower energy consumption than the survey average and the initially higher productivity expected in a new building with a lower background pathogen level. This will have a positive impact on the Internal Rate of Return (IRR) but is unlikely to bring the return to the levels required. This is an important area for further investigation and has value to all parties in the supply chain and not just growers.

There are a number of tax allowances that may improve the return to the grower, although the impact depends upon which tax banding the grower falls into. The benefit depends on tax rate but even if the tax rate is 40% and the building qualifies for relief, the impact on the IRR is small. If rollover relief is available it reduces the effective building cost by 18%. This does have a significant impact on the IRR, but reliance on the availability of this relief is a risky strategy. In light of the above any commercially minded producer is unlikely to make an investment and indeed this situation reflects the decline in national production.

By simply taking the actual grower’s results for 2008 and deducting the cost of a new shed (over 20 years) and interest on average capital at 6% it suggests that a loss of 9.43p/m<sup>2</sup>/wk (1.43p/kg) would be made, this is summarised in the following table.

**Table 2: Broiler Grower Financial Breakdown**

	p/m <sup>2</sup> /wk
<b>Gross Margin</b>	<b>85.00</b>
Total Operating Costs	<b>55.35</b>
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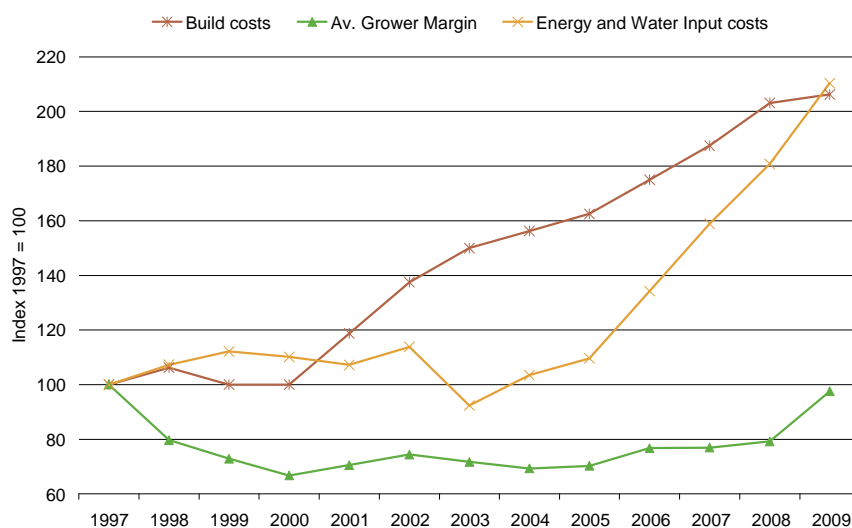
Source: Broiler Growers Group Data

## 5 HISTORIC GROWER MARGINS 1997 – 2009

We have been provided with actual growers’ data for the period 1997-2009.

The chart below shows that new shed build costs have increased at a significantly higher rate than grower margins. Build costs have more than doubled since 2000, therefore there has to be a clear incentive for producers to consider reinvestment going forward.

**Figure 8: Build Costs, Average Grower Margin and Energy & Water unit costs**



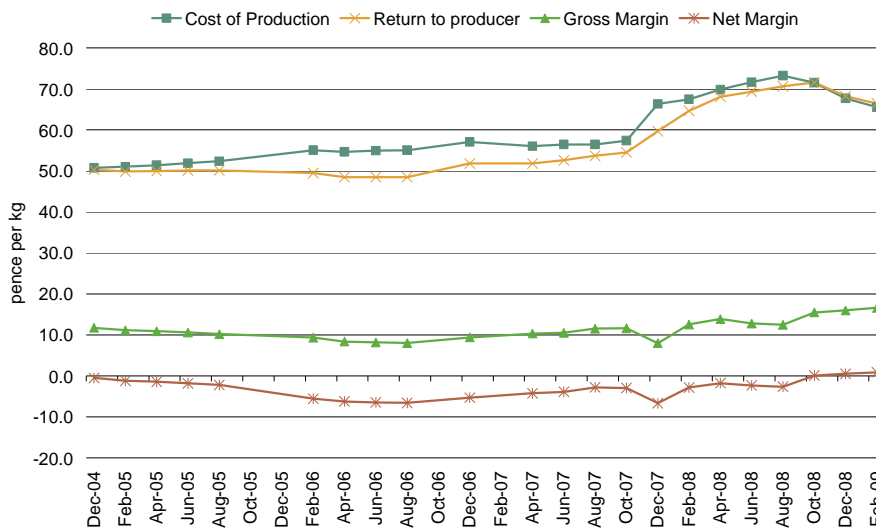
Source: Broiler Growers Group Data

The chart above also shows energy and water unit costs which are a significant component of cost of production and also have demonstrated increasing volatility over recent years.

Analysis of NFU data shows that energy and water costs on a pence per kg basis increased by 35% between February 2004 and February 2009.

The NFU reported total costs of production of 71.51p per kilogram in October 2008 which compares with a figure of 65.58p per kg from the sample of growers’ data that we have been provided with. This data suggests that the costs of production have increased by 24.6% over the 12 month period since October 2007. The NFU data is summarised in the following chart (compiled from NFU Poultry Business Brief, editions 1-23).

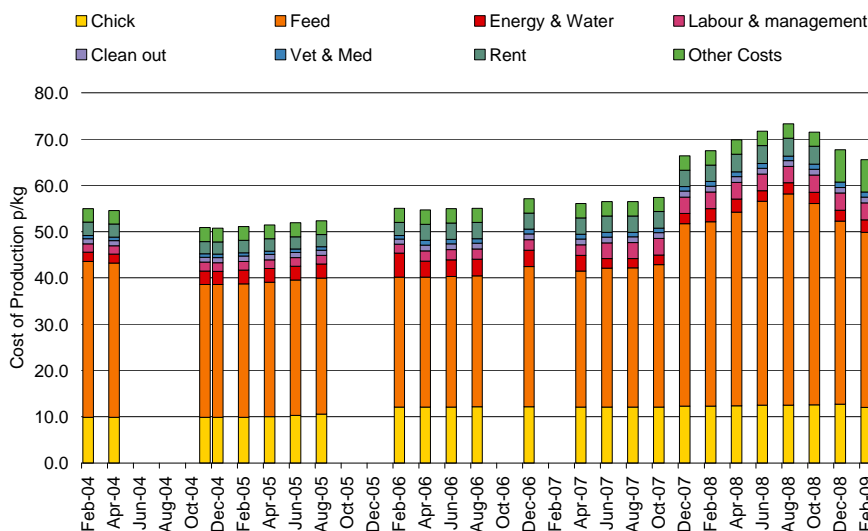
Figure 9: Costs of Production, Producer Returns & Margins



Source: NFU

The NFU data suggests that the ‘average producer’ has been loss making from when their analysis started (December 2004) up to October 2008. That loss has ranged from 0.47p/kg in December 2004 up to 6.65 p/kg in December 2007. Even if margins have now recovered (and it is still to be seen if higher margins will be sustained) producers have clearly suffered a long period of losses. It is economically sound for growers in the short term to continue production at below full cost recovery since the capital cost is incurred irrespective of output and there is likely to be a cost associated in reducing labour; they may not make a profit, but continuing production reduces the loss. It is clearly not possible in the longer term to continue production and eventually an almost irreversible decline in production becomes likely since appropriate investment can no longer be made. A stark and similar impact has been felt in the dairy industry where despite a rise in milk price the rate of decline in production has continued.

Figure 10: Costs of Production



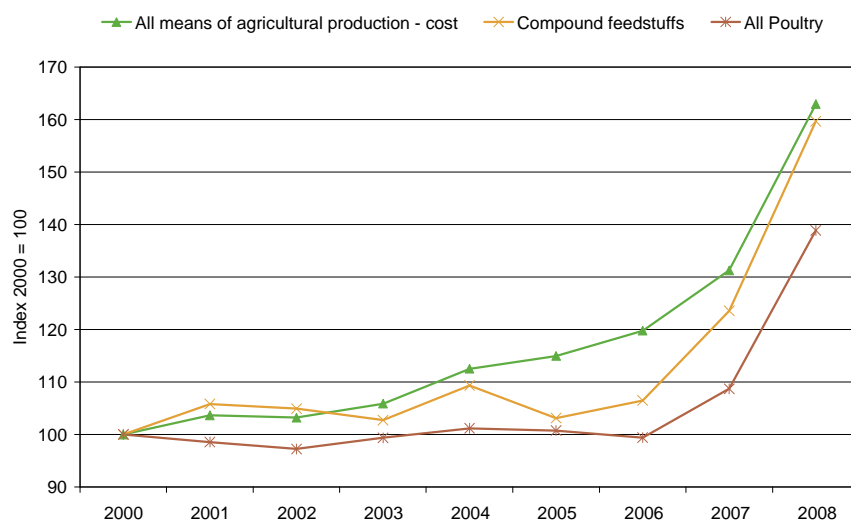
Source; NFU

Further analysis of the NFU data (see chart above) suggests that feed costs are the biggest variable in costs of production having ranged from 28.03p/kg in February to April 2006 up to 45.65p/kg in August 2008, a range of 163%. Energy and water costs have also increased significantly.

### 5.1 Producer prices

According to DEFRA data, poultry meat prices have been on a slight upward trend since 2002 which then accelerated from 2006 but this trend has not kept pace with the costs of production (see chart below). Although the cost of compound feeds fell back in 2005, since 2006 they have risen sharply. The ‘all means of agricultural production – cost’ (a DEFRA measure of cost of production across the whole industry) in 2008 ended 24 index points above poultry prices, implying that poultry margins have been increasingly squeezed since 2000.

**Figure 11: Producer prices for poultry meat and costs of production**



Source: DEFRA Index of Producer & Purchase Prices, 2008

## 6 STRUCTURE OF THE INDUSTRY

An increasing concern, at both farm and consumer level, is the concentration of commercial power in an industry heavily dominated by a small number of vertical integrators. Farmer owned holdings are almost invariably contracted to produce for one of these companies. Chicks, feed and some other inputs are either supplied or closely controlled by the company that will also process and market the broilers (Structure & Economics of Broiler Production in England, University of Exeter, 2004). This concern has increased as the scope for the integrators to propel technical efficiency has declined.

The UK poultry industry grew significantly from the mid 1970s. This growth was largely due to a near doubling, to around 173 million birds in production at any one time by 2006, of the number of birds (broilers) for meat, in response to an increase in the per capita consumption of poultry meat resulting from a fall in price.

The University of Reading’s survey of broiler production in 2005 of over 3,100 holdings found that the majority of these were relatively small scale with 69% of production concentrated on the largest 400 holdings which had flock sizes in excess of 100,000 birds. We would expect that this trend has and will continue as it has in other sectors. Table 3 shows how these units were distributed over size groups, where size is defined by the number of birds produced. The data shows that average flock sizes have doubled between 1995 and 2005.

**Table 3 – Distribution of broiler holdings and production volumes, by size group (2005)**

Flock size	Number of holdings		Total number of birds	
		(%)	('000)	(%)
1 - 9,999 broilers	2,000	64.5	668.2	0.6
10,000 - 99,999	700	22.6	33,848	30.4
100,000 and over	400	12.9	76,970	69
<b>All</b>	<b>3,100</b>		<b>111,487</b>	

Source: Defra (2007c)

## 7 CONTRIBUTION OF THE SECTOR TO THE ECONOMY

### 7.1 Farm Level

The production of broiler chickens is of substantial importance to the agricultural and wider economies. Farm gate sales of £1.66 billion in 2006, supplied 90% of domestic demand for poultry meat. This rate of self sufficiency was high, although it has declined in recent years (Farm Business Survey 2006/2007 – Poultry Production in England, University of Reading, April 2008). The broiler sector is also a major buyer of UK feed wheat.

In 2006, UK slaughtering of poultry for meat fell 2.5% to 1.5 million tonnes at that time the poultry sector contributed some 11.3% of total agricultural output (excluding subsidy).

**Table 4 – Producer value of UK-produced poultry meat and eggs 2002-2007 (£M)**

	2002	2003	2004	2005	2006	2007
Poultry meat	1261	1337	1329	1302	1218	1215
Eggs	314	338	381	349	361	410
Total poultry	1575	1675	1710	1651	1579	1625
Total agricultural output	13357	14025	14474	14215	14502	15722

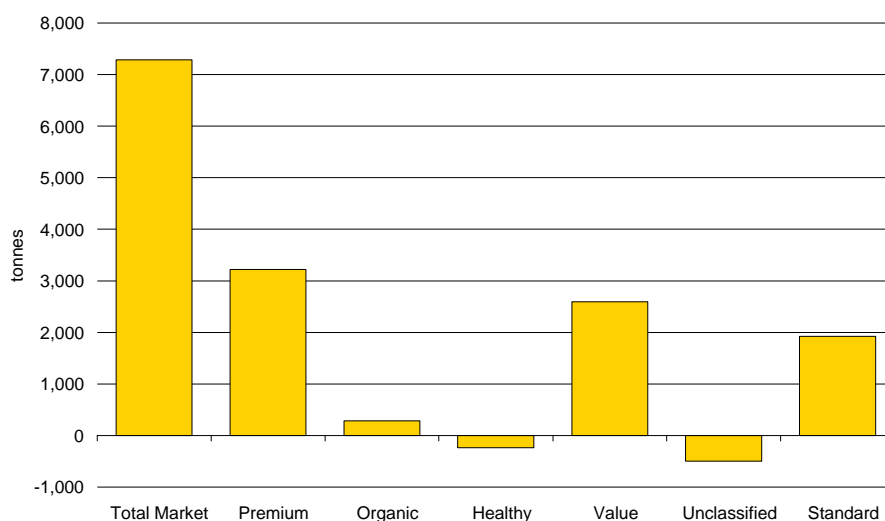
Source: Defra (2008)

### 7.2 Retail level

The latest statistics show that around 23kg of chicken are consumed per head in the UK per year, representing one third of total meat consumption. Retail sales of poultry meat in the UK are worth around £3.4 billion annually (BPC, 2007).

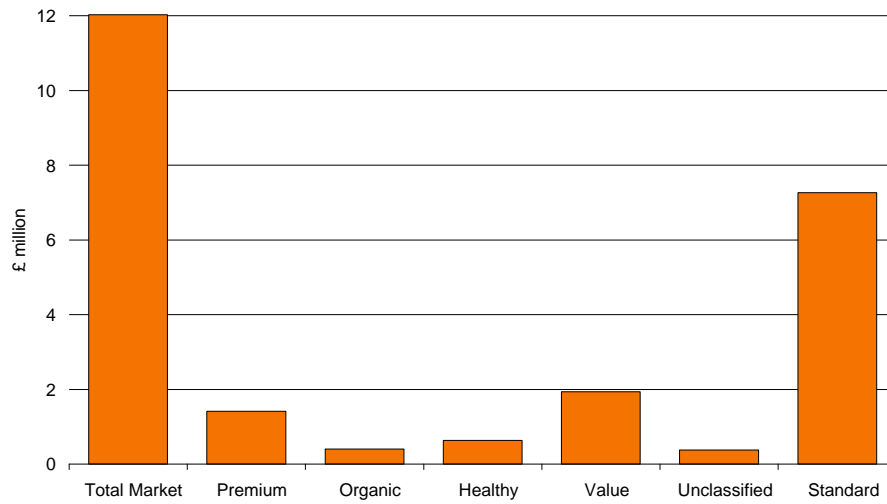
Data from TNS shows that the UK market for all chicken (fresh, frozen and cooked) increased by 1.5% in the 12 months to June 2008. The charts below illustrate the actual change in volume and spend in each of the key sectors within this market. The premium market has shown the greatest increase in volume but not in value, as illustrated in the charts below. Analysis does show that the unit value in the premium sector fell between these periods but not significantly enough to explain the difference.

**Figure 12: UK Poultry meat market - change by volume year to June 2007 v year to June 2008**



Source: TNS

Figure 13: UK Poultry meat market - change by value year to June 2007 v year to June 2008



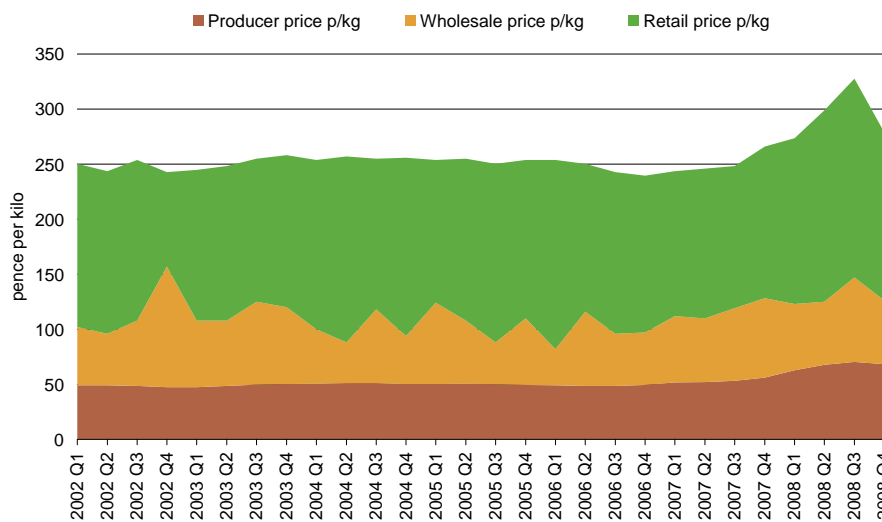
Source: TNS

The 'standard' sector (i.e. produced to ACP standards) is the most significant and represents almost three quarters of all poultry. Interestingly the highest growth (volume and spend) was recorded, not only, in the 'premium' and 'organic' sectors but in the 'value' sector. The trend towards 'value' has probably been accelerated by the 'credit crunch' and consequential 'trading down' by consumers (this is supported by several recent surveys including TNS).

## 8 PRODUCER, WHOLESALE AND RETAIL PRICES

We have estimated average poultry prices for each part of the supply chain using DEFRA data and various indices from 2002 to 2008. These are illustrated in the chart below. At the end of 2008 average producer price was 68.2 p per kg, the wholesale price was 85% higher at 126p per kg and the retail price of 279p per kg added another 121%. The wholesale and, to a lesser degree retail prices have been more volatile than the producer price.

Figure 14: Estimated average poultry prices



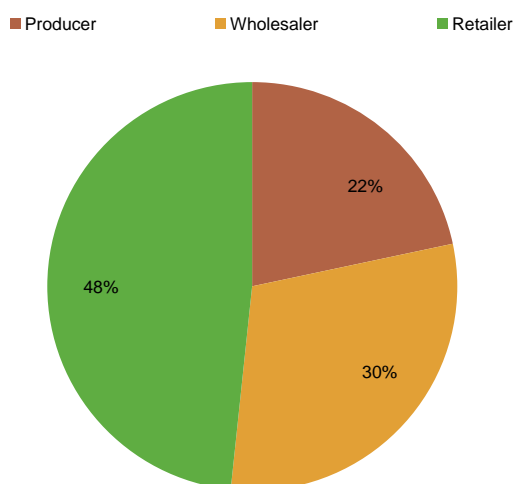
Source: Defra & Savills Research

The ratio of wholesale price over producer price has tended to rise since 2003. In contrast, our analysis shows that the retail margin over the wholesale margin has not declined; the trend line is level at just under 140%. However, the retail margins did increase during 2004 to 2006 to around 160% falling back to around 120% (similar level to 2002 and 2003) over the past two years.

London Economics in their report ‘Investigation of the determinants of farm-retail price spread’ dated February 2004 noticed that in almost all cases the UK farm gate to retail price spreads were the lowest of the EU member states they sampled.

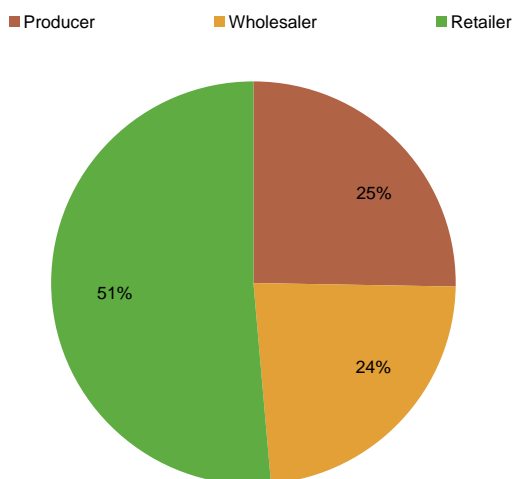
The pie charts below show that the retailers’ share of the end price has actually increased since 2002, the producer share has increased (based on the DEFRA average) and the processors’ share has decreased based on wholesale prices (further analysis is needed to understand how wholesale prices related to contracted prices over that period).

**Figure 15: Estimated share of average total retail price in 2002**



Source: Defra & Savills Research

**Figure 16: Estimated share of average total retail price in 2008**



Source: Defra & Savills Research

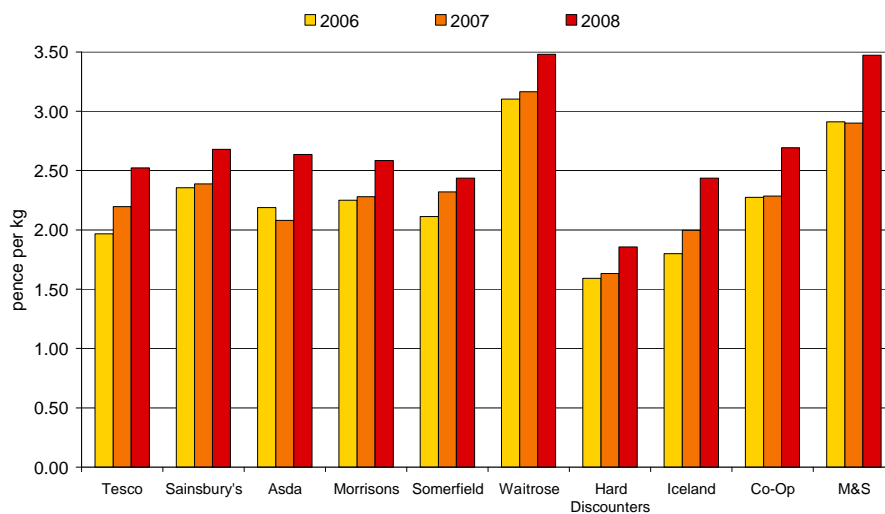
According to Rob Newbery, NFU Poultry Advisor, a fundamental problem faced by the sector is the margin expectations of the retailers. The major multiples have come to expect circa 30% margins on large volumes of sales, which makes chicken very important to their businesses. This was only likely to have been economically possible during the period of rapid technical improvement of poultry production relative to most other meat sectors. At the same time poultry changed from being a premium product with prices falling at a slower rate than the saving in production costs leaving all components of the supply chain with an acceptable margin. Other sectors have now moved in a similar direction and/or gain subsidy and competition has increased between meat types; reducing all meat prices in real terms. As a consequence poultry growers and integrators can no longer sustain production at a price that will ensure historic margins.

**8.1 Retailer analysis**

The average price paid (pence per kg) per volume unit has varied significantly between the major retailers. Also the volatility of price paid on a monthly basis varies more by some retailers than others.

The chart below shows that the highest average annual price was paid by Waitrose closely followed by Marks and Spencer. All the retailers (listed in the graph below) paid more in 2008 than 2007. Prices largely ranged from an increase of 15% to 30% except for Somerfield and Waitrose where the increases were 5% and 10% respectively.

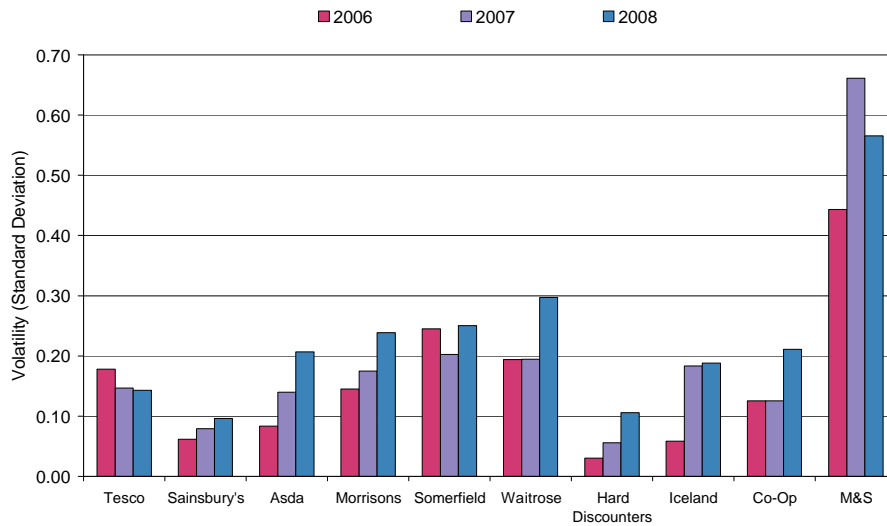
**Figure 17: Average price paid for chicken breasts**



Source: TNS

The volatility in price paid during the year was relatively similar in all cases except Marks and Spencer. The significant volatility of price paid by Marks and Spencer must detract from their high average price.

**Figure 18: Annual volatility in price paid for chicken breasts**



Source: TNS

## 8.2 Shopper Behaviour

The broiler chicken market saw value growth of 5% in 2008 compared with 2007, but sales by volume fell by 2% indicating rising prices. Evidence suggests that consumers are tending towards cheaper cuts. However, sales of regional branded products have held up well (Centre for Value Chain Research, Kent Business School, University of Kent, January 2009)

## 9 BROILER PRODUCTION FINANCIAL SURVEY AND ANALYSIS

It is clear that the current relationships between grower, integrator and retailer have allowed a significant technological development in the broiler industry. However, UK production has declined at the expense of imports since around 2004. Our research suggests that the existing structures need to be improved to enable additional efficiencies to be obtained to benefit the whole supply chain.

### 9.1 Supply chain costing issues

In order to reduce costs within the broiler supply chain it is essential that:

- All parties are operating as close as reasonably possible to full capacity. Thus all farm (growing) and integrator (processing) capacity is fully utilised.
- An appropriate price mechanism is in place to reward or penalise the party with control over that resource. For example, there is no point in penalising the grower for quality of feed or chick mortality if the control of the input is managed by the integrator.
- These factors should be a concern not only for the grower and integrator but also to retailers if they are serious about retaining their UK supply base.

Good grower management practices can provide a sustained improvement in the efficiency of production allowing a quicker and more effective response to substandard inputs disease, but also through reduced fuel (heating) and electricity (fans) through better building design. Building improvement, which ultimately benefits the whole of the supply chain, requires confidence in long term relationships with the integrator. Contract notice periods tend to be for two crops i.e. around 15 weeks when the cost of the building requires a write off period (depending on return) of at least 10 years.

The less obvious impact is that substandard inputs result in all capital employed being underutilised through operation at below full capacity.

There are also external influences that are not recognised in the short term pricing mechanism such as changes in fuel price (up or down).

### 9.2 Proposal

In the interests of the whole supply chain, pricing needs to reflect the relative influence of the parties. The major determinant of grower profitability is the gross margin.

More appropriate contract mechanisms need to be actively discussed and put in place. For example it is suggested that:

- There is a guaranteed payment per unit area of space made available. This should reflect the capital cost of the building at about 4-6% interest and 20-year investment life. This should be revised annually for any new builds. This payment provides the grower with no profit but underwrites some of the risk for the contract period. The grower is still exposed if the contract should be terminated.
- The grower is provided with a standard gross margin based on sales less feed, chicks and veterinary costs. An important decision for the industry is to determine the proportion of existing units that should be maintained and consequently the value of the standard gross margin.
- For each production component an average (cost or return) should be calculated to provide the average grower with an appropriate return to sustain production. Consequently, more efficient growers would be rewarded and if the overall average changes this is a penalty or advantage for the integrator. This places pressure on the integrator to ensure that everything is done to ensure top quality chicks and food consistency since if the average physical performance drops the integrator is still obligated to reward the average producer. The rolling averages should be reported and agreed averages subject to modification every two years or as agreed.
- The cost of energy is now changing more rapidly and the payment to growers should reflect the change in energy price on monthly basis.

- The cost-reward relationship between grower and integrator needs to be reviewed to ensure that as far as possible penalties are appropriately applied to the party responsible for any loss of profitability. The early mortality rate and veterinary and medicine expenditure may be of particular significance in this respect.

The level of the revised return depends on the proportion of the industry that is required to fulfil the market requirement and to sustain production. It is quite clear that at present pricing does not sustain even the average producer and makes it difficult to reinvest. The most efficient growers should potentially achieve a return of at least 20% to provide an appropriate return on investment for good management and proportionately to risk. Some of the improvement in profitability will be achieved purely by increased efficiency.

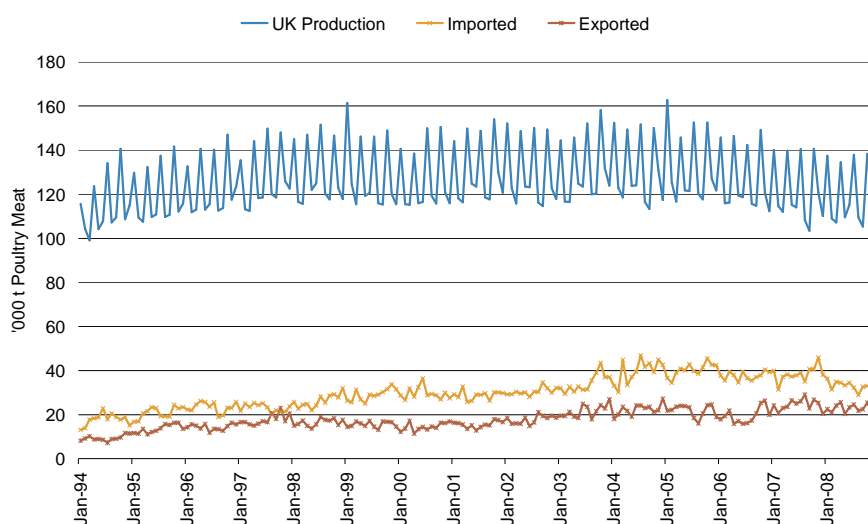
Of course the down side to cost plus contracts for growers, in an industry with high levels of risk, and where profit potential and exposure to risk are bound to maintain a linear relationship, is that the grower margin may be disappointing to many! There are examples of good practice in place for example feed ratchets and some form of investment bonus (Rob Newbery, NFU Poultry Advisor).

### 9.3 Current Context

DEFRA data shows that the industry, in production terms at least, is in relatively rapid decline since 2005. The six-month rolling average is now down to 120,000 tonnes per month from a peak of about 135,000 tonnes. Production of poultry meat is now at its lowest since 1995.

This would suggest that there is an insufficient return to justify reinvestment and that as buildings reach the end of their productive life production either ceases or performance suffers.

**Figure 19: UK Poultry meat production, imports and exports**

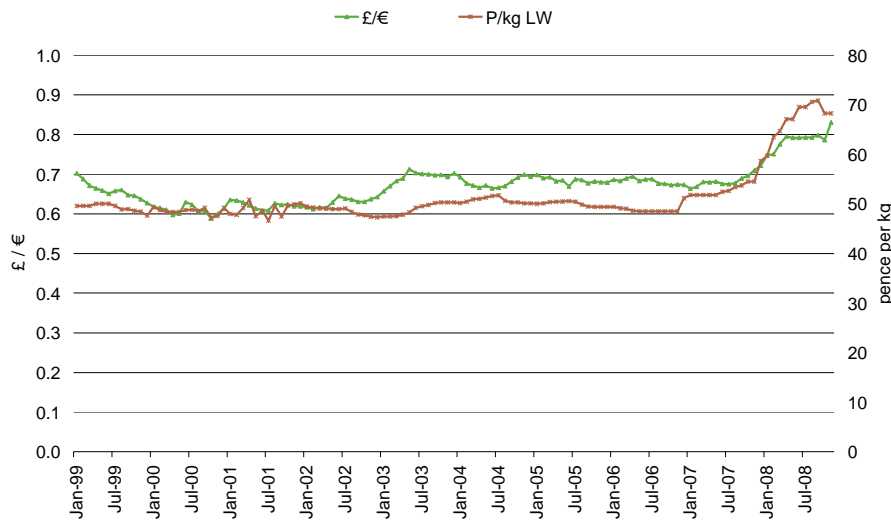


Source: DEFRA

At the time of writing the Sterling exchange rate is 18% weaker than 12 months ago and 32% weaker than 24 months ago. This makes imports relatively expensive compared with the two previous years. It would seem reasonable that a vibrant UK broiler industry is desirable if for no other reason than price risk management and security of supply.

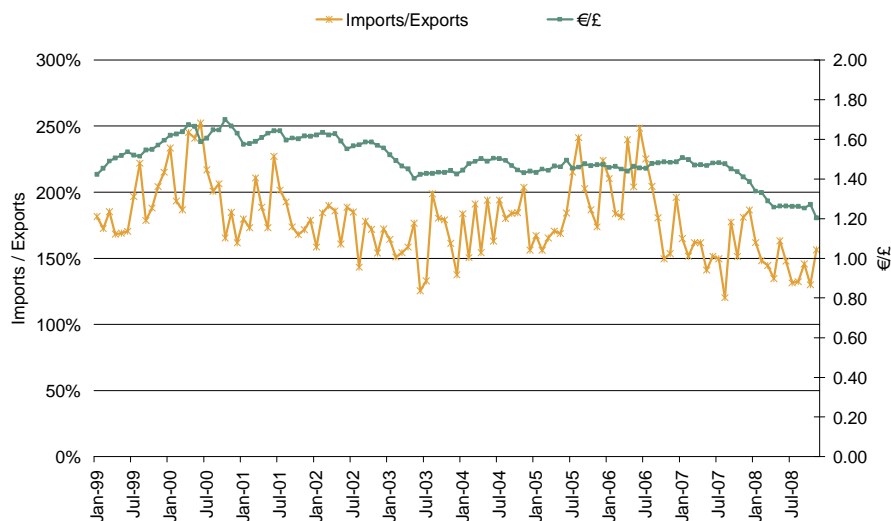
While not conclusive it would appear that the Sterling exchange rate (as illustrated by the £/€ chart below) impacts both on the level of imports and the price of poultry meat.

**Figure 20: Sterling exchange rate and price of poultry meat**



Source DEFRA and Bank of England

**Figure 21: Sterling exchange rate and overseas trade of poultry meat**



Source DEFRA and Bank of England

While not a perfect match there is at least a suggestion that the proportion, and tonnage, of poultry meat exported increases as the Sterling Euro exchange rate weakens, while the situation for exports are reversed. There is no authoritative view on whether Sterling will remain weak.

### 9.4 Prospects

The industry has changed at all levels with each part of the chain tending to consolidate.

Growers are also taking a more businesslike approach to production and investment. Intuitive, blind faith, investments in capital with little realistic possibility of a return on investment are becoming less likely and a return to justify capital projects increasingly has to reflect risk.

## 9.5 Growers

Growers are currently fragmented and divorced both from the consumer and from the retailers by the nature of their agreement with the processor. They also appear to have been financially and contractually naive by historically under-valuing their capital.

There is some understanding of average costs, but too little understanding of how these costs vary between producers and consequently the potential to improve efficiency. Limited analysis suggests that the scope to reduce the cost of most elements is small with most gains occurring at gross margin level and smaller gains in a number of areas such as energy. While confidentiality may be an issue for some growers, use of an independent firm to undertake the costings with reporting on a unit area basis can be used to maintain confidentiality. It is of course important that the assessments are recorded per crop and by season. A useful step would be to provide a recommended list of account headings.

Growers need to work together to secure the returns demanded - compared with other sectors the relatively few producers should make this easier to achieve.

To secure the long term relationships there is some interest in partnership arrangements with some of the retailers reinforcing the relationship with the farm. This can benefit throughout the chain by providing the retailer with marketing edge and reinforcing the commitment between integrator and grower to the supplier (milk producer groups operated by individual retailers are a good example of this).

The proposed payment system will encourage growers to work together to improve overall efficiency of the supply chain.

## 9.6 Grower summary:

1. Improve the quality of costing information. This would also be a first step towards greater grower collaboration
2. Collaboration can be advanced by the proposed modified contract system since it is in the interest of all parties to have data available to justify the pricing arrangement.
3. There needs to be some basic education in terms of capital costing and payback
4. Further development of supply chain branding should benefit all parties.

**10 BALANCE OF TRADE – UK PRODUCTION AND CONSUMPTION**

**10.1 Trade**

The UK is around 90% self-sufficient in poultry meat, although this percentage has declined from around 97% in the late 1980s. As UK consumers tend to favour the premium cuts, a significant proportion of the less favoured cuts are exported. In 2006 poultry meat imports were valued at £1 billion and exports nearly £200 million.

**Table 5 -UK imports and exports of poultry in the 12 months to October 2006**

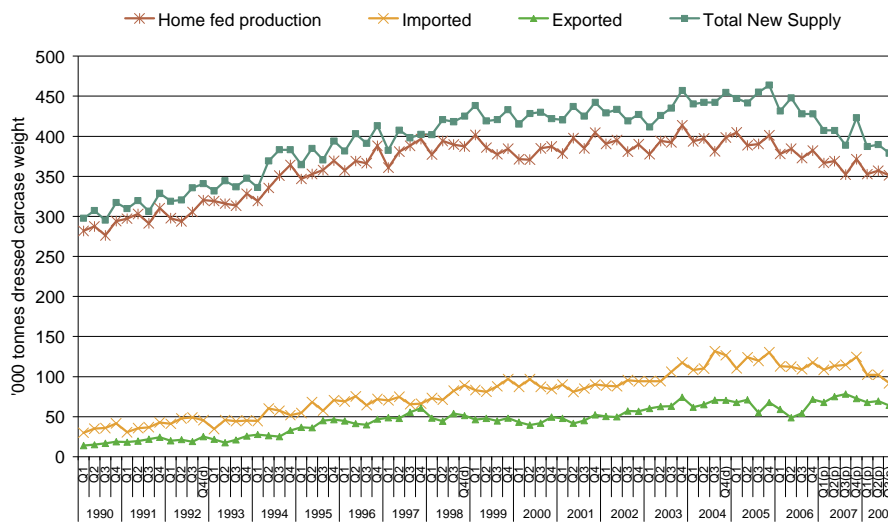
	Imports (£M)	Exports (£M)
Total poultry meat	992	220.4
Of which Chicken	855.8	180.9

Source: Poultry meat: British Poultry Council (2007)

**10.2 Production and consumption (supply and demand)**

Although the quarterly supply of poultry meat has increased significantly since 1990 reaching over 460,000 tonnes in the last quarter of 2005 it fell to around 380,000 tonnes in the last quarter of 2008. Home fed production has followed a similar pattern.

**Figure 22: UK production and trade of poultry meat**



Source: Defra

Imports have increased significantly since 1990 peaking at over 130,000 tonnes in Q4 2005. Although exports have increased over the same period they have not kept pace with imports. As mentioned earlier in this section the UK tends to export lower value cuts so the gap actually widens in terms of value of meat imported versus exported.

## 11 ANIMAL WELFARE AND COMPLIANCE

The broiler industry is likely to be faced with new regulation by 2010 in the form of the European Broiler Welfare Directive. The new directive sets three stocking densities (33, 39 or 42kg/m<sup>2</sup>). DEFRA will consult on whether to allow the higher stocking rate.

All poultry producers with over 40,000 places are required to apply for and gain an IPPC permit, for which there is an initial application process, a £3500 charge, inspections, and once the permit has been obtained either the Environment Agency (EA) or an assurance provider (scheme still being developed) will inspect the unit to maintain the permit.

As part of the determination process for IPPC applications, the EA identified some 70-80 farms that require additional improvements because of their proximity to or impact on habitats that are sensitive to ammonia. These producers will have to write draft plans, which will have to be agreed with the EA on how they intend to reduce their emissions.

The Directive, published by the European Commission in late December last year, proposes a number of significant changes including proposals to; introduce the concept of equivalent nitrogen excretion rates, which could bring further pig and poultry units under control; and add new prescriptions for manure spreading.

From April 2009 the EA propose to base annual charges on producer compliance, assessed during inspections over the calendar year January-December. These proposals mean that those with a poor compliance score will pay more in annual fees from April 2009. Although the NFU is in favour of incentivising good performers, they strongly suggested that the EA delay any decision on this until more data and information on the industry performance had been gathered and the impact on the sector charges assessed.

According to a Farmers Guardian article of February 20th 2009 the estimated costs of IPPC for a typical business are likely to be between £11,400 and £25,000 in the first year. One grower who operates a number of different sites estimated that the average cost of IPPC per site could be up to £30,000 per year.

## 12 EXPERIENCE OF OTHER UK SECTORS AND OVERSEAS BROILER SECTORS

Both the dairy and pig sectors have contracted in the UK as a result of sustained periods when costs have exceeded income, competition from cheap imports and producers lack of confidence to reinvest in what are capital intensive enterprises. In addition the pig sector has had to cope with more stringent welfare standards that have been implemented elsewhere in the EU.

If milk supply continues to fall in the UK we may see processors reluctant to invest in, what they feel to be, a contracting industry. A lack of investment from domestic processors or unwillingness by major global players to invest in the UK would with all of their advantages of scale, inevitably disadvantage UK farmers in the longer-term. Lack of economies of scale and the innovation necessary to compete in the increasingly globalised market would make the UK more vulnerable to imports even in markets that are currently somewhat isolated due to currency.

A recent Dairy Co report emphasised the need to identify ways of managing volatility within a supply chain, which will only be achieved through continued development of fairer contracts and better partnerships between farmers, processors and retailers. If the supply chain can move forward by providing farmers with a reassurance regarding the long-term future of their sector it is likely that forward thinking farmers will have enough confidence to initiate a positive supply chain response. This will help farmers and processors achieve the efficiency necessary to thrive in an increasingly globalised market.

The work of the pig sector task force has indicated that it is possible to organise fruitful discussions between retailers and producer groups to promote the sustainability of the industry. Whilst certain matters fall under competition law, it is important that retailers, processors and producers cooperate on issues such as labelling, threat of disease and the regulatory burden faced by the pig industry.

### 12.1 US Experience

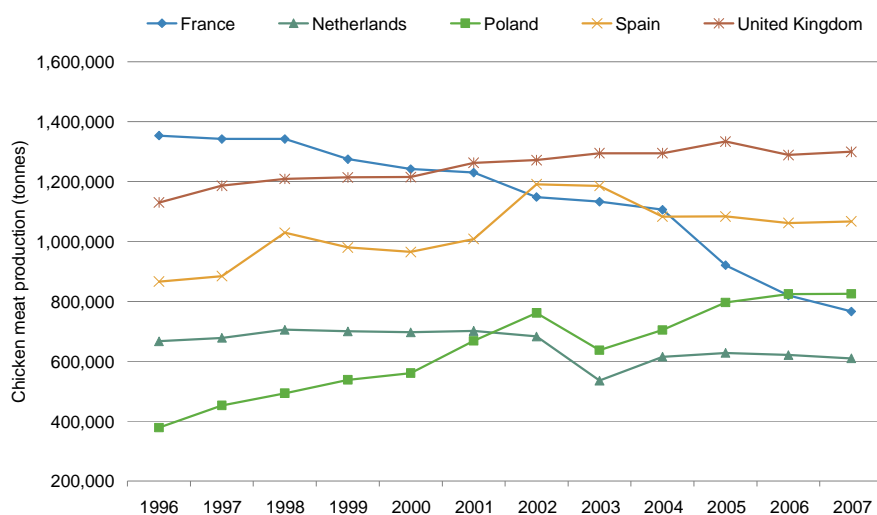
The problems identified in this report are not unique to the UK industry and similar concerns are expressed in the US where the industry is similarly organised (see *The Economic Organisation of US Broiler Production* by James M Macdonald for the USDA published June 2008). According to the report ‘The contractual relationship between farmers and integrators is coming under growing scrutiny from Congress and regulatory agencies’. However, in the US, as in the UK, the system historically did allow considerable technological development and commercial success but there, as here, since the mid 1990s there has been a lack of investment in new housing with consequent efficiency savings.

After decades of rapid expansion in broiler production, productivity began to slow in the mid 1990s. Slower growth creates challenges for industry decision makers as they consider how to encourage further investment in capacity, and new technology and attempt to manage the existing and ageing production networks. With slower production growth, investment in new housing also slows. New housing embodies new technology, so slowing investment can hinder future productivity growth, unless older houses can effectively be retro fitted with new equipment. Integrators requiring such retro fitting for some operations is a condition of extending their contract. For newer and larger operations integrators are offering contracts of longer duration to induce them to continue to invest in new technology.

### 12.2 European Experience

Production in the traditional major producing countries has declined since around 2004. Even Poland which had been experiencing growth until the end of 2006 is starting to see a levelling off of production, possibly a sign that labour and other production costs are starting to catch up with the rest of the EU. According to a study by Dr Arlo (US poultry business consultant, August 2007) the most competitive countries will increase their production at the expense of the least competitive, he identifies competitive countries as those with low feed and low labour costs. The top three were Romania, Serbia and Hungary suggesting a shift in production to Southern/Eastern parts of Europe. The following chart summarises changes in production in the major broiler production countries of the EU.

**Figure 23: Production in major EU countries**



Source: FAO

### 13 CONCLUSIONS

As with other sectors of agriculture, there is an ongoing trend of production being concentrated in the hands of fewer producers, with average flock sizes doubling over ten years. Consolidation has also taken place at the processor level.

UK self sufficiency in poultry meat has declined from a high of around 97% in the late 1980s due to increased imports. Imports have however declined since 2007 largely due to the weakening of Sterling. At farm level, slaughtering has decreased but this has been partly compensated by an increase in price paid to the producer, however producer values of poultry meat have declined from a peak of £1,337 million in 2003 to £1,215 million in 2007 (Source: DEFRA, 2008).

TNS data shows that 'standard' production is the most significant and represents almost three quarters of all poultry sales. This data shows an increasing trend towards 'value' products.

The gap between retail prices and both wholesale and producer prices widened significantly until Q4 2008. Of all the retailers Waitrose has consistently paid the highest price for chicken since 2005. There is little to choose between the 'big four' retailers. However, Tesco has probably increased the price paid the most since 2005 to reach near parity with the other three in 2008.

UK production has declined at the expense of imports. The existing structure needs to be improved to enable further efficiencies, which can benefit the whole supply chain. This is less likely to come from gains in broiler performance than has been the case historically.

We believe that in order to reduce costs within the supply chain all parties need to operate at as close to full capacity as possible and that an appropriate price mechanism is needed to reward (or penalise) the party with control over a given resource. These factors should also be a concern to retailers if they genuinely want to maintain their UK supply base.

The integrators have several profit centres within their business model whereas the growers have only one (producing chicken). Therefore the integrator may be able to offset poor financial performance at a given point in the production chain with a consequential gain at another point in the chain. The impact of poor performance on the grower is more profound – they may incur additional costs (e.g. vet and medicine) as a consequence of a sub-standard crop but his other costs e.g. energy, labour, infrastructure, either remain the same or increase.

Improvements or reinvestment in buildings require confidence in long term relationships with the retailers, which ultimately benefits the whole supply chain. This may be difficult to achieve in practice where contracts can be terminated (by both parties) with as little as two 'crops' notice whereas the cost of the building requires a write off period of at least ten years.

Margins along the whole supply chain need to reflect the relative influence of the parties on the performance of that part of the chain. For the grower gross margin is the key determinant of profitability. There are examples of good practice in the integrator/grower arrangements, for example the feed and energy price ratchets. Such problems are not unique to the UK. In the US, where the industry is similarly organised, contractual relationships are coming under increased scrutiny at a time when gains in technical performance have slowed.

It is reasonable to consider the investment in broiler sheds as relatively high risk and as such should attract a budgeted return of 10-20%. Based on our calculations (Appendix 1) at an appropriate rate of return to reflect the insecurity of the project a loss is made. The IRR suggests that a return of around 6% might be made (this does not take account of any efficiency gains from a new shed). This barely covers the cost of capital, provides no return for risk and reflects a very low return for entrepreneurial investment. A commercially minded producer is unlikely to make an investment, where there is little return and, which does not reflect risk, this situation reflects the decline in UK production. Whilst there may be tax allowances available to individuals they do not have a significant impact on the IRR, other than rollover relief but reliance on the availability of this relief is a risky strategy.

The Sterling exchange rate has weakened considerably over the past 24 months, which makes imports relatively more expensive. It would seem reasonable that a vibrant UK broiler sector is desirable if for no other reason than price risk management and security of supply.

Growers are currently fragmented and divorced both from consumers and retailers. They need to work together to achieve the returns they aspire to. Compared with other sectors their relatively small number should make this easier to achieve. Improving the quality and consistency of independent costing information available to growers would be a good first step.

Partnership arrangements along the whole chain benefit the retailer with marketing advantage and reinforce the commitment of both integrator and grower to retailers.

## 14 RECOMMENDATIONS

- Benchmark grower production costs using standard margin calculations to further drive efficiencies in the Industry and relay the need to retailers to allow improvement and expansion of the grower base to facilitate meeting future British demand.
- Introduce an independent costing service overseen by a trusted third party to improve grower efficiency and enable informed decision making. Use the data to inform all parts of the supply chain of the true costs of production.
- Develop new contracts appropriate to the current situation of lower genetic progress and the need for greater quality control at all stages of the supply chain.
- Processors, retailers and growers should work together to build confidence in supply chains which provide a positive effect on maintaining the UK supply base.
- All parts of the supply chain to work together to reduce waste and cut out inefficiencies. The benefits of such initiatives to be shared equitably by all parts of the chain.
- The supply chain to commission an independent 'Producer Intentions Survey' (similar to the recent dairy sector report) to understand how producers might react to different 'signals' from processors & retailers.
- Growers should undertake basic training in terms of capital costings and payback, and work more closely with the supply chain to improve marketing, branding and labelling of British chicken.

## 15 IMPORTANT NOTE

Finally, in accordance with our normal practice, we would state that this report is for general informative purposes only and does not constitute a formal valuation, appraisal or recommendation. It is only for the use of the persons to whom it is addressed and no responsibility can be accepted to any third party for the whole or any part of its contents. It may not be published, reproduced or quoted in part or in whole, nor may it be used as a basis for any contract, prospectus, agreement or other document without prior consent, which will not be unreasonably withheld.

Our findings are based on the assumptions given. As is customary with market studies, our findings should be regarded as valid for a limited period of time and should be subject to examination at regular intervals.

Whilst every effort has been made to ensure that the data contained in it is correct, no responsibility can be taken for omissions or erroneous data provided by a third party or due to information being unavailable or inaccessible during the research period. The estimates and conclusions contained in this report have been conscientiously prepared in the light of our experience in the property market and information that we were able to collect, but their accuracy is in no way guaranteed.

16 APPENDIX 1 - Analysis behind Growers Survey Data

Building cost	£172.00 £/m <sup>2</sup>
	15.98 £/ft <sup>2</sup>
Life of investment	20.00 yrs
Interest on longterm capital	10%
Annual cost	£20.20 £/m <sup>2</sup> /yr
Annual cost	38.85 p/m <sup>2</sup> /wk
Loan at	10%
Mortgage	£20.20 £/m <sup>2</sup> /yr

	Growers Model	Assumptions
	<b>p/m<sup>2</sup>/wk</b>	
Sales	402.59	
<b>Total</b>	<b>402.59</b>	
Chicks	76.34	
Feed	241.25	
<b>Gross Margin</b>	<b>85.00</b>	Target Margin
Overhead Costs	4.910	IPPC, ACP, Training, Rates, Insurance
Labour	9.717	Manager(s), Permanent and Casual Staff
Gas / Oil	8.479	NB: Summer usage
Electric	6.634	To include CCL
Water	2.224	Total litres used (costed as mains water)
Shed preparation	3.332	Bedding, Shed set up, Litter Repair
Vet & Med	5.821	Veterinary, Vitamins, Vaccines, Antibiotics
Waste Disposal	1.613	Dirty Water, Plastics, Dead Birds
Ancillary Costs	1.814	Vehicle, Pest Control, Light equipment, Consumables, Office
Muck / Cleaning	7.314	Mucking out, Washing down, Disinfecting, Swabs
Maintenance	3.496	Total site maintenance of all broiler related business
<b>Total</b>	<b>55.35</b>	
<b>Net Margin</b>	<b>29.65</b>	
(before finance and building)		
Interest on average capital	6%	0.22
Cost of shed		38.85
<b>Margin</b>		<b>-9.43</b>

£/m <sup>2</sup> /Yr	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15	Yr 16	Yr 17	Yr 18	Yr 19	Yr 20	
Capital expenditure	-172.0																					
Income		209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3	209.3
Costs		-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9	-193.9
Cashflow	-172.0	15.4	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42	15.42
Mortgage Repayment (6%)		-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20	-£20.20
Interest on other capital (6%)		-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12	-£0.12
Cash flow		-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90	-£4.90
Cumulative Cashflow	-172.0	-£176.90	-£181.81	-£186.71	-£191.61	-£196.52	-£201.42	-£206.32	-£211.23	-£216.13	-£221.03	-£225.94	-£230.84	-£235.74	-£240.65	-£245.55	-£250.45	-£255.36	-£260.26	-£265.16	-£270.07	
Taxable income		£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30	£15.30
IRR (on prefinance cash flow)		6.34%																				