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Cows & money – financial implications of Brexit for UK dairy farming

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1. Who am I? What is my area of expertise?

After studying agriculture, and a postgraduate diploma in farm business management I worked for Genus for six years as a consultant to dairy farms, I started with a week's induction at the MMB headquarters in Thames Ditton! I joined Dodd & Co twenty one years ago, and after completing my tax exams have spent the last 21 years advising primarily dairy farm business on all aspects of their accounts, tax, legal structure and their general business and strategic thinking, I am now lucky enough to count a number of the UK's leading dairy farmers amongst my clients. I hope my 27 years in the industry and my interest in the economics of dairy farming allows me to give some justice to the title!

2. How is the industry split?

As a starter let's look at how the industry is made up in the UK.

The most recent data from DEFRA, admittedly two years out of date from 2016, shows the following that whilst 47% of dairy farms in the UK are under 100 cows, they only have 19% of the cows! This varies across the home nations with Northern Ireland and Wales having a much higher percentage of small farms, with Northern Ireland having 60% of herds with less than 100 cows, whilst Scotland only has 30% of holdings with less than 100 cows.

If we assume all cows give the same yield then we can deduce that 33% of milk is produced from only 12.4% of producers, effectively only 1,746 farms milking over 250 cows, with less than 20% of milk being produced on farms with under 100 cows.

Dodd & Co's own data, admittedly from a much larger average herd size come up with the following split!

Of these do we know how many are housed full time, how many are block calving grazing and how many follow a traditional AYR housed and grazed policy? Certainly from my experience all of our larger herds are at one extreme or another, this aids management by keeping things simple. So are we looking at a polarised industry where most of the milk comes from few large specialised dairy farms, with a large number of traditional farms completing the production?

3. How do these perform and differences in cost base

I know there is quite a lot of data available about specialist dairy units from AHDB, but I prefer to use our own as I know exactly how it is compiled and I think we have better data from large units that by their nature are very specialist operators.

So looking at these how do large and small, and housed or grazed units fare.

If we first look at housed vs grazed units we can see the following breakdown of costs;

You can see that grazers' have significantly lower variable costs, being 4.5 ppl lower than the housed units.

They also have significantly higher fixed costs, particularly labour, machinery and rent costs with 21.9ppl for the grazers' compared with 12.6 ppl on the housed units. That said this includes significantly higher rent costs, an additional 2.7ppl, as many of these businesses have grown on rented units.

We can also see that the value of the Basic Payment is worth more to the grazers' due to lower output per hectare, with them receiving more than double the housed units on a ppl basis at 1.29ppl.

We can already see from this that changes that result from Brexit will have a different effect on the two systems.

4. So how does farm size impact these figures?

These numbers make very interesting reading, we can see that the small herds, averaging 100 cows generate far more income form stock and other sources than their larger counterparts, reflecting their less specialised nature. They also receive proportionally much more basic payment and environmental payment.

Total support from Basic Payment and environmental subsidies on the small farms amounts to the equivalent of 4.68ppl, compared with just 0.86 ppl on the large farms!

If we look at costs, variable costs are fairly similar, fertilizer costs are higher on the smaller farms, reflecting their non-dairy use, but feed costs are similar despite significantly more output. Small farms generate more gross margin for similar variable costs.

Wages, including drawings are significantly higher on the smaller farms, totaling over 6ppl compared with approximately 4.5ppl for the larger groups. Likewise there is a big difference in machinery costs, with the small farms spending more than double the large farms!

These businesses also have higher property and sundry costs on a pence per litre basis, the net effect of this being to reduce the level of surplus before tax to 2.89 ppl on the small farms, compared with 1.65 ppl on the mid group of 230 cows and 5.13 ppl on the large units.

When we understand the basic structure of dairy farms we can start to model the potential impact of Brexit!

5. What do we know about Brexit?

And more importantly what don't we know!

There are four major impacts from Brexit which will have a different impact on different types of farm!

a) The agriculture bill has effectively signaled the end of a basic payment. We can easily model the impact of this lost income stream. What is more difficult to gauge is whether any of the lost income will be recouped from new environmental schemes. Given very few dairy farms currently derive much income from stewardship schemes this doesn't look like it will be a silver bullet.

b) Trade deals will also have a significant impact on the dairy sector, will we continue to trade tariff free with the EU, or resort to trading under our WTO obligations? I personally cannot see any UK politicians wanting to force up the price of food by adopting EU tariffs in the event of no deal. So would they remove the 45% tariff on cheese on the 30th March to allow us to keep importing Irish cheddar at current prices?

   Given we have sold milk at world prices since 2007, following the removal of export subsidies; it seems unlikely any scenario will have a big effect of UK milk prices. There could easily be an impact on the red meat sector, which would lead to reduced cattle sale income, particularly if tariff and quota barriers are removed and we can import beef from the Americas.

   The data below shows current prices around the world for R3 steers, unfortunately I had to get this data from Bord Bia as I can't seem to get hold of any UK source that's available to farmers. Personally I am very disappointed that as we hurtle toward Brexit this data isn't freely available to farmers in the UK via the farming press or AHDB.

c) The stakes are high in the labour market as well, as RABDF data shows 56% of dairy farmers have employed EU nationals.

   We know that the proposed migration rules and thresholds suggested by the migration advisory committee might allow visas for workers meeting the £30,000 threshold and the skills level?

   This is above the current average dairy salary. If the £30,000 cap comes in, for a 48 hour week, this equates to £12 hour. Might it be possible to recoup some of this through renting accommodation to the workers?

   Another issue will be the skills level, the Migration advisory committee has proposed reducing the skills level need for a visa to RTF level 3, equivalent of an NVQ level 3, typically achieved at local agricultural colleges. This might mean it's harder to source

some workers, and we might end up with all those equivalence arguments about Polish or Slovakian qualifications!

That said I suspect most dairy businesses don't want employees below this skill level.

d) After all this we probably have to factor in currency and world market prices! The reassuring aspect of this is that these factors will have much bigger impact on future viability of the dairy sector in the UK than anything Brexit throws our way.

5. Modelling showing impacts

So to put all this in perspective let's look at how the different farms might be affected. The figures below show the key inputs that will be impacted by `Brexit changes, and the expected profit so we can work through how each of the above problems might change the bottom line on all of these farms.

The following show how the four different systems fare at a 29ppl milk price, at current exchange rates about 0.32€c/l, what I think is the minimum price the EU can sustain (unfortunately this is just an educated guess, if anyone fancies a research project, or a Nuffield Scholarship topic feel free to look into it!).

6. Remove basic payment

The interesting point about basic payment is how the dependency on it is incredibly varied, at one end we can see that large housed herds get the equivalent of 0.62ppl from their basic payment whilst at the other extreme small all year round herds derive the equivalent of 3.39ppl from theirs.

It is also important to note that the smaller farms derive more money from existing stewardship schemes so should be able to perhaps replace more of the lost payment.

Given the current average break even prices of these businesses as demonstrated earlier we can see what the impact of removal of basic payment will have. For the purposes of this exercise I have assumed that existing income from stewardship payments will double, this mitigates some of the impact on the smaller non specialist farms who already claim more environmental payments.

Income from support is therefore reduced by 2.7ppl on the small farms, and by 1.22ppl on grazing units but by only 0.6ppl on the large housed units.

7. Reduce cattle output due to lower red meat prices

The big unknown from a Brexit deal of any kind is what future tariff rates may be. We know that red meat is generally cheaper around the globe than here. Although the weakness of sterling means that this difference is not currently as pronounced as it could have been.

But if we presume the poorer end of cattle in the UK, i.e. cast dairy cows and dairy bulls are open to this competition then we could expect prices to reach an equilibrium with the America's or Australia.

Even allowing for increased trade facilitation costs of the 8% estimated by AHDB we could see UK prices reduce by up to 20%, in ppl terms this has the following impact on our sample farms.

For the specialized housed and grazing units, along with the large and medium operators this will reduce income by approximately 0.5ppl. For the smaller end however who have much more mixed, traditional, businesses it could drop income by 1.47ppl!

Of course if the price of lower grade beef in the UK falls this will have consequences for the livestock sector generally which in turn will result in dynamic shifts in production, how long before lower support and lower red meat prices drive down rents in lowland UK, and how far could they drop?

8. Increase wage bill

Labour is one of the biggest issues facing the sector, with many farmers struggling to recruit and retain good staff. Against this I regularly see people trying to get work on dairy farms, perhaps we have to be cleverer about how we structure working patterns on dairy units.

With regard to cost, our in house data shows that dairy farmers are on the whole paying approximately £9-10 per hour. The free movement of EU workers has ensured that this has remained fairly reasonable. However the Migration Advisory Committee proposals, adopted by both major political parties call for a restriction on low wage labour. The £30,000 limit for a 48 hour week equates to £12 hour. This suggests a skills shortage could push wage costs up by some 20-25%, well below the AHDB assumption of 50% but nevertheless a significant increase. Any skills requirements might also impact on wage inflation as it looks like unrestricted immigration for those below NVQ level 3 will be halted.

Obviously larger farms are more reliant on paid labour and wage increases across the board of 25% would have the following impact.

Small and medium sized businesses less reliant on employed labour will see an increase in costs of 0.35ppl, whilst the larger more specialist units with much larger workforces will see increases in costs in the order of 0.85ppl.

This presumably won't be an immediate impact but we might see wage inflation of 8-10% per year for five years?

9. Will costs reduce?

Will greater exposure to world markets lead to lower feed, fertilizer and chemicals and medicines costs? Will Russian fertilizer still be subject to tariffs and anti-dumping duties?

A reduction of 10% in these costs could lead to savings of 1.5ppl across most farms except graziers where the reduced reliance on feed would mean a saving of 1ppl.

What is almost certain to happen, particularly with very poor profitability in the lowland beef and sheep sector is that rental values, and possibly capital values, of land will fall. Looking at Farm Business Survey data, even the top 25% of these farms only break even with the existing subsidy.

Removing basic payment from the rent equation effectively halves it, if dairy businesses can secure land at lower prices this benefit most by about 0.5ppl, but the large grazing units by 1.7ppl!

There will be changes in the structure of the entire agricultural sector meaning that changes in subsidy will have dynamic changes throughout the industry.

10. What about trade barriers, will they bail everyone out?

If we are going to get tariffs on imports at the same level as current EU tariffs then we can look forward to rocketing milk prices, happy days!

If like me you think that politicians of all colours see part of the Brexit dividend being in reduced food prices, then the thought that a UK government will retain high tariff barriers seems far-fetched.

But we can look forward to far more hassle at the border, duty and veterinary checks, delays etc. How much will this add to import costs and delivered prices in the UK?

AHDB's horizon report suggests this could lift prices by 8%! Looking at the total costs that dairy businesses would need to absorb, an increase in the base milk price of 8%, or 2ppl, would replace any lost income for all but the smallest farms!

What about a UK government continuing to gold plate regulations, where will we be with nitrate and phosphate limits, and cow welfare regulations in a post EU world?

11. Still need to be competitive on the world stage

We have been exposed to world prices for the last ten years, I don't think anyone thinks this has been pretty, not because we import but because we export and haven't been able to subsidise exports since 2007. Has this made the industry leaner? Can we still produce milk at 32 eurocents? If that's 29ppl then all of these changes are likely to result in most businesses losing a small amount of margin, not enough to fundamentally shift the economics of dairying in the UK. So it is likely that world market prices and currency fluctuations will continue to drive the fortunes of UK dairy farmers, and it will be mitigating these risks that continue to be the holy grail of many, through fixed pricing and forward selling.

It looks increasingly likely that the smallest farms are the ones that are going to feel the full force of Brexit, coupled with many lowland beef and sheep units I suspect.

Whilst those with 150 cows plus will continue to focus on technical performance and probably increased output to reduce fixed costs, the smallest will need structural changes if they are to remain in business long term, with machinery and labour costs having to be reduced, probably by adopting simpler systems, which might need investment in infrastructure, will there be any further tax incentives or grant aid to deliver some of these changes under future agriculture support?

12. So if little change is there scope to grow the UK dairy industry?

I've seen figures suggesting that Ireland's farmers need €34c per litre and Germany's €44c per litre. Our dairy farmers are certainly competitive at those numbers, providing currency doesn't get too strong, say 1.35€ to the pound, 20% higher than now.

We have a dairy balance of trade deficit which there could be an opportunity to replace, I suspect however that this can only be driven by processors, but dairy farmers need to send a strong message that they can and will continue to produce milk.

The future that Brexit brings, with a UK based approach to agriculture will provide opportunity for those that want to take it on.

Thank – you.