ANNIVERSARY 20th EDITION

ANDERSONS

Outlook 2017

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Contents

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INTRODUCTION TO Outlook 2017

Welcome to Andersons Outlook 2017. As this is the 20th edition of our annual analysis of UK farming, we have taken the opportunity in many of the articles that follow to take a long-term perspective on the industry.

It is nearly 70 years since the UK Government's 1947 Agriculture Act, in response to the threat to food security during World War II, completely re-designed the relationship between the State and farming. A range of measures to support production were introduced, which continued after our accession into the, then, EEC in 1973. The central objectives of the UK support policy were "to promote a healthy and efficient agriculture capable of producing that part of the nation's food which is required from home sources at the lowest price consistent with the provision of adequate remuneration and decent living conditions for farmers and workers".

So how successful have these policies been? The answer, inevitably, depends on your perspective. However, it is a salutary fact that, without subsidy, over the last 20 years UK farming has not, on aggregate, made a profit from growing crops and husbanding livestock. There is something fundamentally wrong with a policy that puts the emphasis on income rather than productivity.

Our impending departure from the European Union provides us with a 'once in a century' opportunity to re-design a policy that encompasses farming, the environment and rural societies. To do so successfully requires a willingness to 'start from a clean sheet', rather than simply re-hash existing methods and compromises. For our Minister, her team and all those who make representations this is a unique opportunity – may we be bold and imaginative!

We wish you all the very best for a successful 2017.

John Pelham *James Severn* *Richard King*
Nick Blake *David Siddle*

Directors, Andersons the Farm Business Consultants Limited

FARM BUSINESS OUTLOOK

Economic Prospects

Graham Redman

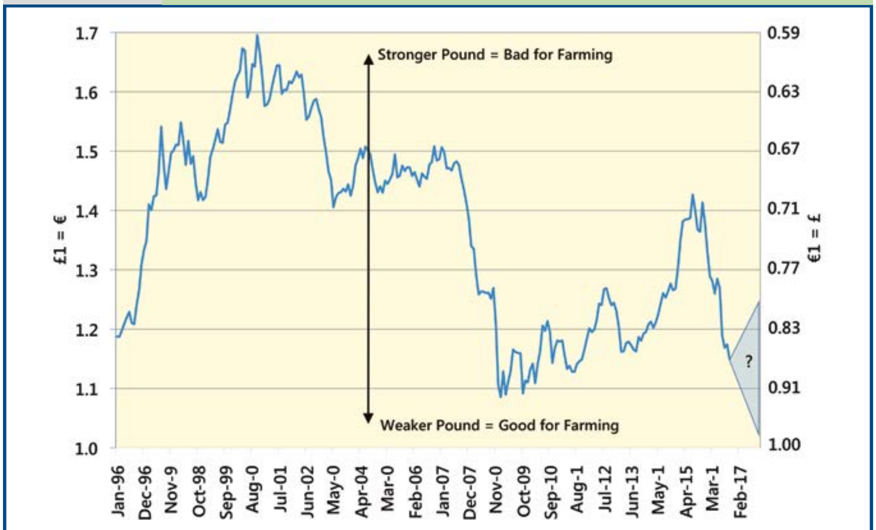
The UK economy, which had been growing consistently, has been shaken by a major dose of uncertainty. Clearly nobody knows how well the UK will fare from Brexit in the long-term, but in the short-term, some companies have become reticent to reinvest in the UK, suggesting reduced growth in future years. But, Sterling has weakened substantially, allowing those who trade globally, including farming, to reap the rewards when they sell their goods to overseas buyers.

UK GDP growth for 2015 was 2.2%, significantly lower than the 2.9% in 2014. The 2016 GDP growth forecast in September 2016 was lower than that for 2015 at 1.8%, despite a fairly strong first half performance of 1%. On the surface of things, it seems the economy has coped reasonably well with the short-term Brexit surprise; however, the underlying fundamentals are mixed.

Uncertainty has been the main driver of currency changes. The exchange rate between the Euro and the Pound is the biggest single determinant of UK farm profitability. A weak Pound (when the line in Figure 1 below heads towards parity (£1=€1)) is great news for the UK agricultural industry. The Pound:Euro exchange rate will remain highly sensitive to political announcements and decisions. It will not notice the performance of UK farming!

The explanation behind the rise in UK stock markets and other UK assets is the same as that promoting farming profitability – namely currency effects. With exported goods the value is converted back from Dollars, Euros etc. into Sterling at the prevailing exchange rate. This is a boost to the large companies listed on the FTSE 100 stock market. These are huge firms with a global footprint. Most sales are made to overseas markets. As the revenue from the sales is brought back to the UK, it generates more Sterling than it previously did and the value filters through to the company's stock price. The FTSE 250 of smaller companies, which are more UK-focussed, has experienced a smaller uplift in share value; this growth is based on the fact that anything in the UK is now

Figure 1 **Euro versus Sterling - 1996 to 2017**

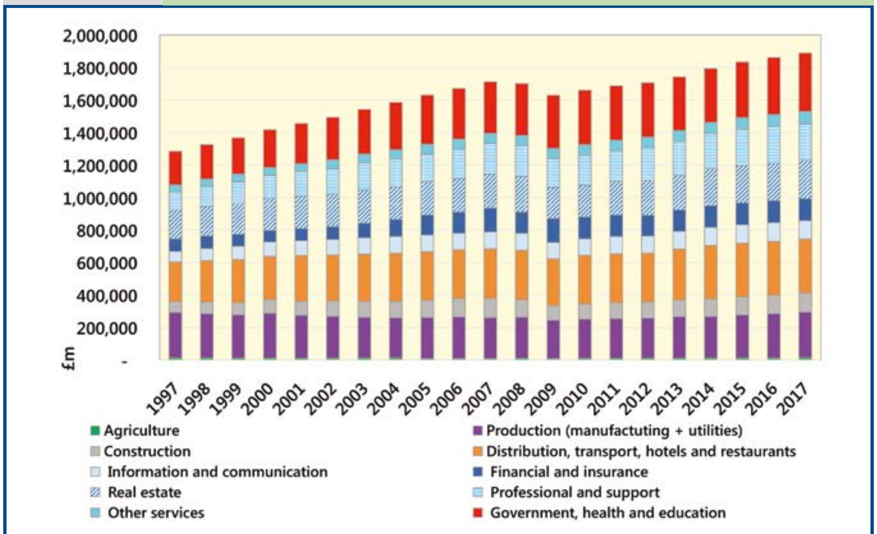


Source: ECB / Andersons

perceived as good value for buyers from other countries. Indeed, in the three months after the Referendum, of the 80 completed deals on City of London real estate, purchasers for 72 of them were of non-UK origin.

The price rises seen so far are the first signs of rising inflation. Notwithstanding other unforeseen changes, weakening currency pushes prices up. We have also seen UK base rates fall from previously historic lows to an even lower level in 2016, and significant Quantitative Easing (the Bank of England putting liquidity into the domestic economy), both of which are inflationary. Furthermore, levels of unemployment are at a 10-year low, despite immigration. This is another inflationary factor as, if there is not a large pool of people available to work, employers have to pay more to secure the right skills. The introduction of the National Living Wage may also have an effect on employment costs. We would expect increased input cost inflation in early 2017, then wage inflation a few months later.

Figure 2 **UK GDP in Real Terms & Approximate Sector Split - 1997 to 2017**



Source: ONS / Andersons

> ***On the surface of things, it seems the economy has coped reasonably well with the short-term Brexit surprise.***

The Bank of England and UK Government will be pleased to see higher inflation in 2017. Not only does inflation erode asset values, but it also erodes debt. The UK has significant debt that needs to be reduced and this is the easiest way to achieve it. So why has inflation not yet ballooned? There are deflationary factors at play too, such as debt itself, the growth of the internet and globalisation, all of which have kept consumer prices low for most of the past decade. But of chief concern currently is Brexit itself; businesses are eager to keep customers, and are thus not raising prices. Firms are also possibly looking to consolidate their financial position, are probably more hesitant about entrepreneurial risk-taking and growth (and therefore not spending and investing). They are also, of course, uncertain about access to European markets post-2019. But once they visualise a route for their firms in Brexit, these brakes might be released. At that point inflation could increase, perhaps significantly.

Beyond the inflationary pressures, it is difficult to project how the UK economy is going to develop in 2017 with any certainty. As much, if not more, will depend on political negotiations as it does on monetary or fiscal policy. Whilst the short-term 'Brexit boost' from devaluation has been welcome for farming and some other sectors of the economy, it should be remembered that the vote was a 'forever decision' – the long-term effects will be more important. When the first edition of Outlook was published twenty years ago, the UK's 1997 GDP (in today's prices) was £1,283bn. If current growth forecasts are correct, in 2017 it will be around £1,890bn – a 47% rise in real terms (when we joined the EEC in 1973 it was £782bn). Globalisation has made the world, and the UK, richer over the past twenty years. But the gains have been unevenly spread, and some parts of the population feel they have been left behind. The Brexit vote was, in some part, an articulation of anger at this process. This trend can also be seen in other countries of Europe and in the US. The next few years may see an upheaval in political positioning with a move from 'left' versus 'right' to 'open' versus 'closed'.

The Brexit vote is likely to see the UK lose some of the service sector to the EU (notably in finance) over the next decade. In 10 or 20 years, the wealth of the UK may be more evenly spread across sectors and geographically. Whether the real-terms growth in national income seen over the last two decades will be matched is open to question. However, so far, the economy has continued to perform better than many forecasters expected. Long may this continue.

FARM BUSINESS OUTLOOK

Farm Policy

Caroline Ingamells

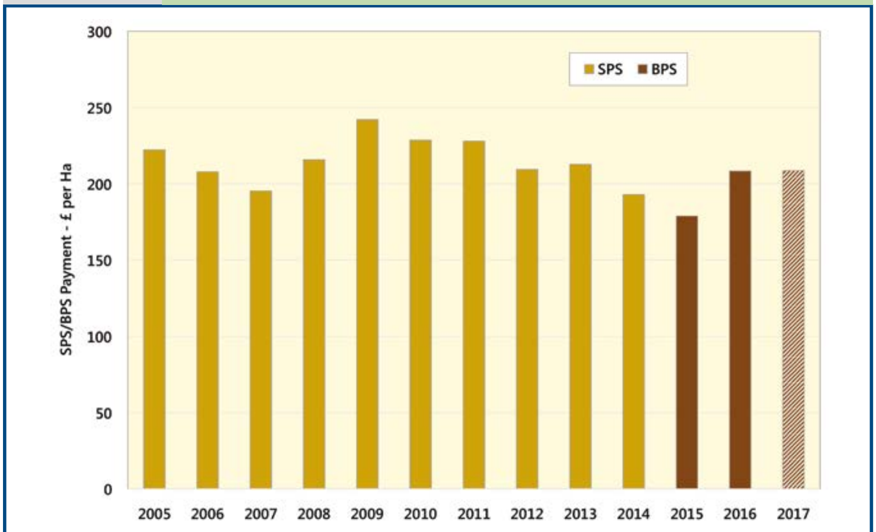
Until 'Brexit' formally happens, support from the Common Agricultural Policy (CAP) remains in place and all the rules of the CAP still apply. This article concentrates on the immediate issues of farm policy under the current arrangements – post-Brexit support is dealt with elsewhere in Outlook.

UK farmers will continue to receive support through the Basic Payment Scheme and Rural Development Funding until we formally leave the EU. In addition, the UK Treasury has said 'the agricultural sector will receive the same level of funding that it would have received under Pillar 1 of the CAP until the end of the Multi Financial Framework [the EU Budget] in 2020'. However, this doesn't exactly guarantee the Basic Payment Scheme until 2020. Firstly, the 2020 MFF funds the 2019 BPS year and secondly, the statement only talks about 'funds', leaving open the possibility that the 'system' itself could change.

Whilst it is clear that UK farmers will continue to receive the Basic Payment for at least 2017 and 2018, what happens thereafter is less certain. It is our view that, even if we have exited the EU in early 2019, it is doubtful that DEFRA and the devolved administrations would have time to work up a significantly different agricultural policy. We would expect a system similar to the BPS to be continued for 2019, and probably 2020 as well. There may be some rule changes, one possible example being a concessionary scrapping of the three-crop rule.

The statement from the UK Treasury will also have given some certainty for those trading Basic Payment Scheme entitlements. It looks like there will be at least two years, probably three, and possibly even more to claim on entitlements purchased in 2017. Last year English Non-SDA entitlements averaged about £190 each. History shows that higher payment rates received in the previous year increases the price farmers are willing to pay for entitlements in the following year. With the weakening of the Pound increasing the 2016 Basic Payment as shown in Figure 3, we might expect

Figure 3 **Lowland English SPS/BPS Rates - 2005 to 2017**



Source: RPA / Andersons

English Non-SDA entitlements to average about £220 per entitlement, still making them a good investment. SDA entitlements in England tend to be in short supply so could well trade at higher values than non-SDA.

Entitlement trading in both Wales and Scotland was affected by uncertainty last year. This should be less of an issue for 2017. In Wales entitlements traded at about 1.5 times the expected value. Those with a low historic value were more in demand. In Scotland the 50% siphon rule for entitlements traded without land obviously affected values. Once again the trading period in Scotland is likely to be short, as paper based transfers are expected, with a deadline of April 2nd.

One of the EU Farm Commissioner, Phil Hogan's, pledges when he took office was to simplify the BPS and, in particular, the Greening rules. A consultation has been taking place, but not all the proposals will be seen as simplification. The three basic Greening rules of Crop Diversification (CD), Ecological Focus Areas (EFAs) and retention of Permanent Pasture will still apply. In all there are 15 changes proposed by the EU, but perhaps the two which could have the most impact are:

- *to prohibit the use of pesticides on all EFA land. This would mean EFA nitrogen fixing crops (e.g. beans) would not be able to receive the normal agrochemical applications*
- *increasing the minimum width of EFA buffer strips from 1m to 2m; more than the 1m cross compliance strip.*

At one point it looked like these changes might be introduced for the 2017 BPS. Due to delays in getting them agreed, it will now be the 2018 scheme year before they are introduced.

A further announcement from the Treasury in early October created more certainty around Rural Development 'Pillar 2' funding. It confirmed that all structural and investment fund projects, including agri-environment schemes signed for before we leave the EU will be honoured. Initially the Treasury was referring to 'signed before the [2016] Autumn Statement'. This now means in England Countryside Stewardship Scheme (CSS) applications made this autumn with a 1st January 2017 start date will be fully funded. It is also probable that the CSS will be open again in 2017 for applications with a start date of 1st January 2018. A further application round in 2018 for a 1st January 2019 start date is possible, but less likely. Other parts of the Rural Development Programme such as funding for LEADER and the Growth Programme through LEPs in England are also expected to have another couple of years funding. It is likely that there will also be further rounds of the Countryside Productivity Scheme – with applications perhaps opening again in spring 2017.

UK farmers will continue to receive support through the Basic Payment Scheme and Rural Development Funding until we formally leave the EU.

The funding guarantee also applies to the devolved administrations, meaning that Glastir, Less Favoured Area Support Scheme (LFASS) and Agri-Environment Climate Scheme (AECS) will all be honoured.

However, it seems possible that there will be fewer contracts available over the next two years. DEFRA has indicated that Agreements must offer 'good value for money' and show 'they are in line with domestic strategic priorities'. This may not be a problem if demand for schemes is subdued. Although applicants may have been put off by uncertainties over funding, the CSS has seemingly not enthused the farming industry. In 2016, circa 14,000–15,000 ELS agreements will have come to an end in England. In the region of 6,000 Mid-tier application packs were sent out, but under four thousand actual applications were made. Even fewer will progress to a full CSS Agreement.

As this is the 20th Anniversary of Outlook, we have been looking back to see what changes there have been in farm policy, or not as the case maybe - one of the headlines in the first edition being 'IACS Money Delay' (!). Outlook 1997 also recognised that that one of the biggest influences on the fortunes of farmers will continue to be the strength of Sterling.

We discussed earlier Phil Hogan's pledge to simplify the BPS, but one often forgets how complicated the subsidy schemes were twenty years ago. At that time, we had the 'Green Pound', fixing support payment rates twice yearly, in January for livestock and in July for arable payments. For arable payments there were different rates for cereals, oilseeds, linseed, proteins and set-aside, whilst livestock had a range of headage payments; Sheep Annual Premium, Suckler Cow Premium, Beef Special Premium, Extensification Premium, and Hill Livestock Compensatory Allowance. Perhaps in a further 20 years we may well marvel at the complexity of the BPS.

FARM BUSINESS OUTLOOK

Land Prices and Rents

George Cook

Twenty years of Outlook provides an opportunity for reflection, coupled with some thoughts and expectations for the future.

Land purchase tends to be viewed as part of a long-term, strategic investment. The factors driving the demand for land are many and varied, but range from a tax efficiency measure to two local farmers vying for an adjacent block to add to the family portfolio. We can add the demands for housing and other infrastructure projects and the fact that there is a finite supply of the basic ingredient - the land itself. Figure 4 below summarises the movement in values over the last 20 years.

The trend over the period represents an average annual increase of 5%, although this masks periods of no growth or slight decline and also periods of significantly higher growth than the long term mean.

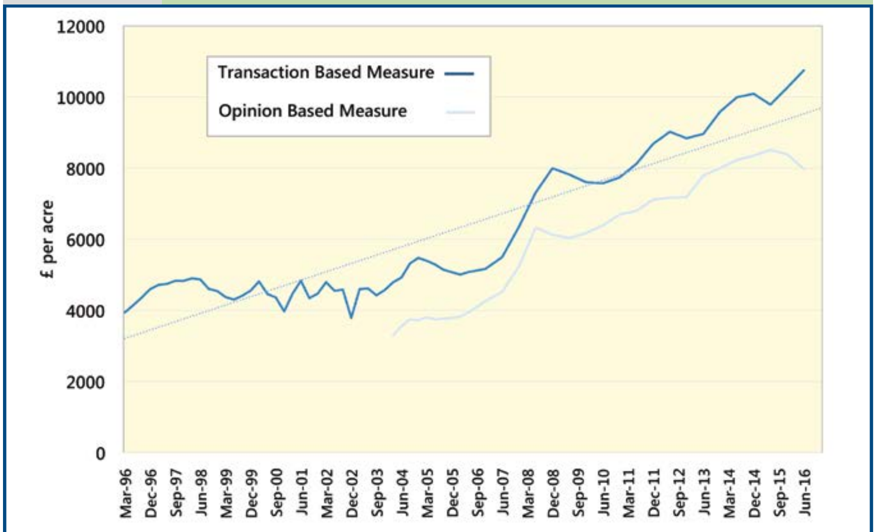
Currently there are indications that land prices have stalled and we may be in a period where prices stagnate. This can be partly linked to the current political uncertainty, but another factor is the affordability of land. Recent price increases have pushed the market to a level that many buyers find difficult to justify. Reduced farm incomes over the past couple of years have not helped. Against this must be set the fact that UK land has become 10-20% cheaper for foreign purchasers due to the drop in Sterling, and that borrowing costs look set to remain low for the near future.

Whilst the current sentiment in the land market is negative, there seems little expectation that there will be much change in the long-term trend of prices. The view remains that land ownership can provide long-term secure assets for the farming sector.

For farm rents, the picture is much less clear and the reasoning behind the tendering of rents is more difficult to follow.

The first edition of Outlook was published two years after the introduction of the 1995 Agricultural Tenancies Act. This legislation changed the rental market with the Farm Business Tenancy (FBT)

Figure 4 **Land Prices in Real Terms - 1996 to 2016**



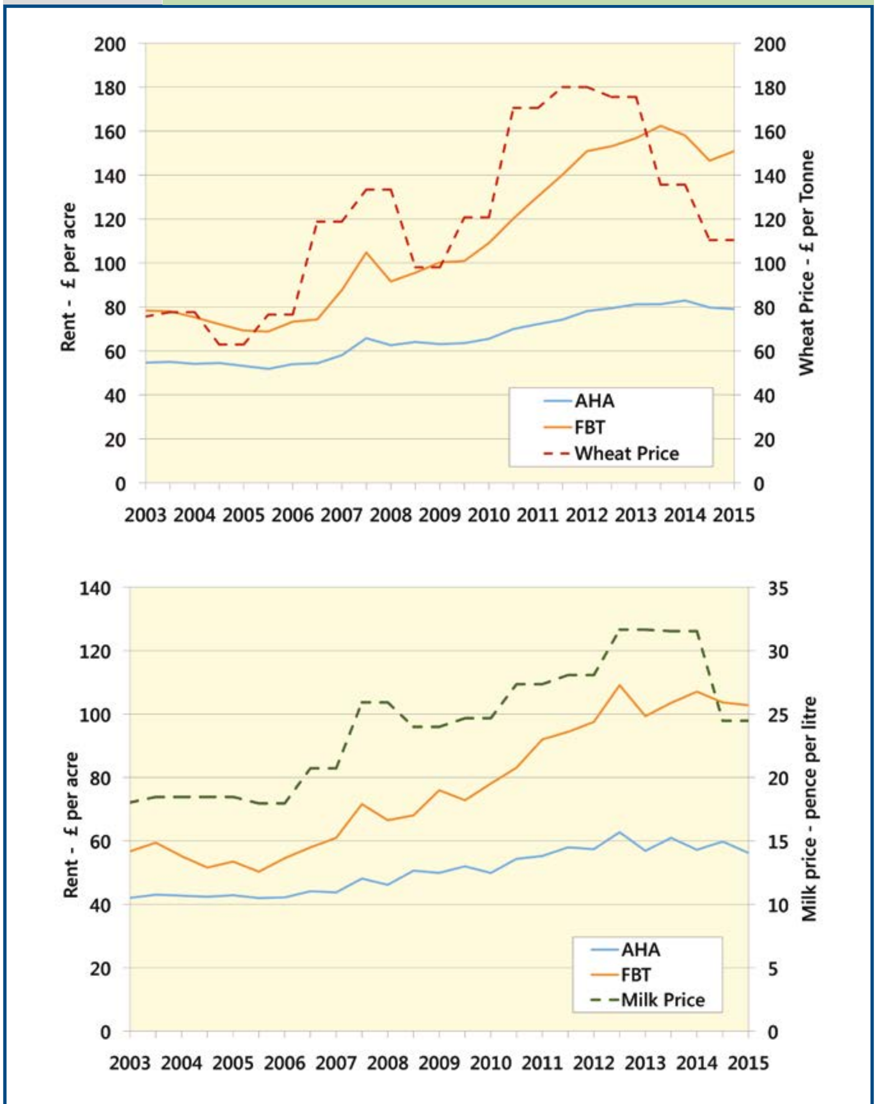
Source: RICS&RAU / Andersons

replacing all previous forms of agreement for land being let after 1st September 1995.

The principle for setting rents was 'open market'. In other words, what rent a prospective tenant was prepared to pay for the privilege of farming that land. The business reasoning behind figures put forward during the tendering process has often been based on marginal economics for the prospective tenant's business and tight rotations. The result has led to a significant and, in times of low commodity prices, increasing percentage of output being paid as rent.

> ***Currently there are indications that land prices have stalled and we may be in a period where prices stagnate.***

Figure 5 **Rents and Commodity Prices - 2003 to 2015**



Source: DEFRA / Andersons

These commodity price fluctuations are set out in the charts shown here, which compare arable FBT rents with wheat price and grassland rents with milk price.

Over the past decade, the open market basis has tended to mean upwards-only. However, in recent months there has been an increasing tendency for rents to be negotiated downwards to retain a good tenant.

On the horizon the prospect of reduced area payments is looming; the only question being how much and when? These trends ought to have an input on FBT and to a lesser degree on AHA rents, but for the former it is still very much a matter of supply and demand.

An area of further concern relates to the longer-term impact of high rents on the actual quality of the main asset; namely the soil of the land being let. There is increasing evidence demonstrating the gradual net loss of topsoil from many arable fields. This is linked to significant depletion of reserves of soil organic matter which is crucial for soil stability, structure, nutrient and water retention. These trends are long-term and imperceptible on an annual basis but, when coupled with increasing weed burdens and static yields, ought to be a matter of concern to all land owners.

There is a need to ensure that factors such as these are taken into account when agreements are being set up. Potential tenants should not just be evaluated on the rent tendered, but also on their land-management credentials. Such a strategy should start to ensure that land productivity and quality is better monitored and improved over time.

In the longer-term, land managed in such a way will be able to justify a higher rental value than that currently managed with short-term maximum income as the only driver. In the worst cases this land may not even be lettable in the future.

FARM BUSINESS OUTLOOK

Finance and Banking

Greg Ricketts

This time last year we were predicting that, by now, interest rates would be moving upwards, or at least the signs might be there that rates would be starting to rise. How wrong we (and many others) were! What we had not anticipated was the vote to leave Europe and the uncertainty, both political and financial, that would result.

In fact, base rates have now fallen to 0.25%, with expectations that rates could drop further to 0.10% at some point. This is giving rise to opportunities for those farmers undertaking longer term investment projects to lock into low interest rates.

The additional cost of fixed rates is approximately 0.8%-0.9% (October 2016) for a 10-year term, over and above base rate and bank margin. This results in long term lending costs of between 2.5% and 3.5%, which by historical standards, represents excellent value. Whilst fixing interest rates is a personal decision with pros and cons to consider, we expect this trend will continue whilst fixed rates remain low.

Bank borrowing for agriculture has increased in line with our expectation last year, by approximately £1 billion (6%). The good news on this front is that the rise in UK agricultural debt is towards the lower end of our prediction. This would give us some encouragement that farmers have managed to reduce or contain costs to a greater degree than we might have expected, in the face of difficult trading conditions.

The rise in borrowing masks the true position within individual enterprises. Dairy, pig and combinable crop producers will have generally seen an increase in debt, whilst other sectors, including poultry and potato producers, may have seen positive margins and maintained or reduced debt. Beef and sheep farmers do not generally have high levels of borrowing, unless they are very intensive operations and our experience would be that debt levels in these sectors have not changed significantly.

The rise in borrowing is also a

Figure 6 **Long Term Borrowing Costs - 1998 to 2016**

Source: AMC / Andersons

measure of the commitment which banks have made to agriculture over the last twelve months, in spite of the evidence of poor financial returns. Indeed, without the support of banks, the number of farmers giving up certain enterprises or the industry as a whole would have been higher than has been the case. This highlights the 'partnership approach' which most banks take, when dealing with their customers.

Those who have experienced an increase in debt, are also suffering from a weakening of the balance sheet and Net Worth (assets less liabilities). This is particularly acute in the tenanted dairy sector where a deterioration of the balance sheet has left some businesses in a position where they cannot and, in many cases should not, secure additional finance.

We anticipate that bank borrowing for agriculture will rise again in the next 12 months, but perhaps to a lesser degree than over the last year. The majority of these increases in finance requirements will be for investment purposes, rather than to offset trading losses.

In the medium-term, say 3-5 years hence, we are anticipating considerable uncertainty over support payments for agriculture and output prices, once the negotiations are complete following our exit from Europe.

We anticipate that bank borrowing for agriculture will rise again in the next 12 months, but perhaps to a lesser degree than over the last year.

In the short-term agriculture looks set to receive a boost in returns on the back of weakening Sterling. This gives producers an opportunity to repay some of the additional finance taken throughout the last two years. This should be the key focus, to ensure that balance sheets are stabilised, debts reduced and businesses put in a stronger position to withstand the next downturn when (not if), that arises.

The temptation when output prices improve is for farmers to go shopping; this must be resisted! We accept that all businesses need to invest and indeed would encourage appropriate investment. However, expenditure should only be undertaken to maintain vital equipment and /or reduce the cost of production. Expenditure for the sake of acquiring the latest piece of kit, or to offset tax is usually not a worthwhile investment.

Farming businesses need to mitigate the impact of increased volatility. They should ensure the future business strategy is 'bullet proof' to weather any future downturn. This includes reducing debt in times of strong output prices and taking great care over investment decisions to ensure that they are productive, worthwhile and genuinely contribute to improved profitability.

FARM BUSINESS OUTLOOK

Farming Profitability Prospects

Richard King

Until the middle of the year, it appeared that 2016 was likely to be little better than 2015 in terms of farm profitability. The low market prices, which had resulted in 2015 returns being 29% down on the previous year, were still very much in evidence. Then, of course, came the vote to leave the EU, and the subsequent weakening of Sterling, discussed at various points within Outlook. This will have undoubtedly improved returns for the current year – the uncertainty is by how much, with the change only occurring part-way through the year. Then there is the question of whether the 'Brexit boost' will continue through into 2017.

The statistic used to look at the overall financial health of the farming industry is DEFRA's Total Income from Farming (TIFF). This shows the total profit from all UK farming businesses on a calendar year basis. It measures the return to all entrepreneurs for their management, labour and capital invested. In very simplistic terms it is the profit of 'UK Farming plc'. Being an industry-wide measure it masks many of the differences between different sectors or regions, let alone individual farms. However, it is a good guide to the overall 'profitability environment' for the industry.

> ***We forecast that TIFF in 2017 will rise by a further 15% compared to 2016, bringing it up to £4.9bn.***

The latest 2015 TIFF figures show profitability at £3.77bn. This was the lowest figure in real terms since 2007 and nearly a third down on the recent high-point of 2013. This was in line with the estimates we gave in Outlook 2016 (although the actual figures were somewhat worse than our forecast). The 2015 TIFF is not that dissimilar to returns in 1997 (£3.88bn in today's prices). However, the 1997 figure was a massive 42% fall on the 1996 TIFF.

For the current year physical outputs in key sectors will be lower. The harvest has been less abundant than the last two years. In addition, milk production has decreased in response to low market prices. In terms of prices, the currency boost has been seen in many farming sectors – grains, beef, sheep, pigs and, to a certain extent, milk. In other sectors such as poultry, some fruit and vegetables, trade plays less of a part in setting prices, and the weaker Sterling has produced less of an effect.

One obvious beneficiary of the fall in the Pound during 2016 has been BPS payments. The change in the conversion rate from €1 = £0.731 last year to €1 = £0.852 this year adds around £350m directly to the TIFF figures.

Costs have been relatively muted in 2016. The largest single spending item for UK farmers is animal feed. Lower cereals prices during the first part of the year will have reduced this cost. The exchange rate shift has a more negative effect in this area. Not only has it added some firmness in cereals prices, but Sterling's weakness pushes up the cost of imports – especially those denominated in Dollars. The protein element (soya) in animal diets has become more expensive.

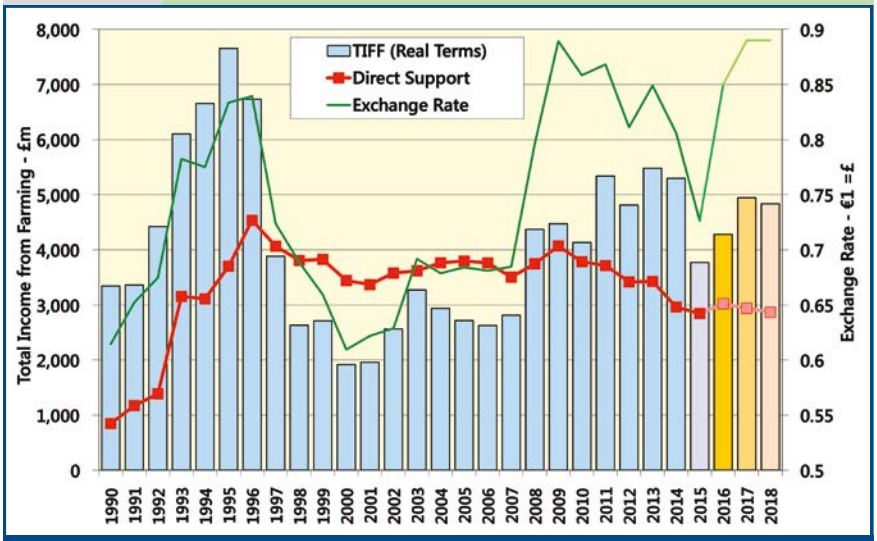
This means prices for winter 2016/17 will not be as low as once thought – but they may still show a reduction on the previous winter.

There has been a sizeable reduction in fertiliser prices throughout 2016. The effect of this is more likely to be seen in 2017 figures, however. Inflation, both in agricultural inputs and in the economy generally, has been subdued in 2016. This will help farm profitability. The inflationary effects of devaluation may well start to be seen in 2017.

Andersons run a model that tracks the TIFF figures and forecasts their future direction. Given all the factors discussed above, we believe that the UK's aggregate farm profit for 2016 could increase by 12-15% compared to the (provisional) 2015 figure. This would leave it around the £4.3bn mark. The first DEFRA official estimate will be published in April.

Looking to 2017 the key question is around currency. Will Brexit uncertainty keep the Pound weak - at current levels or lower? Or will the decision gradually become part of the economic 'landscape' and Sterling strengthen as the UK economy avoids the predicted recession? Assuming a relatively weak currency at today's levels, then the 2017 year could result in another improvement in TIFF. Prices will be at higher levels for the entire year rather than just half of it, as was the case for 2016. The underlying market conditions also look favourable for continued price increases in sectors such as dairy and pigs. We therefore forecast that TIFF in 2017 will rise by a further 15% compared to 2016, bringing it up to £4.9bn. A very tentative forecast for 2018 suggests that some weakening of returns may be in evidence by this point. This would be a combination of input cost inflation and also some cyclical weakening in key sectors.

Figure 7 **Total Income From Farming - 1990 to 2018 (Real terms, 2015 prices)**



Source: DEFRA / Andersons

One final thought is that it is worth taking a long term perspective. At the time of the first edition of Outlook TIFF, in real terms, was dropping by 42% between 1996 and 1997. Volatility in farming incomes is nothing new.

FARM BUSINESS OUTLOOK

Topical Issue- 'Brexit'

Michael Haverty

The vote on the 23rd June to leave the European Union (EU) was seismic. The economic, social and political effects will endure for decades and it will have far-reaching implications for UK agriculture.

The longer-term impacts will only emerge as the negotiations proceed and the terms of exit become clearer. This article sets out some key issues farmers should consider, using Andersons' Meadow Farm model to illustrate potential impacts.

Firstly, however, a brief summary of where we currently are in the process, and where we might be going.

Timings and Process

Theresa May has announced that the, now famous, Article 50 of the Lisbon Treaty will be invoked before the end of March 2017. With a two-year deadline hard-wired into the legislation, then this suggests the UK will formally leave the EU in early 2019. Whilst there is an option to extend this period if all 28 Member States agree, we, with most other commentators, believe this is unlikely.

The Article 50 talks are focussed specifically on issues relating to 'Exit' – for example, what the UK owes to or from the EU Budget, rights of EU nationals already living in the UK and vice-versa, and the removal of EU institutions from the UK. After more than 40 years of integration, there is a long list of issues to deal with. However, the 'Exit' talks could conceivably be wrapped-up in two years. More concerning are the talks on the future relationship between the UK and EU.

These talks are often referred to as being about 'Trade', but they will spread into other areas such as the free movement of labour (immigration), budget contributions and regulatory standards. There will be blurring between these discussions and the talks on Exit, but they are separate negotiations. This means that Exit can be concluded before we have a deal on Trade in place – potentially very problematical for UK farming.

In last year's Outlook we outlined various options for the future relationship between the UK and EU. These are all still on the table. For simplicity, most commentary on Brexit boils the choice down to two broad options. A 'soft Brexit' would give the UK continuing access to the EU Single Market. Whilst trade may not be as seamless as at present, flows of goods (and possibly services) would be relatively undisturbed. A 'hard Brexit' would see the UK outside the Single Market, and subject to tariff and non-tariff barriers on trade.

One last point is that those expecting a 'bonfire of regulations' upon Brexit are likely to be severely disappointed. There is simply not enough time to review and re-write all EU-derived legislation in the two-year timescale. The bombastically-titled 'Great Repeal Bill' is actually a simple piece of legislative administration that will translate current EU law onto the UK statute books. Individual pieces of legislation will then be tackled as time and resources permit. It could be decades before the imprint of European law disappears.

Effects On-Farm

Following the referendum, Sterling has weakened significantly. As commented on elsewhere in Outlook, this has provided a 'Brexit boost' to many sectors of UK farming. This is, of course, welcome, but the industry should not be complacent about the impact of the vote over the longer-term.

To illustrate these, we are using our 'Meadow Farm' model. This is a notional 154 hectare (380 acre) beef, sheep and arable holding in the English Midlands. It is typical of many 'family farms'. Below are some key issues this business (and all farm businesses) should be thinking about.

1. Understand what the key markets for your produce are and the potential exposure if the UK is not part of the Single Market:

Farmers should have an understanding of where their outputs are consumed – domestically, in the EU, or further afield. In terms of Meadow Farm, wheat, beef and sheep meat are the main outputs.

Figure 8 illustrates how UK production is broken down by market for 2015. In percentage terms, exports are most important in the sheep meat sector, but are also significant for wheat and beef. Non-EU exports are estimated to account for a low proportion of UK output.

This exercise helps to shed light on the potential exposure if the UK is no longer part of a free-trade area with the EU. If no trade deal is concluded between the EU and UK, then we will revert back to being governed by World Trade Organisation (WTO) rules - similar to the situation before the UK joined the European Economic Community (EEC), as it was known in 1973. Under this scenario, UK farming could be faced with paying tariffs on the commodities it is selling into Europe.

Figure 9 shows the EU's Common External Tariff for selected agricultural commodities.

For markets outside the EU, it is worth considering whether the EU has a trade agreement with these countries and if so what will happen to the UK's position upon Brexit. The EU has trade deals in place with more than 50 countries globally. There is significant doubt whether such agreements will apply to the UK upon Brexit and the British government may well have to negotiate new trade deals separately (not an easy task). From a sheep meat perspective, the biggest question will concern imports from New Zealand, as the UK currently accounts for more than 30% of the EU total.

Figure 8 **Overview of UK Production, Consumption and Exports - Selected Commodities - 2015**

Parameter	Wheat		Beef and Veal		Mutton and Lamb	
	'000 Tonnes	%	'000 Tonnes	%	'000 Tonnes	%
Estimated home-grown consumption	13,595	83%	765	88%	237	75%
Exports to EU	2,284	14%	92	11%	75	24%
Exports to Non-EU	566	3%	8	1%	4	1%
Total UK Production	**16,445**		**865**		**1,896**	

Source: AHDB / Andersons

Figure 9 **EU's Common External Tariffs - Selected Commodities**

	Tariff €/tonne (above quota)	Tariff Rate Quota (TRQ) - tonnes	Tariff (€/tonne or %) (within quota)
Wheat	€95 (feed wheat)	3,140,856	€12
Barley	€93	607,995	€8 (malting); €16 (other)
Lamb (fresh/chill)	12.8% + €1,710	286,602	€0
Lamb (frozen)	12.8% + €1,288		€0
Beef (fresh/chill)	12.8% + €1,770	67,250	
Beef (frozen)	12.8% + €1,768		20% (ad valorem)
Skim Milk Powder	€1,188	68,537	€475
Cheese (cheddar)	€1,671	15,005	€210
Pig Meat	€536	64,811	€268
Poultry cuts (fresh/chill)	€512	1,004,034	€0
Poultry cuts (frozen	€1,024		€0

Source: AHDB, European Commission, Andersons.

2. Identify where your key inputs come from:

Similar to the exercise for outputs undertaken above, it is also worth identifying where key inputs (e.g. fertiliser, fuel and feed) come from. Figure 10 provides an illustrative overview of the source of key inputs for Meadow Farm.

Where any of these commodities are being imported, either from the EU or elsewhere, the greatest impact is likely to come from exchange rate movements. The recent weakening of the Pound makes all imported goods more expensive.

3. Consider the possible changes in farm support:

The UK Treasury has guaranteed funding at current levels for direct payments until 2020. However, this appears to cover only up to the 2019 claim year. Whilst, upon Brexit, it is possible that the BPS is radically changed, in practice we think there will not be the time or resources to create new agricultural policies. Something like the BPS is therefore very likely for 2019, and possibly 2020 as well.

Longer-term, in theory the UK could replicate the current CAP and still have £8.6bn left over from EU budget contributions; but the reality is that it is not that simple. Once farm policy is repatriated from the

EU, farm support will be competing directly with key spending areas like the NHS and support may well decline. At the same time, a new 'British Agricultural Policy (BAP)' will be introduced. This may well see direct payments phased-out in favour of alternative support systems. In fact, there is unlikely to be a BAP as farm policy is a devolved matter – with each of the UK administrations establishing its own arrangements.

Figure 10 **Illustration of where Key Inputs (Feed, Fertiliser, and Fuel) are sourced**

	UK (%)	EU (%)	Non-EU (%)
Feed: Wheat	100%	0%	0%
Feed: Barley	100%	0%	0%
Feed: Soya	0%	30%	70%
Fertiliser: Nitrogen	circa 30%	circa 50%	circa 20%
Fertiliser: Phosphate	circa 0%	circa 40%	circa 60%
Fertiliser:Potash	circa 80%	circa 20%	circa 0%
Fuel: Diesel Oil	84%	7%	9%

Source: Andersons' estimates for Meadow Farm based on input from the ONS, AIC, International Fertilizer Association, Global Trade Atlas, AHDB.

4. Quantify the sensitivity of your business to Brexit:

Taking into account the points detailed above, the overall profitability of Meadow Farm post-Brexit has been forecast. Of course, there are a wide range of possible outcomes, but the exercise does highlight some significant issues. Two Brexit scenarios have been assumed. These are a 'Soft Brexit', with terms similar to Norway's current trading status with the EU and a 'Hard Brexit', which assumes that the UK will be subject to WTO tariffs immediately post-Brexit, at least for a time.

The levels of support have also been flexed under each scenario. For the Soft Brexit it is assumed that payments under an 'English Agricultural Policy' will be at 66% of current levels on a per hectare basis. Note that this does not mean that there will be a BPS-like area payment at this level; the funds may be made up of a mixture of alternative supports such as environmental payments, revenue insurance etc. Under the Hard Brexit option support levels are assumed to drop to a third of 2017 levels by 2025.

Figure 11 below shows the effect of the changes on Meadow Farm. For 2017, both pre Brexit and post Brexit forecasts are provided. This clearly shows the effect of the shift in exchange rates on short-term farm profitability. Soft and Hard Brexit scenario projections are provided for 2025 to give some time for the changes introduced upon formal Brexit to bed-in, and any changes in support to be fully phased.

5. Consider what new opportunities will be created:

Whilst Brexit may give rise to negative impacts, opportunities are also likely to be created. Land and rental prices for example could fall and this could present expansion opportunities. With uncertainty, some may defer investments and this could mean reduced prices for those willing to do deals. For sheep meat, emerging market consumption (e.g. China and India) is increasing. There are also likely to be opportunities in regions such as the Middle East for high-quality UK lamb. Furthermore, there could also be opportunities for the UK agricultural sector to satisfy domestic demand in the event of trade barriers being introduced post-Brexit.

Concluding Remarks:

Overall, the full implications of Brexit will take time to emerge, but farm businesses need to be proactive in terms of understanding how Brexit is likely to affect their profitability. Whilst the situation is difficult to forecast, businesses can start to think about how they might respond to the challenges (and opportunities) that Brexit presents. Linked with this, the UK agricultural sector also needs to work together to ensure that its voice is heard in the midst of what are likely to be noisy and protracted negotiations with the EU. The eventual exit terms and future trading arrangements that are agreed with the EU will shape UK agriculture for decades. The farming industry needs to safeguard its future so that the agricultural sector can successfully compete in a post-Brexit world.

Figure 11 **Meadow Farm Whole Farm Performance Projections (£/Ha)**

	2017 Pre-Brexit	2017 Post-Brexit	2025 Soft Brexit	2025 Hard Brexit
Livestock Gross Margin	663	726	698	596
Arable Gross Margin	609	686	657	486
Total Gross Margin	**651**	**718**	**689**	**573**
Overheads	500	500	512	513
Rent, finance & drawings	318	318	309	300
Production margin	**(166)**	**(100)**	**(131)**	**(240)**
Subsidy	188	208	139	71
Business surplus	**22**	**107**	**8**	**(170)**

Source: Andersons 2016

CROPPING

Combinable Cropping

James Severn, Sebastian Graff-Baker and Joe Scarratt

Twelve months ago, we opened the batting in our combinable cropping article by reporting on what, for many, had been a harvest of record breaking or at least, well above average yields. This was against a backdrop of very disappointing combinable crop prices, with feed wheat trading at or below £100 per tonne.

Whilst not the case across-the-board, yields this year have been disappointing by comparison. For prices, with the exception of the impact of exchange rate, there is very little in prospect which might lead to a significant increase in ex-farm crop prices. The world has plenty of grain and global cereals markets continue to fall. The Chicago wheat price hit its lowest point since 2006 in the autumn. Domestic prices are only higher than last year due to the devaluation of Sterling.

A price for feed wheat of between £120 and £125 per tonne is what we were forecasting might become the norm at this time last year. Assessing the prospects for combinable cropping profitability requires a long-term view, so it is well worth comparing certain key statistics today, with our first Outlook publication 20 years ago.

In April 1996, on the back of a weak Pound and concerns over the balance of world supply and demand, feed wheat peaked at £160 per tonne. However, it would close that year at almost half that value. With the odd exception, markets would remain weak for a decade, with the wheat price fluctuating between £98 per tonne and a low point of £52 per tonne. It was not until June 2007 that UK feed wheat once again broke through the £100 per tonne barrier consistently.

Figure 13 below compares the gross margin for feed winter wheat as set out in the ABC costing book from 1997 with the margin we forecast moving into 2017. This offers interesting comparisons.

The farm margin per hectare arrives back at a similar point after 20 years. But the Retail Price Index has moved up by around 67% over these two decades. Therefore, the business will now need to

Figure 12 **Long-term UK Ex-Farm Wheat Price - 1997 to 2016**

Source: AHDB Cereals / Andersons

be operating in a fundamentally different way if it is going to be generating the same profit in real terms as it was in 1997. It is a feature of commodity markets that prices do not rise in line with inflation, something which is likely to be as true for the next 20 years as it has been in the past two decades. Therefore, with no change, real profits will decline. This has led some businesses to pursue scale as a means of maintaining profitability. Unfortunately, for some, the costs of acquiring scale have been more than the additional output generated.

It is important to point out that other important factors have changed significantly since we wrote our first Outlook 20 years ago.

In 1997, black grass, which featured heavily in our 2016 article, was a problem, but the armoury of chemicals at our disposal included chlortoluron and isoproturon - both now banned. Black grass has become increasingly resistant to the chemical options that remain. This, of course, demands that growers are ever more innovative and flexible in their strategy for control.

Advances in precision farming and innovation since 1997 have been significant and a range of technology now offers growers far better information about the productivity and potential profitability of their farm land. However, we are only at the beginning of using this data to help formulate successful combinable crop strategies. For some it has become an interesting distraction that sometimes offers little additional value other than consuming management time.

There are a number of key areas that we feel remain crucial to success in what will be an ever more volatile marketplace for combinable crop production.

First of all, land selection and being flexible about what areas to crop remain crucial. Technology *can* be effectively used to identify which areas of your farm deliver the profit and those which consistently disappoint.

Figure 13 **Wheat Margin Comparison - 1997 and 2007**

Feed Winter Wheat - £ per hectare	**1997**	**2017**
Output:		
Yield (i) 7.7 tonnes per hectare @ £97 per tonne	747	
(ii) 9.0 tonnes per hectare @£120 per tonne		1,080
Variable Costs:		
Seed	54	47
Fertiliser	106	146
Crop Protection	121	230
Sundries	11	25
Gross Margin	**455**	**632**
Overhead Costs* (before rent and finance)	**427**	**536**
Net Farming Margin (before R & F)	**28**	**96**
Support (Arable Area Aid / BPS)	**257**	**209**
Farm Margin	**285**	**305**

** Mainly Cereals farm – 'large' size category* *Source: ABC*

The world has plenty of grain and global cereals markets continue to fall.

Flexibility is also vital in determining crop rotation and enterprise mix. If there is a serious grass weed problem in one area of the farm, this will almost certainly demand a different approach in terms of cropping (autumn or spring) and cultivation techniques. For example, selective use of the plough or minimal surface disturbance. The management plan during the growing season will need to adapt to the situation that presents itself.

As always, the key to profitability will be balancing output potential with the costs of producing the crop. A high-input, high-output approach does not always consistently deliver greatest profit, highlighted to many this year with somewhat 'average' results. We fear with some large businesses this has become the norm as a blanket approach rather than retaining that level of detail required to manage costs more effectively.

Deploying, high-tech, high-horsepower machinery is an expensive business. Any realistic opportunity to share those highly-valuable, but expensive resources can be hugely rewarding to the bottom line. Whilst not always easy, a flexible approach can undoubtedly offer significant cost savings.

There is no doubt we are in for a significant change with Brexit, despite it offering a short term currency gain. Volatility is very much here to stay and flexibility and imagination coupled with the ability to make challenging decisions will be vital to future success in this sector.

CROPPING

Root & Field Vegetables

Jay Wootton, and Nick Blake

Potatoes

Looking back to 1997, there have been a number of important changes in the potato sector:

- *The Potato Industry Development Board (now AHDB Potatoes) was introduced following the demise of the Potato Marketing Board*
- *Fresh consumption is now roughly 50% of that in 1997*
- *Processed consumption has remained relatively static*
- *The number of growers has reduced by nearly 80%*
- *Total annual production has only reduced by 20%*
- *The average yield appears to be increasing, but only very slightly. We would suggest the yield trend for 'the best' material is reducing as specifications continue to tighten.*

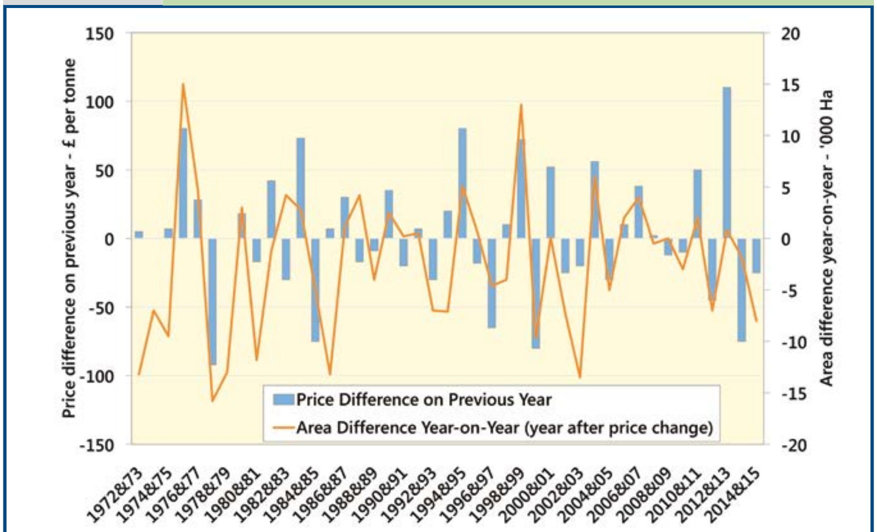
In Outlook 1997 we reported on the 1996 harvest, the first following the end of potato quotas. The planted area had risen in reaction to this, resulting in much reduced prices (as low as £30 per tonne). This is a familiar story, to which we have referred several times in Outlook and which is illustrated in Figure 14; the message is clear. In the majority of cases, when planting decisions need to be made, should growers be considering planting fewer free-buy destined potatoes for the following harvest, if the market is looking promising?

If a reduction in area is your aim, consider the opportunity to give up the marginal land – in terms of yields or the cost of acquiring the land, and invest elsewhere.

Following last year's robust end to the season, it is reported there has been a 4% increase in planted area, unsurprisingly, it would appear, primarily in the packing varieties. This will not quite replace the 8% reduction in the previous year, but if the current market confidence is anything to go by, there may be a further increase in the planted area for 2017.

It is obviously too early to call the 2017 market, but there is an air of optimism amongst growers and the market currently looks promising for the 2016 crop.

Figure 14 **Potato Price and Plantings - 1972 to 2015**



Source: DEFRA / Andersons

For many, however, the volatility of the free buy / packing market is unlikely to be relevant. For these growers, who, weather permitting, largely know their likely income around planting time (but not before!), it is probably a challenge to be profitable enough to cover the continuing reinvestment required to sustain most large-scale operations.

Regulatory requirements on CIPC treatment are driving storage investment, although there are a number of ways of approaching this, with significantly differing costs.

Investment also continues in the winter storage of irrigation water with the aim of securing the renewal of irrigation licences, particularly in areas of over-licensing (rather than over abstraction). At a wider level, the provision of water to previous un-irrigated land, will only increase total UK production.

Sugar Beet

At £37.72 per tonne the price of sugar beet in 1997 compares favourably with both the wheat price then (quoted in Outlook 1997 at below £100 per tonne), and the 2017 beet price!

In Outlook 2016 we suggested that growers could be disappointed with the outcome of the new IPA. Having received their contract offer for 2017 (the first without quota), they will have by now elected to commit to either a 1 or 3-year contract, partially linked to the European sugar price. The opportunity to commit to a 3-year contract has to be the right step for those who can make a positive margin from production before subsidy. However, those numbers of growers are relatively few, and not subject to high market rents.

At the time of writing, the Pound continues to weaken following the Brexit vote. Given the currency-related wheat price improvement this will make the 2017 beet offer look comparably worse. A high EU sugar price would serve to generate a bonus on the beet price under the new IPA and would help restore comparative profitability.

"The new style of contracting arrangements, the end of the EU Sugar Support regime, and the Brexit vote all bring significant change to the sector over the next few years."

The new style of contracting arrangements, the end of the EU Sugar Support regime, and the Brexit vote all bring significant change to the sector over the next few years.

The 2006 EU reform took the EU from being a net sugar exporter to net importer, as quotas were reduced by 30%. Inefficient growers (and indeed processors) were encouraged to give up production. This resulted in the closing of sugar factories across the EU (28 per year from 2006 to 2008) including two in the UK (at York and Alscott) and consequential reduction in the number of growers.

The end of quotas could see some of the remaining factories across the EU increase production where possible, as processors look to the marginal economics to improve profits. It is reported that in certain Member States processing facilities have been operating well-below full capacity for some years. There is perhaps little scope for such an increase in the UK given current factory utilisation and the 2017 contract offer failing to incentivise extra beet plantings.

We will avoid too much Brexit speculation, as the dynamics in the sugar sector are complex, to say the least. A UK withdrawal could return the EU to being a net exporter (as the UK takes a lot of continental sugar). There are the preferential sugar imports allowed by the EU – will the UK take some of these on? And what level of protection (if any) in the form of tariffs will be placed around the UK market? Much change in the sector is possible over the next five, never mind the next 20 years.

Vegetables

The industry has taken on a more embattled aspect in the past two years and, after many years of predicted consolidation, the pace is gathering. Pressure is building, with the number of suppliers being challenged, and some significant movement between suppliers of multiple programmes.

Looking back the industry has changed hugely since 1997, with many businesses no longer in the supply chain. The areas of key products have also changed to reflect perhaps our changing eating habits and preferences – with brassicas certainly being the most affected.

Figure 15 **Field Vegetable Areas - 1997/98 and 2015/16**

Hectares	1997/98	2015/16	% Change
ROOTS			
Carrots	11,485	10,975	-18%
Parsnips, Turnips and Swedes	7,032	5,884	-16%
Dry Bulb Onions	8,845	9,159	+4%
Spring Onions	2,313	1,583	-32%
BRASSICAS			
Brussel Sprouts	5,537	3,208	-42%
All Cabbage	9,805	7,298	-26%
Cauliflower	13,382	9,251	-31%
Broccoli	7,204	7,117	-1%
OTHER			
Asparagus	839	2,247	+168%
Leeks	2,477	1,538	-38%
Lettuce	6,110	6,073	-1%

Source: DEFRA

UK household purchases of fruit and vegetables have declined by 11.4% since a peak in 2006. At the same time, just 30% of adults meet the '5-a-day' recommendation according to the National Diet & Nutrition Survey. Those in the highest income group purchase 52% more fruit and vegetables than the lowest income group. Whilst price is often cited as a factor preventing higher consumption, DEFRA estimates that 22% of edible fruit and vegetables are wasted.

The reduction in area over the period above is possibly not as great as might be expected; as a result of waste both in the supply chain and at consumer level, significantly more is grown than is eaten. The attainment of higher standards of control of waste will only result in further pressure on planted areas.

The relentless demands on producers arising from the continuing struggle between multiples for market share, is proving difficult for some businesses. The large grower packer operations continue to consolidate and grow. The survivors take on greater commitment, operating in a high-risk environment. The evidence suggests a profit of only 0-2% of turnover is achieved by a number of businesses in this sector on a regular basis.

The relentless demands on producers arising from the continuing struggle between multiples for market share, is proving difficult for some businesses.

Looking forward to the coming year the continued development of consumption will drive greater investment. This will be required to meet the standards expected for fresh chilled product, and to overcome challenges over continuity of supply – which are becoming more of a problem with hugely variable weather patterns, and technical issues such as the influx of Diamond Backed Moth in Spring 2016.

The impact of rising labour costs is compounded by the Brexit decision. The fresh produce industry will be watching nervously how 'free movement of labour' is tackled. The Living Wage and Auto Enrolment, along with the potential restriction of labour from overseas, could lead to massive change in the level of automation in the industry.

The disruption currently anticipated can only feed through in food inflation as it is passed along the supply chain. The opportunity for supply to be exported must be considerable if the present concerns are not fully addressed. Trade is a key part of the Brexit negotiation, and will be inextricably linked with the availability of labour.

CROPPING

Fruit

John Pelham

Soft Fruit

Over the last 20 years soft fruit, principally strawberries, raspberries and blueberries, stands out as an example of market development and supply. In 1996 strawberries were a midsummer fruit, with annual consumption of some 40,000 tonnes of home-produced berries. By 2016 the figure was over 100,000 tonnes, with UK-grown fruit available from March to November.

There are three key factors in this development of domestic consumption. Firstly, the UK grower has radically extended the growing season with fruit of improved reliability, quality and taste, assisted by financial support from the CAP. Secondly, supermarkets have provided the route to market for a volume of perishable produce that could not have been achieved with former wholesale marketing arrangements. Thirdly, the soft fruit sector has created a highly effective marketing organisation, British Summer Fruits, to promote consumption.

Prior to 1996, fruit production received negligible financial support from the CAP. This changed completely in that year with the introduction of Producer Organisations, providing match-funded financial support to horticultural businesses to improve both cooperative marketing and production techniques. Of all the technical developments, the most significant has been crop coverings (or polytunnels), together with improved varieties and growing systems, including the increasing use of artificial growing media such as coir.

Tree Fruit

In 1996 UK dessert apple production was some 100,000 tonnes, with Cox Orange Pippin the main variety. In 2015 production was up to some 160,000 tonnes, with Cox in decline, superseded by new late season varieties such as Gala and Braeburn (late season production in 1996 was 18,000 tonnes; in 2015 it was 103,000 tonnes). As with soft fruit, the apple grower has been adopting new varieties, growing techniques and systems, characterised by more intensive plantings that, most important economically, come into production earlier.

Whilst the last twenty years has seen a 50% reduction in the English pear area, significant new cherry plantings, in response to consumer demand, have seen output grow. Interestingly, new cherry crops frequently use crop coverings, as in soft fruit production, to both improve quality (crucial protection against rain) and extend the season. Cherries, once only grown in the south, can now be found as far north as Aberdeen, a development impossible without polytunnels.

Another eye-catching development of the last two decades has been a doubling of the area of cider orchards. According to the National Association of Cider Makers the UK cider market has developed from a consumption of 500m litres in 1996 to around 800m litres today (it was only a little over 100m litres in the late 1970's).

Looking Forward

Typically, labour accounts for 50% or more of all fruit growers' costs. It will be the twin issues of labour cost and availability that will dominate both growers' management decisions and profit in the coming years. The possible curtailment of labour supply following Brexit is concerning, with most UK fruit crops harvested by European labour (some 40,000 seasonal workers are employed annually in horticulture). A new scheme to ensure the availability of seasonal labour is vital for both the economics of UK fruit growing and the supply to the UK consumer.

Fundamental, also, will be the attitude of the UK Government, post Brexit, to funding of the type currently provided by the CAP through Producer Organisations; it would be well-advised to understand the major benefits to the UK consumer that this support has created.

Continuing market development, in which the fruit sector has had such success for both existing and new crops (of which blueberries is the most notable), will be important not only to the economics of fruit growers, but also to the health of the nation.

> ***Typically, labour accounts for 50% or more of all fruit growers' costs.***

Over the last 20 years the UK fruit grower has been forward thinking and innovative, prepared to adopt and fund new technical developments; these characteristics will be much needed in the brave new world that awaits.

CROPPING

Topical Issue- Costs of Mechanisation

Jamie Mayhew

The cost of mechanisation on farm has increased significantly since Outlook was first published in 1997. Some key factors are:

- *Replacement of labour with machinery - over the period 1997 to 2015 regular full-time workers on farm has dropped 32% from 108,000 to 73,000 (Source: DEFRA)*
- *Increasing power requirements due to changes in tillage systems*
- *Inflation and exchange rates affecting machinery prices*
- *Changes in farm profitability which often drives decision making on capital expenditure*
- *Introduction of new technology with high costs for early adopters*
- *The desire to ease workload by sizing-up when replacing a machine – a bigger header on a combine for example.*

The average 125 Hp tractor could be purchased for £38,000 in 1997. A like-for-like machine in 2016 would cost approximately £48,000. However, in 1997 the average horsepower tractor sold was 102, compared to around 145 Hp in 2015 (Source: AEA). 'Horsepower-creep' means that a tractor is often replaced by a larger machine.

According to DEFRA, since 1997, the average holding size above 50 hectares has increased by 13%. This statistic masks far larger consolidation in the size of operations as many businesses will be farming more than one 'holding'. In addition, the area cultivated by some businesses is likely to have increased further still, taking into account the area farmed under Stubble to Stubble or Contract Farming Arrangements. This is likely to result in fewer, larger power units being utilised on farm.

> **'Horsepower-creep' means that a tractor is often replaced by a larger machine.**

The cost of mechanisation includes machinery depreciation, fuel, repairs/maintenance and contract and hire. Expenditure varies significantly, but might typically be in a range of £180-£300 per hectare for a combinable crop business.

As the size and capital cost of machinery increases, the cost of individual assets could easily exceed the annual depreciation in some businesses. It is therefore vital to review capital expenditure on a rolling basis (perhaps 5 years), to ensure a stable replacement cost overall.

It is important to consider the options available to manage machinery operating costs with existing technology:

- *Increasing working area – by business expansion or joint venture opportunities. However, farmers need to be mindful of perceived economies of scale (as previously discussed in this publication). Only a relatively small marginal increase in operating area is likely to produce a benefit. Typically, when machines are later replaced, a larger model is purchased, to provide certainty, possibly negating the potential benefit.*
- *Rotational changes, such as the introduction of spring cropping will spread workload over a longer period, resulting in the opportunity to review mechanisation.*
- *Use of Contractors to relieve*

the necessity of an additional combine or sprayer – particularly where the requirement is less than a full unit.

- *Service and Warranty Contracts in order to achieve a known cost.*
- *Fixing or hedging of fuel price.*
- *Consider investment in guidance systems for tractors to avoid overlap, and increase machinery efficiency.*
- *Consider different methods of operation to ownership, such as Contract Hire or Short Term Hire. These alternatives tend to suit businesses opting to replace machines every 5 years or less. When assessing these options, the cost of capital, estimated residual value and any tax treatment should all be taken into consideration. Care should be taken over restrictions in running hours, or excess hour charges. The benefit is a 'fixed' approach to machinery operating costs.*

Figure 16 **Ownership vs. Hire**

Example: 300 HP Tractor	Annual Cost - £
HIRE	
10 weeks @ £2,000 per week (+ insurance)	20,500
PURCHASE	
Estimated 5 years ownership*	25,500
Estimated 10 years ownership*	20,000

** Purchase price = £180,000*

Short term hire could replace ownership where machines are used for a short period of time, such as harvest/autumn cultivations. The following example shows the estimated cost of operation of a short term hire machine versus ownership for 5 or 10 years. If machines are operated for a longer period, ownership is likely to be favourable over short term hire. However, if a 5-year ownership is planned, then short term hire might be advantageous.

The longer-term future of mechanisation is likely to see to a further reduction in labour, as driverless tractors are introduced. If these machines are able to work 24 hours per day, there could be a further reduction in overall units. The cost to access this technology will be high for early adopters, although a collaborative approach could make uptake commercial.

LIVESTOCK

Dairy

Tony Evans, Mike Houghton, & Gaynor Wellwood

The first half of 2016 saw a continued decline in farmgate milk prices due to strong production and weak world dairy commodity prices. Whilst raw material prices, and therefore some key costs, also fell due to lower oil prices and favourable exchange rates, this was not enough to prevent many farmers from being in a loss-making position. Dairy business profits are under pressure for the second year running and stock sales have been used to raise cash. Reinvestment will have been nil or negligible.

Production systems are coming under intensive scrutiny by both processers and producers. At equivalent levels of management expertise, costings data in the UK indicate that All-Year-Round calving has the highest cost. Without retailer support these businesses are losing money. Spring calving herds with a large proportion of 'B' quota have also had a tough year but may have been able to at least break even. The Autumn calver will have a reasonable 2016 as the milk price rises in the second half of the year coincided with increased volumes produced. However, the average quality silage made this year, due to late cold spring, will make it a challenge for many to produce cheaper litres from forage.

> ***Better transparency and cooperation in the supply chain is required.***

The rise in UK milk prices in the second half of the year in the UK is partly a legacy of the very low spring prices. These drove many producers to hold off using purchased feed when it was only producing milk generating a low 'B' price. This combined with a sudden fall off in grass quality in May and June has resulted in milk supplies falling below demand. At the time of writing, in autumn 2016, production in the UK is running around 8-9% lower than the previous year. This has seen the spot milk prices moving from 16p to close to 40p in a 6-month period. Milk buyers need to have better long-term strategies, communicate their supply requirements to farmers more effectively, and have a greater understanding of what is happening on-farm. At the same time, milk producers need to take their supply forecasts seriously – albeit for many it has been a very depressing time and therefore to remain positive can be difficult. Overall, better transparency and cooperation in the supply chain is required. Perhaps the reduction in milk supply will concentrate minds throughout the dairy industry.

Many milk producers are now actively changing their production systems to make them more profitable, by moving away from All-Year-Round to seasonal calving. On farms that have made the change both profit and cashflow have improved.

Looking back 20 years to 1996-97, the milk price was at approximately 25p and feed price £155 per tonne – this gives a milk price to concentrate ration of 1.6:1. In 2016 it is 1.25:1 and 2017 threatens to be closer to 1.2:1. Therefore there is a much lower incentive to produce milk from concentrates and much more focus on milk from grass. In 1997 the average yield of a UK dairy cow was some 5,800 litres. In the last milk year it will have been around 7,900 litres. Whilst this may be seen as a welcome increase in technical efficiency, in fact the industry may well have gone up a yield-driven cul-de-sac, encouraged by a support industry with a vested interest in a high-input, high output model.

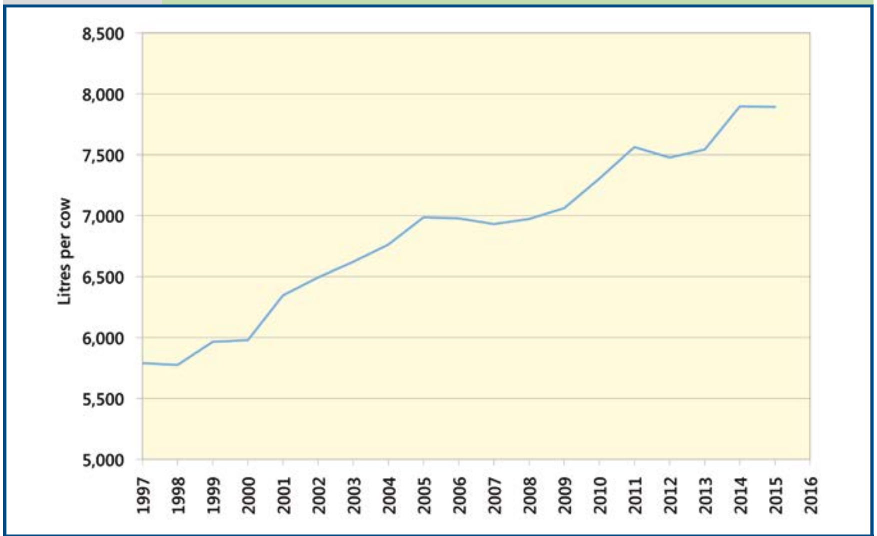
Within an increasingly polarised UK dairy sector, there will still be a place for high yielding systems, but only if the management is of the very best quality. The use of genomics in the future may see the 14,000 litre dairy cow become a reality. Consumer reaction to such developments needs to be watched carefully, however. The industry should not do anything that compromises its ability to sell a 'healthy', 'natural' and 'high-welfare' product.

The opportunities presented by genomics may not always be as readily recognised by those operating grass-based systems, but, by selecting for high-breed-worth healthy cows, there could be a significant boost to profitability.

With low interest rates there is a case for prudent long-term borrowing to fund investment for those that see a positive future for themselves in dairying. The emphasis must be on the word prudent – some of those businesses that have struggled the most in the recent downturn are those that expanded with business plans predicated on a milk price in excess of 30p per litre.

Milk price rises of the autumn will come just a bit too late for a number of dairy businesses. Even though values have risen, with the likelihood of more to come, the losses will still be accruing at current milk prices. Either the proprietors themselves or their bankers may not wish to fund continuing losses through another winter. Perversely, the rise in cow values that has accompanied the milk price rises may persuade some that this is a good time to exit.

Figure 17 **Milk Yields – 1997 to 2016**



Source: DEFRA / Fonterra

Post the Brexit vote in the middle of 2016 input prices are rising fast. In some cases this is faster than milk price rises. The slow pace of increases has been a source of frustration to many dairy farmers – particularly when compared with spot market prices. But global commodity markets are only gradually recovering, with demand subdued and any increase mainly due to output falls. It should also be remembered that a large quantity of milk products has been put into stores during the last two years, and this must reappear at some point. A slow and steady (and sustainable) increase in milk prices might actually be better for the UK dairy industry rather than another boom-and-bust cycle. A rise in milk prices could see a convergence between aligned and non-aligned prices in the year ahead.

TB continues to be a severe problem for many parts of the industry. Progress is being made with the roll-out of the badger cull, but, for many, it is far too slow to really get a grip on the disease.

Looking ahead, the opportunity for businesses to sell product to the UK's 66 million customers is very strong. The UK is not self-sufficient in milk and milk products and, post-Brexit, there is huge scope for milk processors to compete with imported food. However, farm production systems must continue to adapt. The right systems are essential to establish lower-capital, lower-cost, sustainable businesses that can produce the raw material for a supply chain in which all parts can prosper. Processors and producers must work together to seize the opportunity, but there may be casualties in the supply trade.

The long-term future of the dairy sector is dependent on the quality of the people within it. Attracting good staff is a major challenge – more needs to be invested in developing skils on farm and showing a pathway for progression for those that want it. Young entrants are inspired by successful businesses. Their continued coaching and encouragement is essential to provide succession and give a great future for the sector.

LIVESTOCK

Beef

Ben Burton & Jack Frater

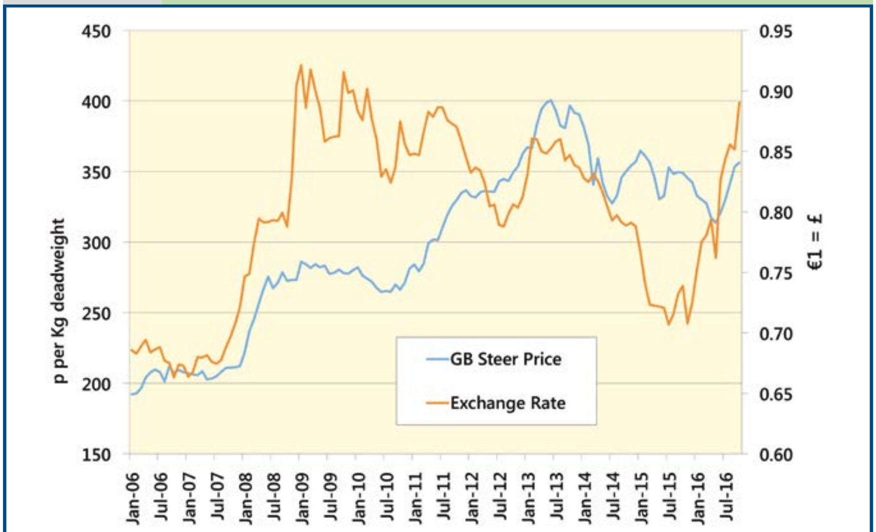
On Wednesday 20th March 1996, the Minister for Health, Stephen Dorrell made his fateful announcement of a possible link between BSE and CJD. The implications for consumption, prices and the political mismanagement of the crisis are well documented. Twenty years later, the sector's prospects are back in political hands as Brexit approaches.

Beef consumption per head has recovered since 1996, although there has been a trend towards convenience proteins, predominantly poultry. Nevertheless, total beef consumption has been sustained by a rising UK population with the 'British Beef' brand securing a price premium. The smaller multiples often stock 100% British beef, however the big three on average source less than 80% from the UK. Whilst smaller 'value' supermarkets turnover has increased, the larger retailers account for the majority of sales. With the UK 75% self-sufficient in beef, imports continue to drive base prices, particularly those from Ireland (accounting for 68% of UK imports), with competitiveness determined by the Euro/Sterling exchange rate.

The recent Sterling weakness has bolstered finished prices, offsetting some stringent, buyer-driven, maximum carcass weight reductions. Prior to this, store calf and yearling producers benefitted from a disassociation between store and finished price, driven by demand for quality stock. Currency has also driven feed price rises. This has increased pressure in an environment where a typical beef system continues to generate negative returns, particularly upland systems. For example, in 2014/15 a combined suckler/finishing unit lost £1.09 per kg dwt on average (source: ADHB Stocktake). Nevertheless, well-managed businesses are generating positive margins.

TB continues to challenge the sector. Brexit may facilitate vaccination and the progression of other technologies, such as GM. However, adopting such approaches when trade with the

Figure 18 **Beef Prices and Exchange Rates - 2006 to 2016**



Source: AHDB Beef & Lamb

EU is notoriously thorny will be challenging. The US's WTO appeal over access for hormone-treated beef and the EU's defence of 'social value judgement' rather than science is one such example of a regulation-based trade barrier.

Of the UK's exports, 90% are EU-bound, whilst total imports from the EU are more than double that of exports. If the UK unilaterally removes import trade barriers (Teresa May suggested that the UK will lead the world in free trade), not only will Irish prices put pressure on the British Beef price premium, but so may South American supplies too. Unfortunately, the beef trade is unlikely to feature high up the UK's political agenda and its importance as a sacrificial pawn when negotiating trade deals should not be underestimated.

In the short term, it is difficult to envisage that red tape such as the NVZ regulations will disappear in a post-Brexit world. In fact, it is possible that such regulation could even increase, with resultant administrative and production costs. One area that may be under political pressure for further legislative intervention is greenhouse gasses. Agriculture (particularly enteric fermentation in ruminants) accounts for up to half of UK methane production, a greenhouse gas that is significantly more damaging than carbon dioxide.

Future developments may also arise from gene mapping. This may not only be utilised in animal genetics, but also rumen microbiology, potentially facilitating feed conversion efficiencies and management of methane emissions. The application and uptake of such technology is critical; Scotland has established the Beef Efficiency Scheme to disseminate such knowledge.

Technical efficiency such as herd health, cost effective diets and optimising output from resources remains important, along with producing cattle to the target market requirements. The value of professional input should not be underestimated as producers consider what they can do to make their business more robust to face an uncertain political future.

Figure 19 **UK Beef and Veal Trade - Year to July 2016**

IMPORTS		
Country	**Tonnes**	**%**
From EU	***134,828***	***91%***
Ireland	100,341	68%
Netherlands	10,812	7%
Poland	8,445	6%
Germany	6,922	5%
Italy	2,690	2%
Other EU	5,618	4%
From Non-EU	***12,821***	***9%***
Australia	3,011	2%
Botswana	2,443	2%
Brazil	2,219	2%
Other Non-EU	5,148	3%

EXPORTS		
	Tonnes	**%**
To EU	***56,554***	***90%***
Ireland	21,824	35%
Netherlands	14,755	23%
France	5,671	9%
Italy	3,199	5%
Belgium	2,008	3%
Other EU	9,097	14%
From Non-EU	***6,302***	***10%***

AHDB Beef & Lamb

The [beef] sector's prospects are back in political hands as Brexit approaches.

LIVESTOCK

Sheep

David Siddle

It is well known that the UK sheep sector is highly dependent on exports – the earlier Outlook article on Brexit illustrates the high percentage of exports that go to the EU. The UK's decision to leave the EU will have significant short and long term effects for sheep farmers and is likely to be the single most important factor affecting the profitability of the sector both in the year ahead and in the longer term.

As well as addressing prospects for 2017, this being our 20th anniversary issue it seems appropriate to briefly reflect on what has happened to the sector over the last 20 years and what may happen in the next 20.

In the short term the sector will hopefully continue to benefit from exports being more competitive and imports less so, assuming Sterling maintains its current weakness following the EU referendum. Prices at the time of writing are some 15% up on the lows of the previous year. With the national flock appearing to have stabilised at around 16 million ewes and production in 2017 likely to remain broadly similar, we are hopeful prices in 2017 will not return to the lows of 2015.

Over the last 20 years the national flock has fallen from a peak of over 20 million ewes to the current level. Foot and mouth disease in 2001, the decoupling of support from production in 2005, followed by a period of poor prices saw numbers fall to a low of 14.7 million ewes in 2010. Thereafter reduced supplies and weaker Sterling saw prices improve and flock numbers re build to some degree.

> ***Costs of production, unlike trading arrangements, can be directly influenced by sheep farmers.***

The consumption of sheep meat in the UK has fallen from over 360,000 tonnes 20 years ago to around 300,000 tonnes today. From an industry perspective we hope it may have stabilised at around these levels, but current trends in food consumption suggest any significant growth in domestic consumption seems unlikely.

UK sheep meat exports have shown steady growth over the last 20 years, from around 80,000 tonnes per annum to over 100,000 tonnes and opportunities to expand production would appear to depend on achieving further increases, whilst maintaining domestic consumption.

In a post-Brexit world with likely lower levels of farm support, particularly in low-ground areas, grassland may become increasingly available due to the lack of profitability of keeping beef cattle and perhaps the growing of cereals on more marginal land.

If the sheep sector is to expand a take on additional land it appears to have two major challenges. The first being finding a market for its product, the second being to improving industry competitiveness and developing systems which can produce sheep meat at a price the market is willing to pay.

With the vast majority of exports currently going to the EU, maintaining unimpeded access to these markets will be crucial. Opportunities for growth in EU markets, such as the ethnic sector, whilst not insignificant, appear modest as compared with the most rapidly expanding market, China. However, Chinese demand tends to be for cheaper cuts as opposed to the more expensive cuts and high quality products that UK exports have largely been built upon. New Zealand and Australia, who have both recently struck free trade agreements with China, appear well placed to supply any increase in Chinese demand. It may be tough for the UK to make inroads into this market.

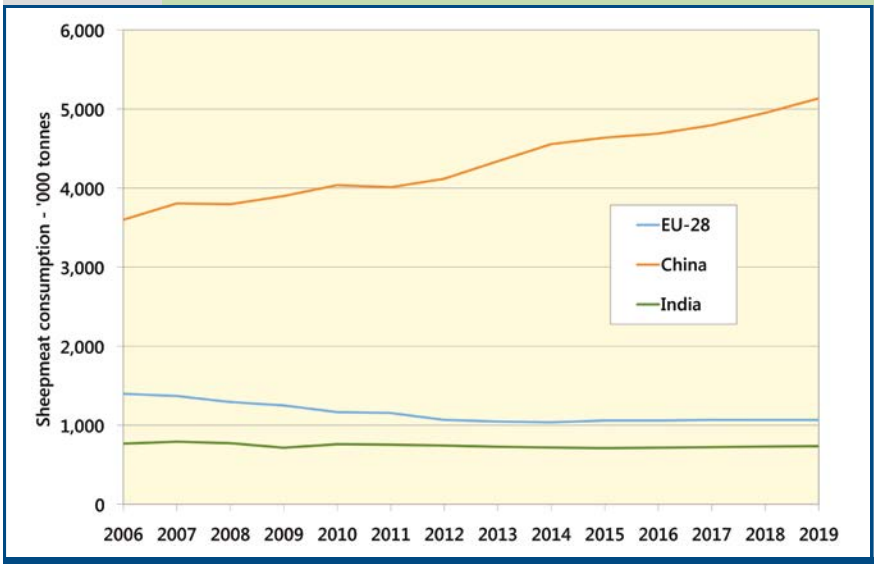
Despite exporters best efforts, the main factor influencing the size of the market for UK sheep farmers in the future may be the nature of trade deals struck with not only the EU, but importantly with the large exporting nations of Australia and New Zealand.

Costs of production, unlike trading arrangements, can be directly influenced by sheep farmers. There are systems currently in operation capable of producing a kilogram of lamb live weight at less than 165 pence and we would be optimistic that there will be significant periods in the years ahead when the market is willing to deliver a return in excess of this.

Such systems require an approach where all costs, and in particular overheads, form part of producers' calculations. The majority of discussion in the sector, and disappointingly much industry analysis, focuses on technical performance and gross margins; overheads are often forgotten, despite being shown to be the single biggest differentiating factor between the best and worst performers.

There are common themes to those businesses which are able to make genuine profits from sheep production. Such businesses tend to have adopted systems which maximise the use of grazed grass and use various degrees of 'easy care', but not necessarily always using the recognised easy care breeds. Outdoor lambing, the use of modern genetics and stringent culling for time-consuming traits such as feet, dags, ease of lambing and worm resistance are common, as is the principle of taking sheep to feed rather than feed to the sheep. Many such producers have little need for machinery much in excess of a quad bike, and aim to optimise rather than maximise output from their flocks from a low overhead cost base.

Figure 20 **Sheep Meat Consumption - Selected Regions - 2006 to 2019**



Source: OECD

LIVESTOCK

Pigs

Lily Hiscock

In the 20 years since the first Andersons Outlook much has changed in the UK pig sector. 1997 was a particularly difficult year for the pig industry, with markets reacting to swine fever outbreaks in Europe which resulted in significant oversupply and a rapid decline in pig prices. This was exacerbated in the UK due to the strength of Sterling. At this point even the most efficient producers in the UK were losing money.

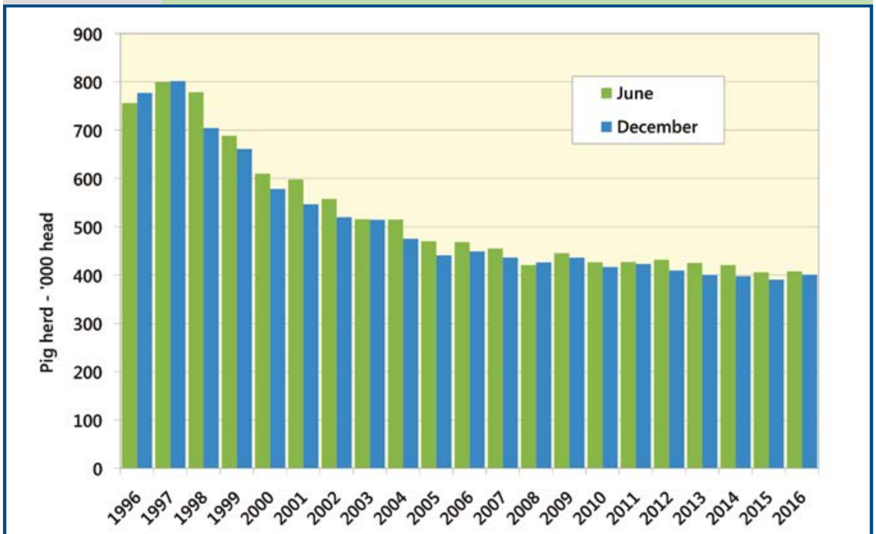
In 1999 the UK introduced a ban on tethers and close-confinement stalls for breeding sows. It was estimated that this cost the UK pig industry £323m and added 6.4p per kilo to the cost of production. Whilst no doubt introduced with the best of intentions, it illustrates what can happen when domestic regulation gets out of step with key trading partners, leading to cost of production differences and making competition more difficult.

The size of the UK pig sector has seen considerable change in the last 20 years, with the UK breeding herd reducing by almost 50%, as shown below. UK pork consumption has reduced from 84% home-produced in 1998, to less than 50% currently. The pig sector has contracted considerably, but has made significant improvements in health & welfare, efficiency and cost of production to become more competitive globally.

2017, looks set to be a more positive year for the sector offering greater price stability after almost two years of depressed prices and negative margins. The shift in the £/€ exchange rate has narrowed the UK price premium compared to continental supplies – allowing export growth into Europe. In addition, exports outside the EU look set to improve, with the quantity exported to China in 2016 having increased by more than 10% (in volume terms) in comparison to the prior year. Chinese domestic pork growth is expected to be slow and as such the UK is in an excellent position to exploit this opportunity.

Domestic prices are expected to be maintained at a higher level in 2017 than seen throughout early 2016, with increased exports

Figure 21 **UK Pig Herd - 1996 to 2016**



Source: DEFRA / Andersons

contributing to a tightening of supply in the UK.

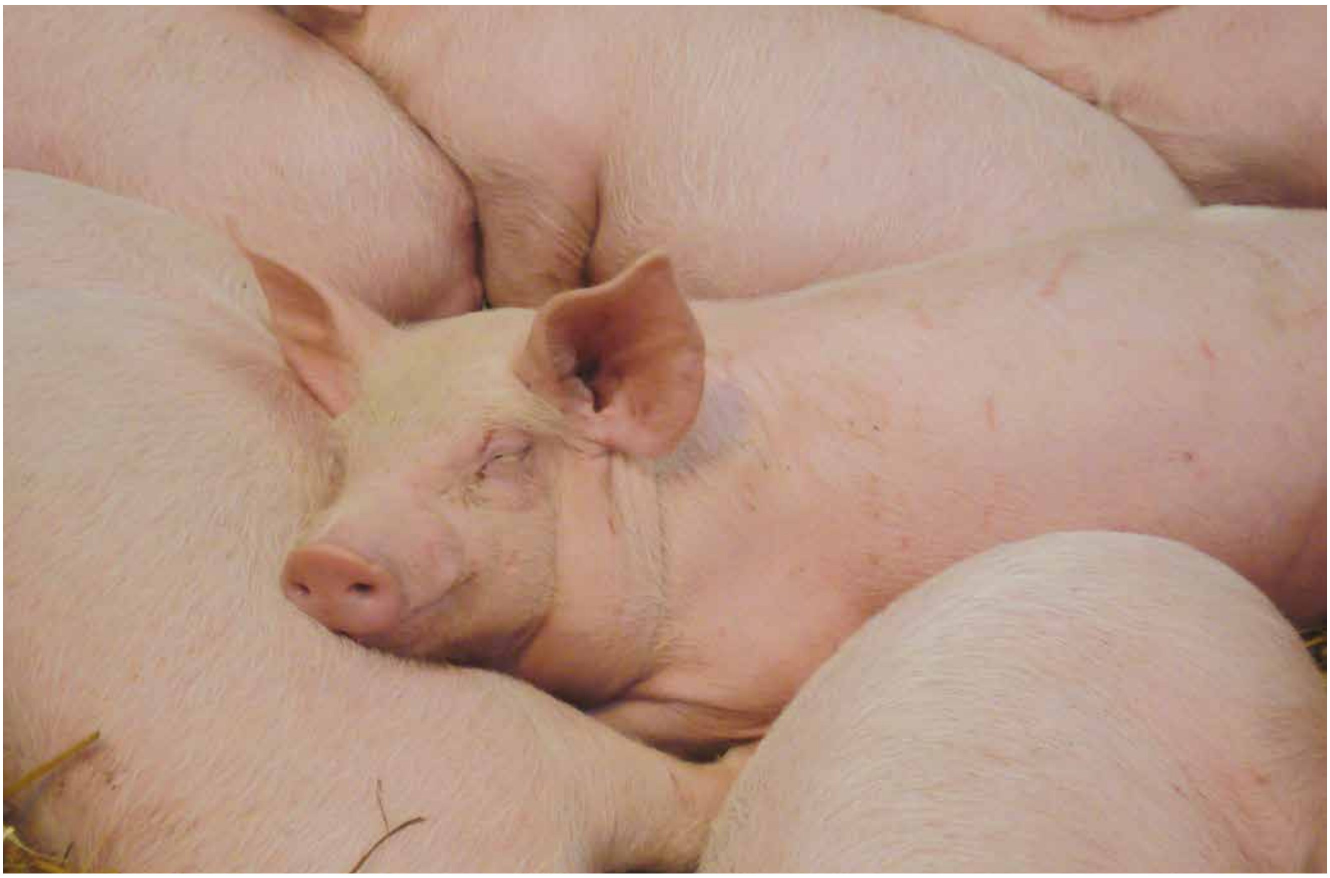
The UK pig sector still lags behind in productivity when compared to a number of EU producers. The current UK average for pigs finished per sow is some 26.20, compared, for example, to Denmark which is 30.10. The key reason for the difference is due to the UK producing below average pigs born alive per litter (currently approximately 12.1 against EU average 13.2). This also affects the cost of production, with the UK average in 2015 being £1.27 per kg deadweight. This is approximately £0.19 more than producers in Denmark. Planned UK investments in genetics, training and research should assist in improving UK productivity and therefore competitiveness on a global scale. It should be noted however, when comparing productivity, that the UK has a larger than average outdoor pig herd, which generally has lower productivity than indoor herds.

"2017 looks set to be a more positive year for the sector."

Although pig prices are expected to continue to improve, pig producers should be aware of changes in feed prices and consider booking feed forward, if it will guarantee a positive trading margin. Currency changes have already provided an uplift in UK cereal prices and protein prices look very volatile due to uncertainty over quality of supply and weather in South America. It is anticipated that cereal prices will settle, due to the high level of stocks across Europe; however, protein prices should be watched more carefully.

Other factors, which might assist the UK pig sector in 2017, include the announcement by the Co-op that it is extending its commitment to back UK farmers by sourcing all of its fresh bacon from Britain. Further pledges are anticipated by UK retailers which would have a positive impact on the sector.

2017 should see a return to positive margins for UK pig farmers. However, continued focus should be maintained on improved productivity through feed efficiency, management of costs and locking into margins through forward buying. In the long term, post-Brexit could see considerable change, with new trade relationships and global price volatility; maintaining a focus on improving farm efficiency and profitability should ensure producers can be sustainable for the long term.



LIVESTOCK

Poultry

Blaise TerHaar

The poultry sector is probably the part of the UK livestock industry that has seen the highest level of technical improvement over the past twenty years. In 1997 the feed conversion rate of broilers was close to 2.0. It has now been improved to 1.5, with the time taken to produce a table bird falling to 40 days (or less). Labour efficiency has improved with an average man able to look after 150,000 broilers in today's modern systems. Such rapid improvements in technical performance have been possible because of the short life cycle of the chicken, but the industry has not been afraid to adopt new technology and embrace change in pursuit of efficiency.

In 1997 the UK produced 1.14m tonnes of chicken meat. By 2015 this had risen to 1.42m tonnes – a 25% increase. Over the same period the UK population has increased by 12% from 58.3m to 65.1m. Adding in other types of poultrymeat, and imports of poultry (13% of total UK consumption in 2015), the total eaten was 1.94m tonnes of meat. This equates to around 30kg per year for every person in the UK.

Changes in consumer demand and technical performance have been mirrored in the structure of the sector over the past two decades. Mergers and consolidations, and a move towards a vertically integrated business model, has seen the sector come to be dominated by just a few key players incorporating breeding, hatching, growing and processing. In fact, there is now a 'big two' in poultrymeat production, with a handful of smaller, but still substantial, businesses in the tier below them. The role of traditional farms in the sector is usually limited to operating as contractors, unless opportunities in niche markets have been developed.

The egg industry is somewhat different, in that many farming families continue to run egg production enterprises. Indeed, many have entered the sector over the past few years as demand has been strong. In 1997 the UK industry produced 0.79 million dozen eggs for human consumption. Production was relatively flat for some years – as recently as 2009 production was 0.75 million dozen. But over the past 6 or 7 years the UK industry has grown, with output in 2015 at 0.87m dozen and likely to be higher again for 2016. This has been driven by consumer demand, with egg consumption up 9% in the past year. As with broiler production, this sector has seen significant productivity gains; egg production has increased by 3 eggs per bird per year over the last 20 years with the average bird now producing 330 eggs per annum.

> ***The industry has not been afraid to adopt new technology and embrace change in pursuit of efficiency.***

The last two decades have seen significant growth in free-range production systems. This seems set to continue in the immediate future with the likes of Lidl and Aldi committing to stocking only free-range. With the commitment of many retailers to phase out colony eggs by 2025 this trend only seems set to continue.

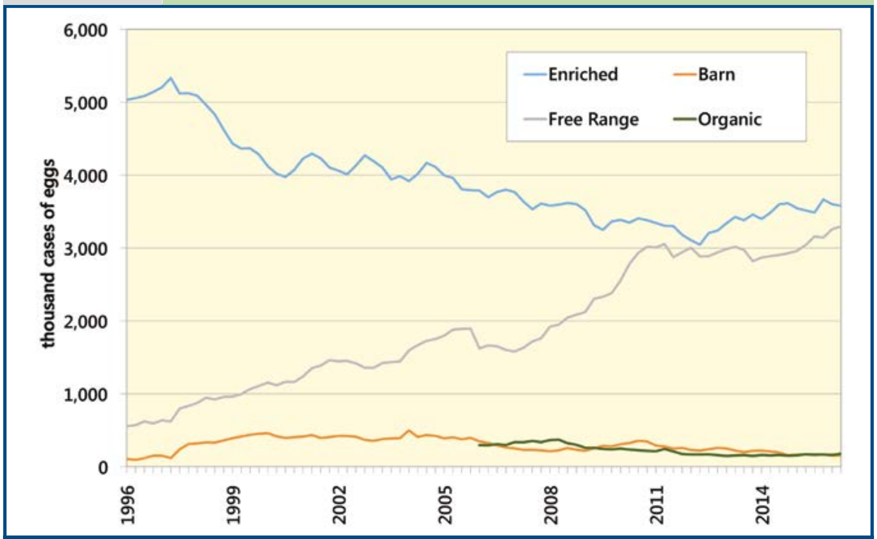
Whilst the move is backed by many animal welfare NGO's, and probably makes consumers feel virtuous, is the science correct? In order to be able to sell eggs at a price that is competitive with colony eggs, free range production needs to be at a large scale. With units of 32 or 64,000 birds, many of which don't actually venture outside, the image of free range is often divorced from reality. In addition, free range production often requires a higher degree of medication and has many more risks because of birds roaming free i.e. bird flu and bio-security.

There has been significant investment in enriched cage and colony systems to comply with the EU ban on traditional 'battery' cages in 2012. The retailers' moves seem to cast doubts over the future market for eggs from these systems. Most egg producers now practise under the Lion Code. This could be significant over the medium-term in respect of Brexit, as it could create a (non-tariff) trade barrier to imports. With the UK being a net importer of eggs (85% self-sufficient) any restrictions on imports has the potential to see domestic values rise.

In the shorter-term, the cost of feed will be of key importance to both egg and broiler producers. The fall in feed prices predicted only a few months ago has been halted, and in some cases reversed, by the rise in cereal and especially protein prices. Output values will need to remain robust in 2017 or margins will come under some pressure.

Finally, it is always interesting to have a perspective on where the UK sits within the evolving global food production system. The UK industry has around 37 million laying hens. China has recently announced plans for a single hatchery to produce 55 million commercial layers per year!

Figure 22 **Egg Production By System - 1996 to 2016**



Source: DEFRA / Andersons

LIVESTOCK

Topical Issue- Livestock Futures Markets

Mike Houghton

The combinable crop sector has had the benefit of well-established futures markets for many years. The livestock industry, at least in the UK and Europe, has not developed equivalent structures to any great extent. With price volatility now an accepted feature of many markets, there may be an added impetus to push these forwards – especially in the dairy sector.

A futures contract is a legally-binding (usually standardised) agreement to deliver a fixed quantity of a commodity, of a minimum quality, at a specified physical location. It is not often that actual delivery of the product is made – usually the contract is 'closed out' or cancelled via a financial transaction. Buyers and sellers use futures exchanges to broker deals and set prices. By locking-in to prices at some date in the future, both buyers and sellers of the commodity in question can reduce the risk of markets moving against them. A further refinement of the system uses the futures market to create 'options' – effectively a type of insurance against price volatility.

In the cropping sector few farmers will use these instruments directly; they are mainly used by merchants and traders. However, growers benefit indirectly as they are able to agree fixed-price forward contracts which would not be offered unless the buyer could offset their risk on the futures market.

> ***The fact that futures markets are not widespread in the livestock sector perhaps demonstrates out-of-date thinking.***

At present there are only a limited number of futures markets for livestock. The German-based EEX operates dairy futures for butter, skimmed milk powder and whey powder. AHDB dairy has recently started using the data from this market to produce a forward price indicator. EEX also operates a pigmeat futures market. This appears almost unique in offering futures in the meat sector. The similarly-named Eurex and Euronext exchanges also operate milk futures.

Whilst, at least in the dairy sector, this appears to offer scope for futures trading, the reality is often rather different. On all the exchanges the number of trades is very small – none at all on many days. This raises a chicken-and-egg problem. Until there is liquidity on the markets traders (and even speculators) are loath to use them. But unless they are used, liquidity will never be improved.

There are perhaps a number of reasons why livestock futures in Europe (and the UK) have not yet taken off. Firstly, markets, especially dairy markets, had been managed under the CAP for many years, reducing volatility and the need for futures. The deregulation of dairy markets came later than that for cereals and thus it may simply be a case of a time-lag in the growth of risk-management tools.

Secondly, there is the nature of livestock products. A tonne of wheat is a tonne of wheat (as long as it meets the quality requirements). Milk is manufactured into a plethora of traded products, so breaking-up the market into numerous sub-markets. Each of these may struggle to reach critical mass. The situation is perhaps even more problematic in the meat sector with the variety of breeds, cuts etc. The relative ease of storing grains versus milk and meat may also play a part.

Currency is another issue, especially for the UK. All of the current livestock futures markets are denominated in Euros and therefore currency hedging would be required alongside the product futures contract. The fact that two of the EU's big livestock-producing nations (the UK and Denmark) are outside of the Eurozone is perhaps holding back the development of the market as a whole.

Lastly, the structure of livestock supply chains may play a part. The large, vertically-integrated buyers and processors of milk and meat may be happy to deal with price volatility within their own organisations – the cynic might say by passing any price changes through to the farm level. Thus, there has been little interest from the 'big-players' in developing futures markets. It is likely to require the participation of all those in the food chain for such instruments to really take off.

None of these issues is insurmountable. The fact that futures markets are not widespread in the livestock sector perhaps demonstrates out-of-date thinking. Many producers would prefer a known average price rather than the highs and lows experienced over the last two years. Fixed forward prices could be offered by processors if they, in turn, could hedge some of their price risk on a futures exchange.

Progress is being made however. In a positive development, Yew Tree Dairies in Lancashire is poised to start offering futures contracts to UK dairy farmers in the coming months. They are to be congratulated in developing this initiative, and it will be interesting to see what the uptake of the contracts will be, and whether it prompts others in the dairy sector (and in the wider livestock sector) to follow.

The use of futures in the livestock sector may well be something that grows steadily over the next few years. When milk futures first started in the US the uptake was low, but has built organically over the last 20 years. Now most American dairy farmers hedge around half of their production. They usually also lock-in to long-term feed prices at the same time, essentially guaranteeing a fixed margin for part of their production. Indeed, banks often insist on this before lending funds. A milk futures market has also established itself in New Zealand since it was introduced in 2010, with growing interest in using this to help offset the significant volatility seen in prices recently. The extension into meat markets may be slower and more difficult, but even here we may see interesting developments over the next decade or so.

NATIONAL ADMINISTRATIONS

Scotland

Ben Kellagher and Alex Caraffi

This article, in keeping with much of the rest of this year's publication, will take a slightly different approach to the norm as it will consider not only some intra-year occurrences but also intra decade ones.

For those growing crops and raising stock in Scotland, 2016 has been somewhat eventful. The winter dragged on throughout April and many people did not finish spring sowing until two or three weeks later than normal. Crops seem to have performed around average, although poor samples and yields of winter barley have been widespread. The Brexit vote has provided a boost to grain prices although the underlying supply and demand mean this could well be short lived. In the same way improved prices for lamb and beef have provided a much needed boost for the livestock sector against a background of delayed payments, particularly LFASS, Sheep Upland Support Scheme and Beef Calf Scheme. The milk price has improved with even First Milk customers finally receiving good news; although this has been too late for some and will prove too late for others. The year ahead will hopefully continue to see a firming in milk price and at least a holding position on prices for lamb, beef and grains.

Undoubtedly the biggest events of 2016 have been the ongoing Scottish Government Futures Programme debacle, the continuing Land Reform debate and the Brexit vote, with its impact on the Independence Referendum discussion.

> ***It is not unreasonable to anticipate the real possibility that during the next two decades Scotland could become an independent country.***

The list of the IT failures and its impact is quite incriminating; no final published Regional Payment rates for BPS, no final published Greening rates, outstanding payments due for 2015 BPS, outstanding payments due for LFASS to almost every recipient, outstanding payments due for 2015 annual recurrent agri-environment payments. We can add to the list issues thrown up because of the focus on patching the IT system; outstanding applications for the New Entrants Capital Grant Scheme, large rejection percentages for the New Entrants Start Up Grant, lack of information on rates for the Sheep Support Scheme, slow process of approvals for the Agri Environment Climate Scheme. The list of failures led to the departure of the previous Minister and the new Minister is determined to rectify matters. With the systems still not being up to scratch the Scottish Government will use a loan scheme to pay farmers in November and promises things will be right for 2017. This will undoubtedly come as a huge relief to many farmers whose cashflows have been tight this year.

The light is a long way down the tunnel though, particularly with the Brexit vote. The future of Pillar 2 funding which provides LFASS and agri-environment is very much in question and the ability of the Scottish Government to commit funds on a multi-annual basis has to be questioned.

LFASS is due for reform in 2017,

there is very little discussion of this at present, but the conversation will be challenging, particularly given many uplands businesses' reliance on this payment for profits.

Land Reform does not go away, but the new Minister seems to cut a more balanced figure than Richard Lochhead. However, there is no doubt about the Scottish National Party's principles on the subject, given the recently launched consultation on a register showing who controls Scotland's land. It will continue to be a divisive subject but, in our view, it is likely to be a policy which will have many impacts, many of which will be unintended and those intended may well not come to fruition.

These recent paragraphs bring us nicely to thinking back and forwards a couple of decades. Two decades ago there was no Scottish Parliament. Now we have a legislature which is in control of agricultural policy and land reform, and has been taking an increasingly divergent route from the policies of England and Wales. This Scottish Parliament is led by the Scottish National Party which in the 1997 election only succeeded in returning six Westminster MPs; it became 56 in 2015. The SNP has been largely seen to be pro-farming, but the real test will be in coming years when they will have to balance this with education and the NHS. There has been some slide in recent sentiment for the SNP. Should they not hold power in the near future, farm support in Scotland may become very different; the opposition parties do not have anywhere near the empathy for rural areas of the SNP.

The 2016 vote to leave Europe has reignited the Independence debate, although the outcome is still a long way from the certainty the SNP would want before calling another Referendum. It is not unreasonable to anticipate the real possibility that during the next two decades Scotland could become an independent country. This is too long a topic for this article, but perhaps it is interesting to consider the principles of a Scottish Agricultural Policy post-Europe or post-Independence. This policy could very well be based around a continuing regional-based payment system, which rewarded those in the best region(s) for undertaking environmentally focused activities at a much lower level than at present. These areas are seen as being the most capable at adapting to change. The uplands, hills and islands could well see a payment system based on a regional payment discounted or inflated depending on individual business stocking rates, or perhaps a small regional payment with a significant top-up based on headage payments. The result of this would be to focus support to the more remote and less flexible areas and would possibly allow the Scottish Government to get by with less funding. It would no doubt lead to changes on the lowground in the number and structure of businesses, while upland and hill systems would see relatively smaller or slower change.

NATIONAL ADMINISTRATIONS

Wales

David Thomas and Kerry Jerman

It is interesting to reflect on the past in the 20th Edition of Outlook and remind ourselves where we have come from as an industry. Farming in Wales has very much followed CAP policy signals with the 1990's and 2000's being production-led with headage payments. This, on reflection, probably led to production at any cost.

Wales adopted a historic payment method for Single Payment for the second half of the 2000's and until 2014. This maintained the status quo and held back innovation or a wider awareness of costs of production.

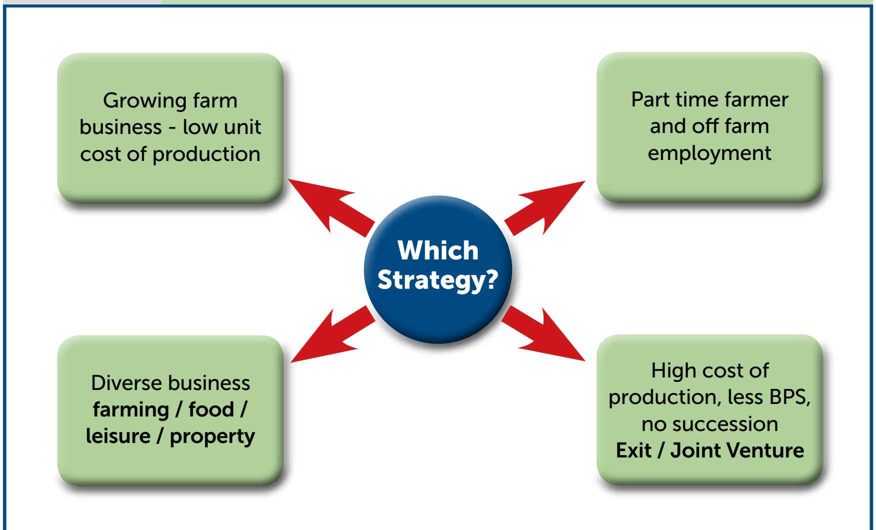
So as we now enter 2017 farmers and rural businesses in Wales have some catching up to do as we move to regional Basic Payments. Added to this is now a potentially radical change in the agricultural trade environment following the Brexit vote. Weaker Sterling, as elsewhere across the UK, has benefited all with improving output prices and a favourable exchange rate for Basic Payment.

Wales has one third of the UK national sheep flock with over 35% of sheep meat production being currently exported to Europe. This is important to the Principality and is the sector most exposed to Brexit negotiation in terms of access to the European market and export tariffs.

Politically, responsibility for agriculture has been devolved to Welsh Government. Unless there is a fundamental change in the devolution settlement (which seems unlikely), the Cardiff administration will be responsible for setting a post-Brexit Welsh agricultural policy. Whilst there may be some political will to be supportive of farming, agriculture will be competing directly for a limited budget with areas like Health and Education. Post-Brexit, many think agriculture is unlikely to get a generous settlement in these circumstances, so it is better to start preparing now for a further reduction of direct payments.

Whilst livestock producers may be currently heartened by livestock prices and support payments, all businesses need to take a longer term strategic view of where they are now and which direction they

Figure 23 **Future Business Strategy**



Source: Andersons

want to head in. Which box is the best fit for you or the businesses you deal with?

Existing farmers also ought to ask themselves which boxes their neighbours fit in as well, as this will influence farming opportunities in the future. Alternatively, opportunity and necessity will mean even more diverse activities on farms in Wales in the future. For those enterprises with good returns on capital, these businesses should not be afraid to borrow for new investment to secure future income generation.

"All businesses need to take a longer term strategic view of where they are now and which direction they want to head in."

Whilst the last 20 years have not been uneventful for Welsh agriculture, it may be looked back on as a period of relative calm compared to the next decade or two. As has always been the case, however, the best businesses will find a way to prosper whatever politics, economics, or even the weather, throws at them.

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