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Can Institutional Investment Capital provide opportunities for Family Farmers and Young Farmers into UK Agriculture?

Angus Selby

April 2020

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Nuffield (UK) Farming Scholarships Trust Report

Date of report: May 2020

"Leading positive change in agriculture. Inspiring passion and potential in people."

Title	Can Institutional Investment Capital Provide Opportunities for Family Farmers and Young Farmers into UK Agriculture?
Scholar	Angus Selby
Sponsor	NFU Mutual Charitable Trust
Objectives of Study Tour	To explore the prospect of improving the flow of Institutional Investment Capital into UK farming. Specifically, to look for creative and innovative business models in other countries that might have application here in the UK
Countries Visited	USA, Canada, Australia, Portugal, Spain, France, The Netherlands, South Africa, Zambia and Zimbabwe
Messages	There has been a dramatic increase in the flow of institutional investment capital into global agriculture in the last fifteen years but very little has gone into family farms and very little has gone into the UK. There are many reasons for this including, social, fiscal and demographic aspects but also artificially high land values and relatively low return profiles in the UK. However, I believe that we have an unusual opportunity in the UK at present to change the policy mix in a manner that creates a more robust, sustainable and attractive industry both for new entrants and for alternative capital. These are my key recommendations: 1 - create a vision for high quality affordable food - not cheap food 2 - establish a target for 75 percent food security 3 - review and revise key farmland market distortions including IHT and rollover relief 4 - address the demographic 'timebomb" by supporting new young entrants and incentivising dignified exits for elderly farmers.

EXECUTIVE SUMMARY

Over the past 15 years institutional investment into global farming has increased 8 X to over USD45billion and looks set to continue expanding in the decades ahead. This resurgence is being driven by a variety of factors including strong market fundamentals, shifting consumer preferences, evolving supply chains and the desire for diversified real asset exposure by institutional investors.

However, the patterns of this investment to date have been predominantly focused on corporate farming in a narrow range of geographies. Less than ten percent of the USD45bn has been invested into family farm structures which still make up >75% of global agriculture. In the UK, institutional investment into agriculture has only increased 0.25 X over this period and the proportion directly into family farms or indeed young entrant farmers has been virtually nil.

The objective of my Nuffield was to compare UK agriculture with a relevant set of core countries, firstly to better understand the investment patterns above and secondly, to explore innovative business models and structures that are successfully attracting institutional capital into the family farming sector elsewhere, or helping new entrants across the capital gap.

My travels took me through the US, Canada, Spain, Portugal, France, Italy, the Netherlands, Australia and Southern Africa. I also drew from contacts and past experience in New Zealand, Brazil, Argentina and Ireland as well as a network of farming friends and contacts in the UK.

Key Messages and Conclusions from my study are as follows:

- UK farming returns are at the low end of the spectrum of international comparisons, both in absolute terms and cash yields – and both in active (operational) and passive (rental) models
- This is predominantly due to high/over inflated asset values underpinned by the mix of alternative land use potential, tax incentives, and subsidy profiles
- The cultural and relative trust gap between investors and farmers in the UK remains significant largely due to the legacy of the Global Financial Crisis (GFC)
- A worrying shortage of new blood coming into the sector is being compounded by increasing capital barriers to entry
- Despite these challenges, I came across some interesting and exciting business models and approaches that could be applicable to the UK

Key Recommendations for UK Agriculture:

- We need a new, clear, inspiring vision for UK agriculture with supporting subsidy profile aligned to a revamped diet-focused health policy
- UK farming should focus on competitive advantages of quality and sustainability. We cannot compete with the US or Brazil on an open market without the environment continuing to bear the cost of cheap food
- We need to acknowledge and address the young entrant farmer issue more directly and more proactively in conjunction with the ageing farmer issue
- Review and revise the tax relief legislation on UK farmland to ensure that it is fit for purpose.

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DISCLAIMER

The opinions expressed in this report are my own and not necessarily those of the Nuffield Farming Scholarships Trust, or of my sponsor, or of any other sponsoring body.

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1. Introduction

I grew up on a farm in Africa, on the central Zimbabwean highveld where my family farmed wheat, soya, tobacco and citrus, and raised beef cattle. We milled our wheat, baked our flour and ran a butchery and farm shop alongside. This diversified mix of farm enterprises supported over 200 farmworker families many of whom had been on the farm for several generations. Dad was a pioneer of irrigated double cropping and minimum tillage systems in the 1970s and his passion for conservation farming was evident in the integrated balance on our relatively small but intensive family farm. It was an idyllic childhood and the farm was the centre of our existence and my Plan A was always to see the world and then go back. Indeed, after an undergraduate degree at Wye, a year fly-fishing around the world, and then accountancy training with Deloitte, I was in the process of moving home in 1999 when Zimbabwe's escalating political crisis changed everything.

For us this culminated in October 2002 when we were finally forced off the farm at gun point after 18 months of constant disruption, intimidation and uncertainty. A senior military figure in Mugabe's Presidential Guard had moved onto the farm despite numerous court orders (which the police ignored), despite brave levels of support for us from the local community, and despite our proactive bid to compromise. Following a series of increasingly volatile confrontations (often spent looking up the wrong end of an AK47) and my arrest (by the same police supposed to be enforcing our court order) we decided that enough was enough, packed what we could and abandoned the farm. To this day we have not been allowed back and neither have we received any compensation.

As a family we were immediately faced with the difficult decision of staying in Harare (hoping that sense would prevail) or taking more drastic action to emigrate and start again. In the end my brother catalysed this by moving to Zambia in 2003 where he found a small farm. The rest of the family followed and put a mix of relevant skill sets to work. We lived in tents for two rainy seasons, scraped together some capital and bank loans, cleared land from bush and basically starting again from scratch. The timing was good though, and through a series of productive seasons and by bringing in two rounds of private equity capital the business grew rapidly. It is now producing nearly 10,000 acres of annual crops, has created hundreds of rural jobs and helped to turn Zambia into a net exporter.

By contrast our farm in Zimbabwe is a mess, now producing less than 5 percent of its former output and employing about 5 percent of the previous workforce. The butchery, bakery, lodges, school and clinic are all closed and the farm shop is now a *shebeen* (beerhall). This was not an isolated experience – in fact it was a microcosm of the wider picture as Mugabe methodically dismantled the commercial farming sector in a ruthless populist ploy for political survival. Consequently, in less than a decade Zimbabwe transformed from a 30% net exporter of agricultural produce to a net importer of similar magnitude, often ironically relying on Zambia's new-found exporter status.

Why am I telling you this? I wanted to lay out this background out up front because it is an important element of who I am and how I view the world of agriculture - but also as a story that I've been encouraged to share by my Nuffield colleagues. Witnessing Africa's most sophisticated and reliable agriculture economy unravel so spectacularly has been a sad and frustrating experience, but one filled with important lessons. Zim is never far from our minds and we would obviously rather be implementing Plan A back home, but as ZANU PF's kleptocracy and mis-governance endure nearly twenty years on, I can only conclude that we have been very fortunate with our Plan Bs

My Plan B: After we had re-established in Zambia, I returned to the UK and completed my Doctorate at Oxford and then took on some fascinating roles for a series of investment banks/funds. These initially involved restructuring some of the world's largest farming businesses in Eastern Europe, the FSU and Latin America and subsequently building one of the largest global agriculture investment portfolios for a Canadian Investment Fund. Having sworn that I would never live in a city, I've now spent a third of my life so far in global metropolises including New York, Toronto and currently London. My wife Callie and I live in Weybridge with our two sons Patrick (3) and Jeremy (6 months).

What has all this got to do with Nuffield? Well, Nuffield was always a prominent part of the farming scene in Rhodesia and Zimbabwe and I had always hoped to one day find the combination of topic and time to apply for a Nuffield. So, when the opportunity to take some time out from a busy work schedule presented itself in 2017, I grabbed the chance. It didn't take long to decide a topic and Callie provided the support to make it a reality. I was also fortunate that the UK committee welcomed my application in such an open-minded manner - a testament to this great organisation, which I look forward to putting a lot back into for many years ahead.

Figure 1. The author

2. Background to My Study Topic

In the last fifteen years institutional investment into agriculture has increased 8 fold and more than 90 percent of this investment has gone into corporate structures. Family farms, which are responsible for a dominant proportion of production across most regions have attracted less than 10 percent of this capital and here, in the UK, the proportions are even lower. These ratios appear sub-optimal and I wanted to explore opportunities for investors and family farmers to change the mix in a way that might benefit both sectors.

I am a family farmer at heart but have carved a career as an investment manager and been at the interface of these two industries on a constant basis over the last 15 years. I have watched the growing interest and quantum of capital flowing from institutional investors into agriculture and I've also observed the family farming sector struggle to adapt to the changing world. The ageing demographics and concerning shortage of new entrants at the other end of the industry have become increasingly stark. I've also witnessed the capital requirements and barriers to entry for young farmers escalate dramatically. It is now virtually impossible for a young outsider to start farming in their own right. I wanted to investigate the dynamics behind these issues and explore whether there are opportunities to channel a bigger proportion of this increasing flow of institutional capital towards family farms and young farming entrants in the UK.

My work as an investment fund manager is often based around developing and implementing creative models and solutions so I wanted to leverage my Nuffield in conjunction with work to seek out and explore innovative business models - and specifically those that pioneering investors and entrepreneurs have adopted in other parts of the world which may have relevance for the UK.

This report will not appeal to everyone. It will be too dry, technical and narrow to some readers and probably too reductionist or high level to others, but I hope that it will stimulate some thought and discussion and ideas at the interface of two very different sectors. The word and time limits of the Nuffield report will not do the subject proper justice, but I hope at least to:

1) provide some interesting comparative context for UK farmers
2) stimulate some proactive discussion and thinking at a policy level
3) catalyse some creative initiative between and among farmers and investors.

3. My Study Tour - Where I went and why I chose those countries?

Initial plans were to focus on a small set of countries given the specialist nature of this topic and the limited number of similar farming industries. I also wanted to manage ambitions around travel plans given the combination of a short timeframe, a demanding job and a young family. Consequently, I targeted the US, Canada, Australia and New Zealand for my study tours.

However, by bolting some Nuffield discussions alongside my work travel and by using the wonders of modern connectivity (particularly WhatsApp) I managed to find some very interesting and proactive business models and lessons in other countries, including: Brazil, Argentina, Spain, Portugal, Zambia, Ireland and the Netherlands where the proliferation of family farming, corporate farming and innovative investment models is rich.

In summary I have carried out the following relevant travel since embarking on my Nuffield:

- USA: 4 trips between April 2018 and April 2019
- Canada: 1 trip October 2018
- Australia: 2 trips February 2018 and January 2019
- Spain and Portugal: 4 trips February -Sept 2019
- France: 2 trips June and September 2018
- Zambia/Zimbabwe/South Africa: 2 trips December 2018; December 2019
- Netherlands: 2 trips February 2018 and January 2019

I've also drawn on contacts and experience in Brazil and Argentina where some of the more dynamic family farming structures have evolved over the last 50-100 years, providing excellent comparative context especially when trying to think outside the box. Sadly, I did not get the chance to visit New Zealand within my Nuffield timeframe. However, through past visits and established contacts it has still provided an interesting set of discussions, information and perspective for my topic, as well as a new set of Nuffield friends and colleagues.

In the main, my respondents fell into the following categories: farmers; entrepreneurs; policy makers; investment managers; academics and sector specialists. Discussions ranged from formal interviews and well-planned in-depth conversations to spontaneous unplanned meetings and discussions through an ever-increasing network of really good people. Nigel Dorward (Zim 99) once told me: "with Nuffield … doors slam open!" He wasn't wrong.

Figure 2. Where I went

4. Family Farms, Farm Sizes and Farmer Demographics: The Changing Structure of Farming

4.1 Introduction

The objective of this chapter is to analyse the farming sectors of the UK and relevant comparison countries to better understand structures, profiles and trends relating to farming demographics, farm sizes and consolidation. Family farms still comprise the majority of farming systems across the globe but I wanted to verify some of the key trends and try to understand a series of basic but important questions across the study countries as a comparison for the UK.

4.2 Widening Profiles and Definitions of the Family Farm

In the UK, farming business structures range from hobby farms, sole traders and partnerships through to large corporate structures still often owned by families but managed by professionals. A widening definition of the family farm was evident across all the study countries. As family farming structures transition, often into corporates, there is a blurred line rather than a clear cut off and what was still considered a family farm in Latin America or Portugal for example would be considered a corporate in the UK. It struck me that culturally many other countries had more open-minded perspectives on organisational definition and evolution. In South America some of the largest publicly-listed farming businesses are still controlled by family; the USA has also developed a wide perspective on family farming structures and partnerships, as have parts of Europe such as Holland. In contrast, France, the UK and Canada had the most conservative perspectives on this issue, but the important takeaway was the widening profile and changing dynamic across the globe.

4.3 Are Farms Really Getting Bigger?

Farm size and efficiency debates have been ongoing for centuries mainly focused on the trade-off between economies of scale (with respect to overheads, purchasing power, capital access, machinery profiles and marketing power) and diseconomies of scale (mainly due to the limitations of management and attention to detail) and, in the case of smallholders, the benefits of low-cost family labour. There is still considerable literature arguing that small farms are more efficient on a per acre basis, however it seems clear in the conventional farming sectors that technology advance, which can effectively substitute management, is driving a growth in optimal farm size. The Farm Size Case Study, Figure 3 below, confirms that farms are getting bigger.

Two further drivers of consolidation were apparent within discussions across the study geographies. First are the evolving supply chains and the back-sourcing of consistent quantity and quality, which is most prevalent in the high value fresh produce sector but also evident in more conventional systems such as dairy and even row crops, particularly in specialist channels such as organic production. Second, changing farmer demographics: historically the fragmented nature of farming sectors worked well for large off-takers/retailers who retained optionality and purchasing power. However, the recent consumer-led drive for traceability, along with scale and consistency of volumes and quality, now seems to be encouraging more genuine partnership and consolidation.

Further, demographically, the reducing proportion of next generation going back to farms and the limited number of new young entrants also drives consolidation. This pattern is naturally increasing the supply of land into the hands of local consolidators. Anecdotally this was prevalent across my study regions, albeit with nuances on specific reasons, sectors and sub-regions. Several commentators in the US predict the largest handover of farmland in US history over the next fifteen years. They argue that at least half of US farmland will need to change hands due to the demographic 'timebomb'. Some of this land will be inherited, some will be retained by managers, and some will be sold. It is very difficult to estimate the relevant proportions but safe to assume that sale volumes will be ahead of historical averages (2 % per year).[1] All three routes will continue to drive operational consolidation.

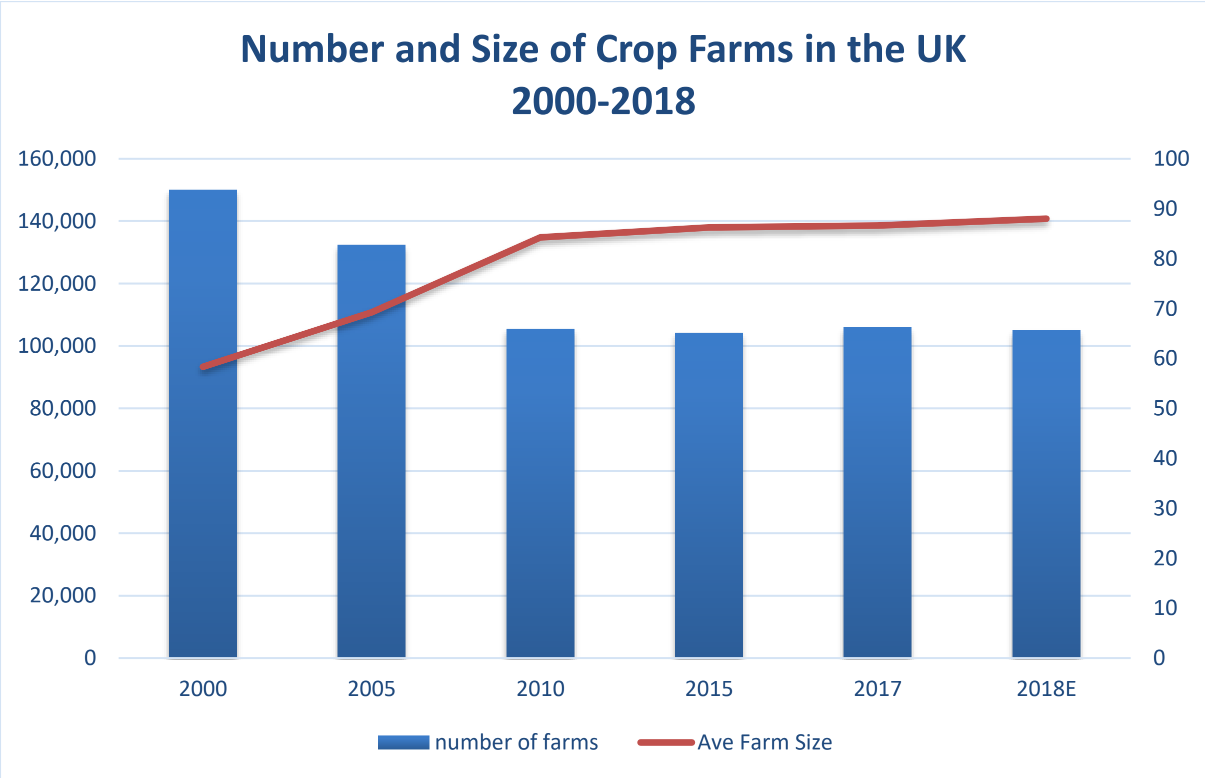


Figure 3: Chart showing UK Farm Size and Consolidation over time

Source: DEFRA

The UK farming sector has consolidated over the last century at varying rates during different stages. Recent trends suggest this has been at a slower rate than other countries especially over the last decade. Many explanations have been suggested for the slow-down including high land prices and low cap rates, subsidy profiles, tax incentives and cultural inertia.

4.4 Are Farmers Really Getting Older?

Ageing farmer demographics have been an increasing topic of interest and discussion over recent years. Some argue in the UK that the statistics relate to farm ownership rather than operations and that the ageing demographic is irrelevant if the progressive strata are younger farmers. However, a

[1] Savills have also recently outlined a view on land transfers in the UK

recent(ish) DEFRA report (2013) has confirmed the trend at the operational level which is supported by comparative statistics in other countries as shown in Figure 4 below.

Longer life expectancies, declining population growth, and agriculture's decreasing proportion of GDP (and therefore relative attractiveness as a profession) have all contributed to the ageing profile. As noted in the next section, farmers generally consider their farms as their pensions, extending their working lives beyond other sectors too. In the UK, Canada, the US and Australia the average age of farmers at 60 has steadily increased over the last two decades. Concerningly for the UK, Canada and the US only a very small proportion of principal farmers are under the age of 35 (14%; 8%; and 6% respectively) and these countries each have a markedly higher proportion of farmers over the age of 65 (more than 35% in each case).

New Zealand by contrast is an interesting comparison with an average age of farmers nearly ten years younger as a result of the significant structural transition that occurred with the primary sector subsidy reforms in the 1980s. New Zealand dairy farmers on average are only 43 years old in contrast to an average of 50 at the average national level and 54 among their beef farmers. Whilst the sector went through significant transformation (which was very difficult and traumatic for many farming families at the time) it did rationalise and balance the profile of the farming sector and (alongside some novel structures such as share-milking) encouraged a wave of new entrants /young farmers into the sector.

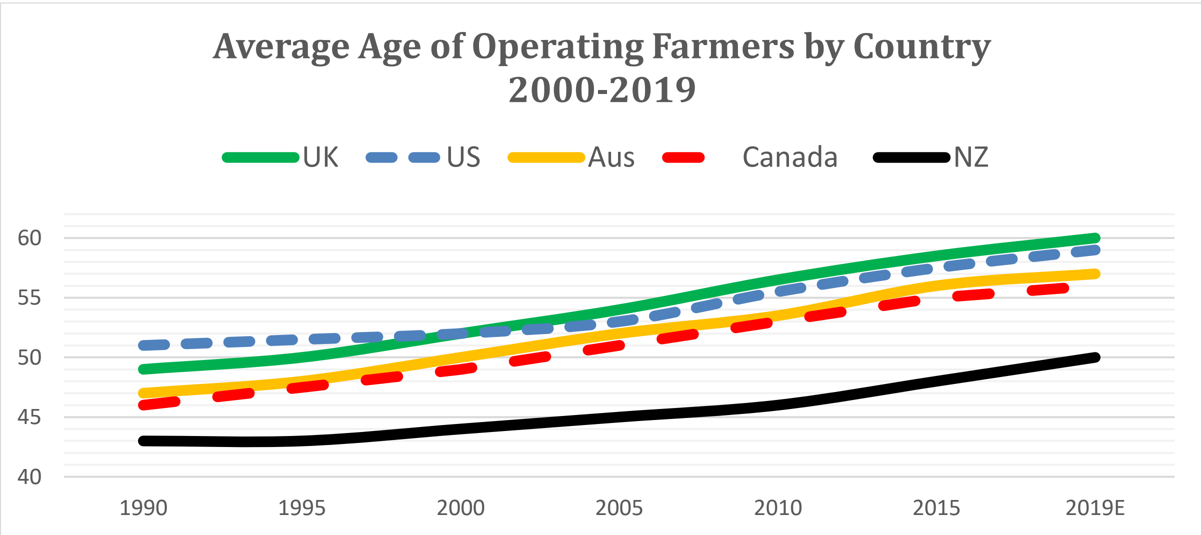


Figure 4: Chart illustrating average age of farmers over time

Source: USDA; DEFRA; ABARES; STATSCAN; STATSNZ

4.5 Barriers to Entry for Young Farmers and New Entrants

At the other end of the sector there are some interesting and worrying trends in play. In 2014/15 whilst establishing an investment portfolio in the Canadian prairies, my team carried out a simple but effective analysis to illustrate the rapidly escalating capital barriers for young farmers and new entrants, extrapolated from the total capital requirements for a desired optimum scale farm as a proxy for the capital barriers to entry for a new farmer. For Nuffield, I updated the Canadian analysis and replicated this exercise across the US Midwest, Western Australia and the UK (albeit on a simplistic arable basis) comparing the years 2000 and 2018. (see Figure 5)

Whilst the specific assumptions can be easily challenged by location and sub-sector, the direction and magnitude of the conclusions were the same: basically, that average and optimal farm sizes are getting larger over time everywhere and that, coupled with land price appreciation, the barriers to entry have been compounding at a considerable rate. In the Canadian instance capital requirements at the optimal farm level have increased 13 times over the last eighteen years (15.3% annual growth rate). In the US and Australia they have increased 5.3 and 6.7 fold respectively over the same period and in the UK by more than 6 times. Admittedly this timeframe has been a rapid period for capital growth in farmland values but this only reinforces the increasing capital challenges facing young farmers and new entrants. Banks are also increasingly cautious about lending larger capital sums to young operators with limited track records, an issue that many discussions raised across regions.

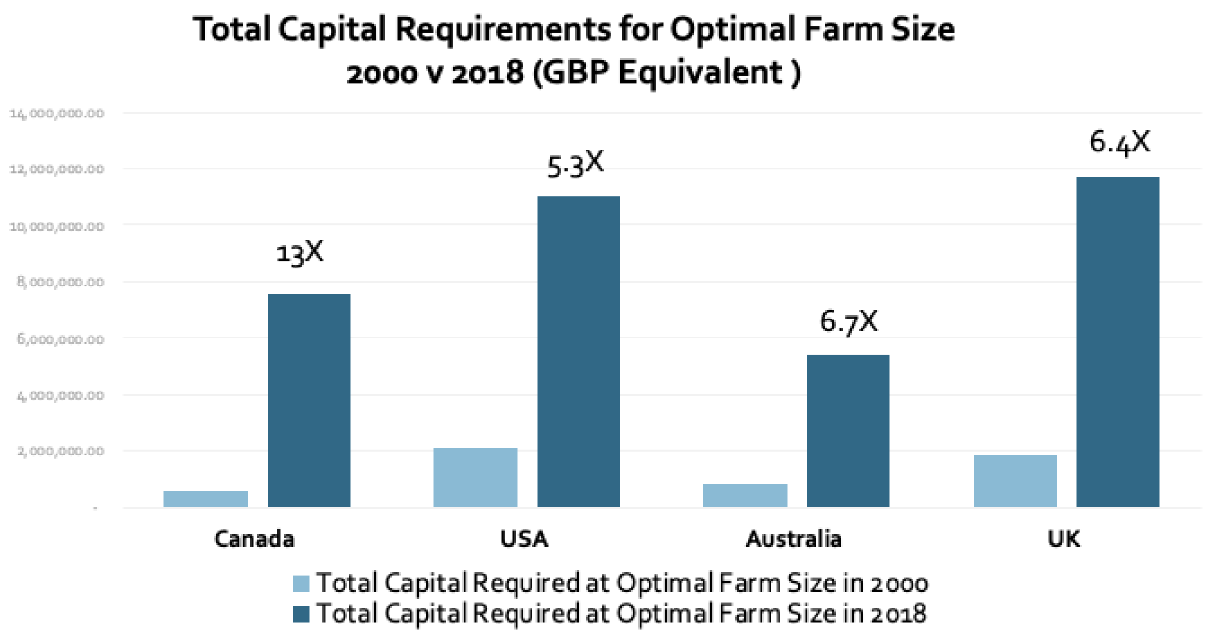


Figure 5: Chart illustrating the escalating capital barrier for new entrants

Source: Author's analysis

At 6.4X, the UK has a significant multiple of escalating capital requirements over the period in question and also arguably the highest absolute capital growth requirement, especially when adjusted for currency, and especially when set against the lowest returns of the study countries. A similar exercise carried out on average farm sizes (as opposed to the more subjective view of 'optimal' farm sizes) across sectors would deliver similar conclusions – that capital barriers to entry for young farmers/new entrants are higher than ever and have escalated significantly as optimum farm sizes increase and land prices appreciate. There are many initiatives across the study countries designed to encourage more young farmers into the sector and there is considerable lip-service towards the issue. However, my overriding impression was that these programmes are much too limited for the magnitude of the issue, especially in the mature markets.

The standard counterargument to facilitating programmes for new entrants is that, as land continues to consolidate, the younger generations of expansionist farmers will naturally absorb the farms of those without successors which by nature tend to be smaller. This is probably fair, but it doesn't address concerns about bringing new blood (ideas/styles/backgrounds – all the elements of a healthy industry) into the sector. Neither does it address the issue of heavily concentrating the consolidation within large established farming businesses that have a structural advantage already. This pattern is very apparent in the Canadian prairies despite contradicting policy 'positions' in the region.

The young farmer issue is also more pronounced in certain areas. Less than 3% of Welsh farmers are under the age of 35 and despite the Young People into Agriculture initiative, this seems to be a deteriorating statistic. More fundamental intervention is necessary, or the structural problem will continue to escalate. A farmer in Herefordshire explained his view of the UK's challenge as follows:

> *"the only way that an outsider can become a farmer nowadays would be to either work his/her way up through a farming system that is big enough and meritocratic enough to incorporate them over time. Or they need to make their money (lots of it!) elsewhere and then convert into Agriculture. Or they need enough cash in the bank of Mum and Dad to facilitate an entry?"*

4.6 Chapter Conclusions

Farm sectors across the study profile remain predominantly family based but are transitioning into a widening variety of profiles, shapes and sizes. The UK is transitioning at a slower rate where the ageing demographics present a worrying trend that is preventing a healthy flow of new entrants into the sector. Other countries such as Brazil and New Zealand have been more dynamic in embracing change and in encouraging new entrants into the sector. In the UK a recent DEFRA report suggests that a high proportion of farmers have no intention of retiring. More than 30% of UK farmers are over 65 years old and a third of this group openly acknowledged that they do not have succession plans or alternative pension pots in play. 92% of Canadian farmers supposedly don't have succession plans either, so this is not UK specific and is clearly preventing a healthy turnover of farms and thereby limiting opportunity for new entrants.

So key points from this chapter are:

- Collectively the combined forces of technology, economies of scale, marketing power and farmer demographics are increasing the average farm size in most countries
- The average age of farmers in most countries is rising and the number of young farmers falling
- The increase in average (and optimal) farm sizes (and values) are dramatically increasing the capital barriers to entry for young farmers and new entrants to the sector.
- Key message here is that we are behind the curve in the UK and it will take a mix of leadership, policy reform and fresh capital to help ensure a smooth transition of an increasingly unsustainable sectoral structure.

5. Institutional capital, institutional investors and Agriculture as an Asset Class

5.1 Introduction

The objectives of this chapter are to present an overview of institutional investment into the global agriculture sector and provide a view of the key players and their strategies to better understand the capital flows and their changing dynamics. There have been several Nuffield reports over the last ten years addressing aspects of this subject, but it is changing very rapidly and is also a difficult area to access accurate data.[2] Consequently I used a group of focused discussions across key regions to build a bottom up view of who is doing what by amount, strategy and profile. I then tested these figures with relevant players on the investment side.

My definition for institutional investors includes pension funds, insurance funds, endowment funds, private equity funds, Ultra High Net Worth individuals (UHNWs) and Sovereign Wealth Funds (SWFs) but excludes commercial/high street banks and more conventional sources of debt finance as well as capital relating to Hedge Funds and more 'liquid' soft-commodity strategies.

5.2 Why has the agriculture sector attracted interest from investors?

The resurgence of investor interest into agriculture was catalysed by the increase in soft commodity prices in the period between 2002 and 2007. This was due to a combination of production challenges and supply shortages bringing stock-consumption ratios below the critical 20% threshold where price elasticity has historically compounded. In the background, Malthusian arguments around resource constraints began to resonate and hedge funds began to drive the pricing profile (and volatility) of key commodities leading to price spikes and ultimately food riots across many geographies. The subsequent focus on food production by analysts began to demonstrate some interesting asset class behaviour including:

1. Strong underlying fundamentals: Increasing Demand v Uncertain Supply
2. Compelling return profile over the long term versus other asset classes
3. Good diversification (low correlation) within an investment portfolio
4. Large Market Opportunity given the Capital base
5. Real Asset profile attractive versus Derivatives
6. Natural Inflation Hedge given high food component of the CPI

These attractive characteristics stood out during and after the Global Financial Crisis (GFC) when many more traditional asset classes experienced considerable challenges. Many of these characteristics appeal to the current investment community faced with an ongoing set of challenges including the low yield environment, growth uncertainty and contagion risk across conventional asset classes - well demonstrated in the current COVID 19 crisis.

[2] https://www.nuffieldinternational.org/live/Reports

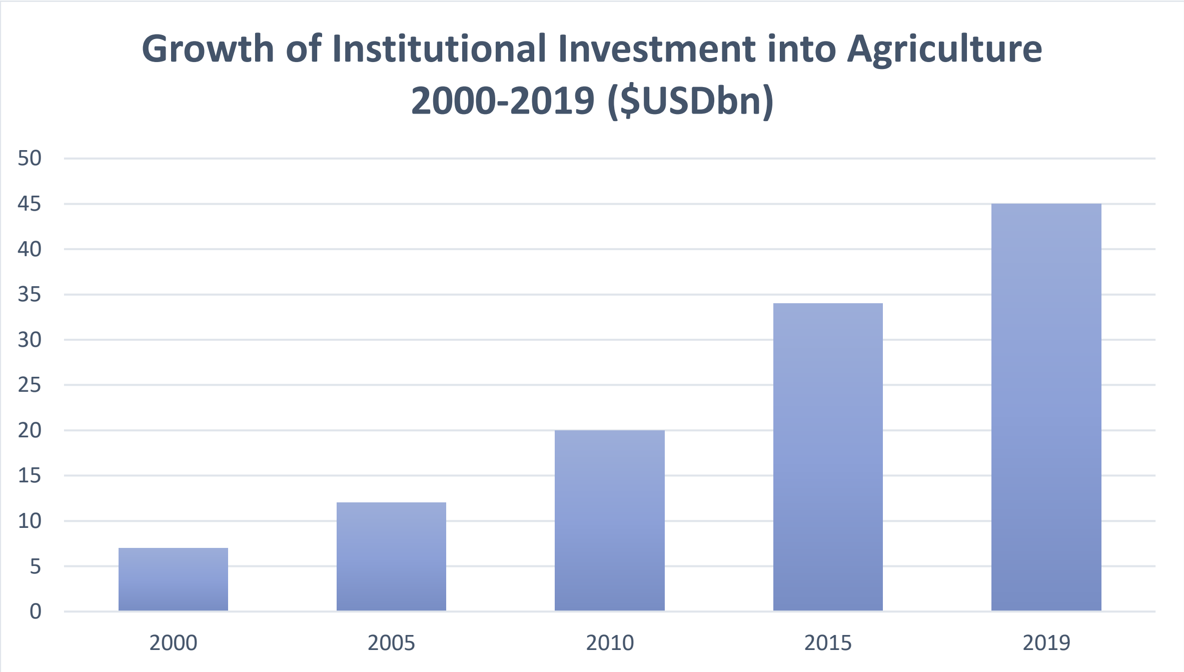


Figure 6: Chart illustrating the Flow of Institutional Capital into Agriculture

Source: Valoral Advisors; Parsonage Advisors; High Quest Partners in conjunction with Author's bottom up Analysis

5.3 Who are the Institutional Investors?

Historically, farmland has constituted an important asset base in most economies albeit through different structures. In the UK it has also represented an asset base for some of the oldest institutional investors, notably the endowments of Oxford and Cambridge, the Crown and indeed the Church. A number of Oxbridge colleges still have significant farmland portfolios which have been held for hundreds of years.[3]

In the US, institutional farmland investment really began at scale as a consequence of the farmland crisis in the 1980s where portfolios of farmland under receivership by lenders were packaged together as equity and sold into investment structures. The dominant investors have included pension funds, endowment funds, insurance companies and a mix of state and local authority retirement systems. More recently there has been increased interest by Ultra High Net Worth individuals too.[4] Sovereign wealth funds (especially from the Middle East and Asia) have increased their exposure to the sector over recent years particularly in major exporting regions. Figure 7 provides an overview of the different sources of institutional capital.

[3] Discussion in the past with the bursars of Trinity College Cambridge and Brasenose College Oxford
[4] Discussion with Peter Headley who runs Cottonwood the ag-investment platform for Bill and Melinda Gates.

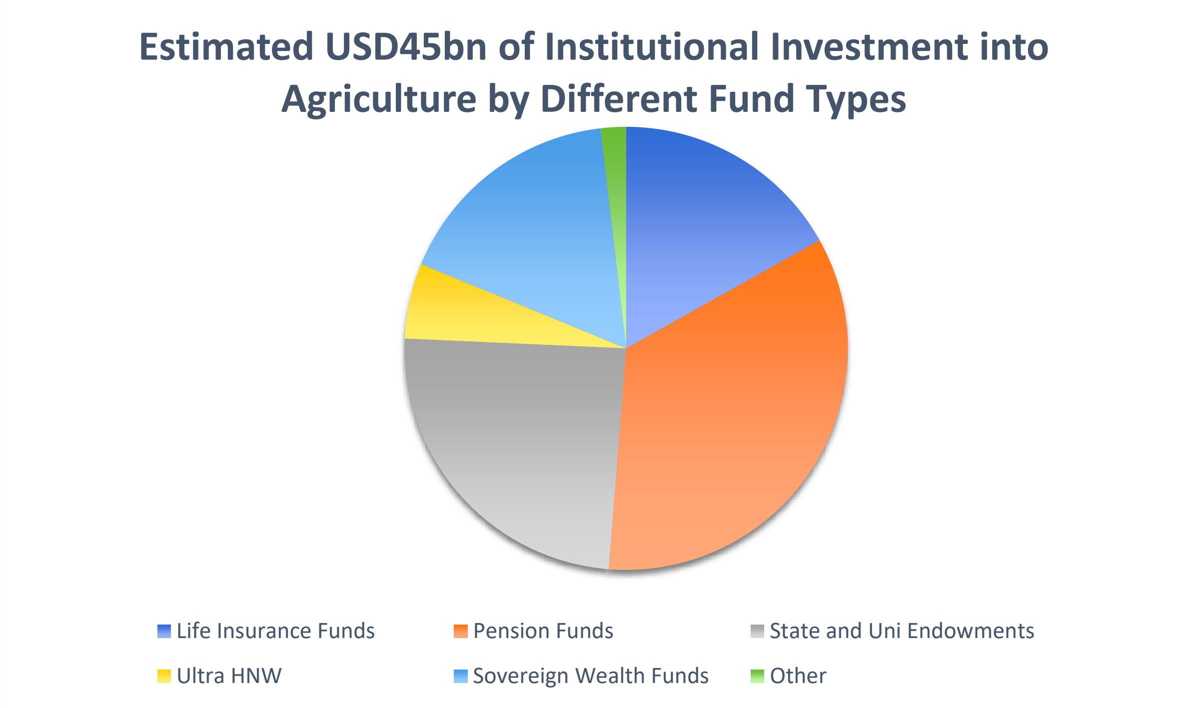


Figure 7: Chart Illustrating the source profile of large agriculture investors

Source: Valoral Advisors; Parsonage Advisors; High Quest Partners in conjunction with Author's bottom up Analysis

5.4 How much has been invested so far and where?

According to Roberto Viton at Valoral Advisors, there are nearly 600 funds globally investing in agriculture and food themes across and alongside the full agriculture value chain. This includes hedge funds and commodity focused funds as well as debt strategies and more illiquid equity strategies across the full length of the supply chain. Roberto estimates that these strategies accounted for approximately $90bn of institutional capital at the end of 2018. High Quest Partners recently estimated a total of $160bn across all food and agri strategies including hedge funds and ag tech but this also included some (not all) commercial lending.

Roberto has identified approximately 160 funds engaged in private farmland, farming and supply chain strategies accounting for approximately $45 bn in 2018.[5] 43% of this capital emanates from US institutions and about 36% is invested in the US. Approximately 6% of this capital is UK sourced and approximately 4% is invested in the UK. However, whilst global institutional farming investments increased 800 percent since 2000, they have only increased by about 25 percent in the UK over the same timeframe. It is also worth noting that this global $45bn accounts for less than 1 percent of farmland and supply chain asset values at the global level and that regional allocations are similarly insignificant. In the UK roughly USD 1.8bn equivalent of farmland investments can be attributed to institutional investors which is significantly less than one percent of the agricultural asset profile in the UK. In the largest market (the US) institutional investment still accounts for less than 0.5 percent of agricultural asset values and less than 5% of commercial debt in the sector.[6]

[5] This figure was triangulated alongside Chris Erickson at Parsonage in Boston and is based on the author's detailed bottom up estimate by individual investors.
[6] 2019 commercial debt in the US agri sector amounts to USD470bn versus approximately USD20bn of institutional investment against an asset profile estimate >USD3 trillion.

The two other regions with meaningful institutional agri investment are Latin America (estimated $4bn) and Australia/NZ ($5-6bn) although there is an estimated $9bn in global structures usually in value chain strategies (eg Olam; Glencore etc). Central and Eastern Europe probably account for $1.5bn of investment into farming and farmland strategies but this has slowed considerably following the high-profile collapse of several large visible groups (eg Landkom; Black Earth Farming; Mriya).

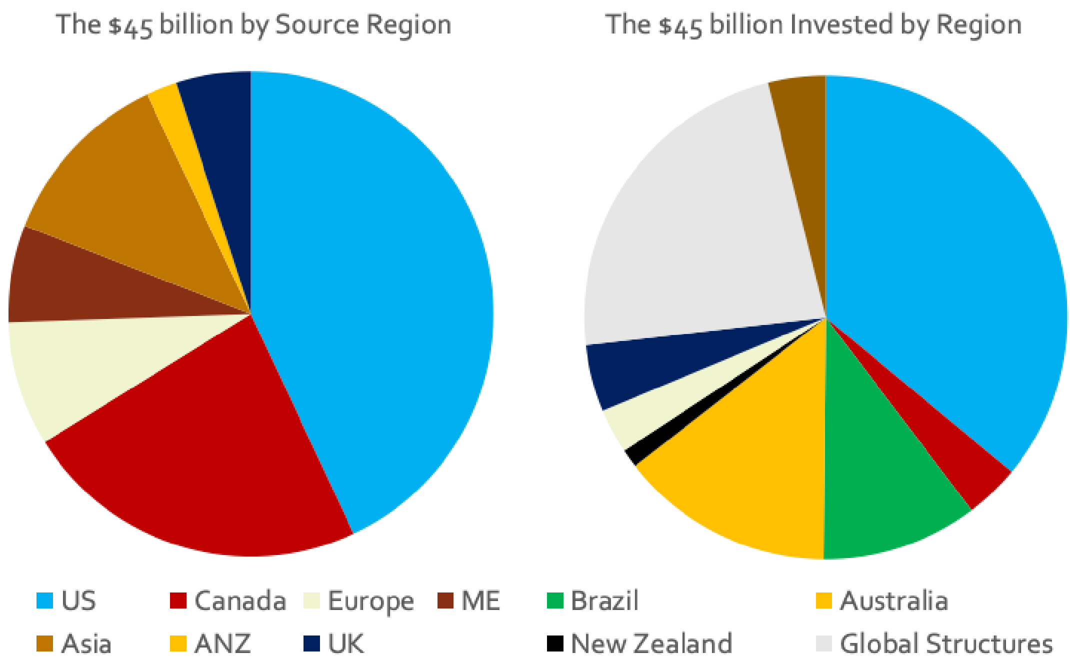


Figure 8: Chart Illustrating Total Agri Investments by Region

Source: Valoral Advisors; Parsonage Advisors; High Quest Partners in conjunction with Author's bottom up Analysis

5.5 What are the institutional investment strategies?

Three basic investment strategies have been used to date: Passive Farmland; Active Farming; and Value Chain investing with a similar quantum (30-40%) in each strategy. There has been a skew towards passive strategies in the US – the equivalent of a tenant landlord model in the UK. Two key reasons for this are the relative simplicity of the model and the ability of the investor to mitigate the mix of operational risk and volatility within the near term.

This worked well for the period 2005-2015 where the mix of cash yields and capital growth delivered 10-12% returns. However, as farmer margins eroded, so rents have declined and capitalisation rates reduced to as low as 2%, slowing aggregate returns over the last 5 years to around 4-5%. This has initiated a rethink for many US institutions looking for higher yield and return profiles which has increased the shift towards perennial crop strategies and other regions (eg: Australia and Brazil) to try and bolster returns, albeit with different risk (i.e. currency) profiles. Other regions, such as Australia and Brazil, have typically had more 'active' structures and strategies whereby investors and operators share more of the seasonal risk. In Australia, in particular, the inherent seasonal volatility and lack of crop insurance has prevented the emergence of a successful passive structure.

Roughly 60% of the institutional capital has been invested in direct strategies and about 40% through investment managers and fund structures. This is much higher proportion of direct investing than other asset classes but is probably a symptom of the relatively early stage and the limited track records (and confidence) in the small pool of institutional calibre managers.

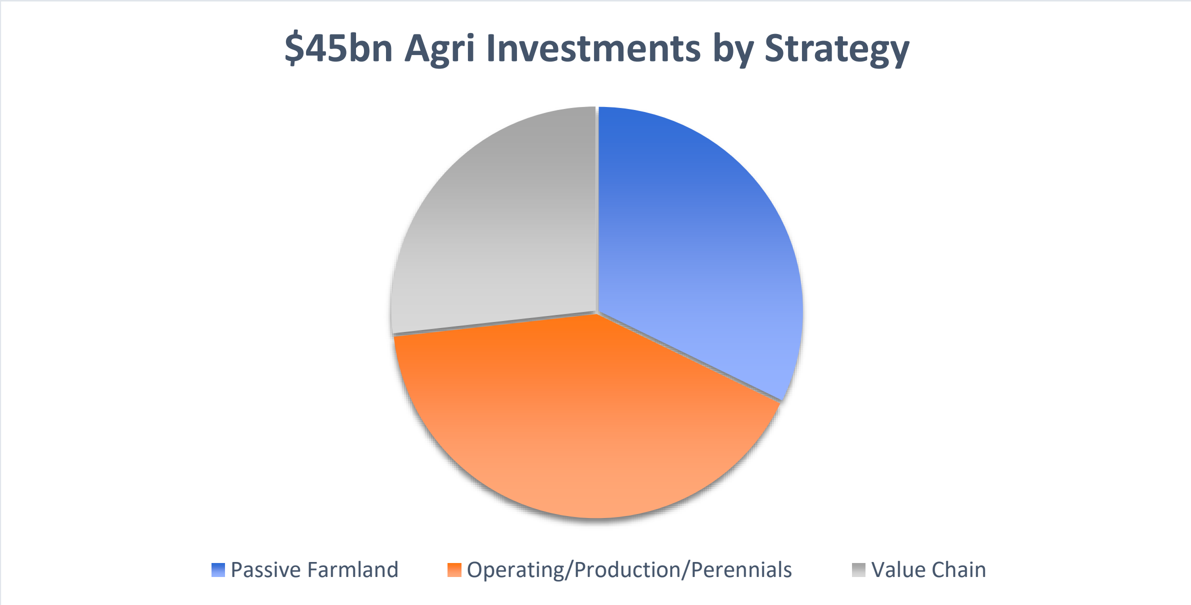


Figure 9: Chart Illustrating Investments by Strategy

Source: Valoral Advisors; Parsonage Advisors; High Quest Partners in conjunction with Author's bottom up Analysis

5.6 How does this compare to other asset classes?

A simple comparison of Agri investments versus other Real Asset classes illustrates two key patterns; the relatively small amount of institutional investment into agriculture versus real estate and infrastructure but also the low proportion of penetration on a relative market basis, i.e. institutional capital accounts for much bigger proportions of the real estate, infrastructure and timber markets.

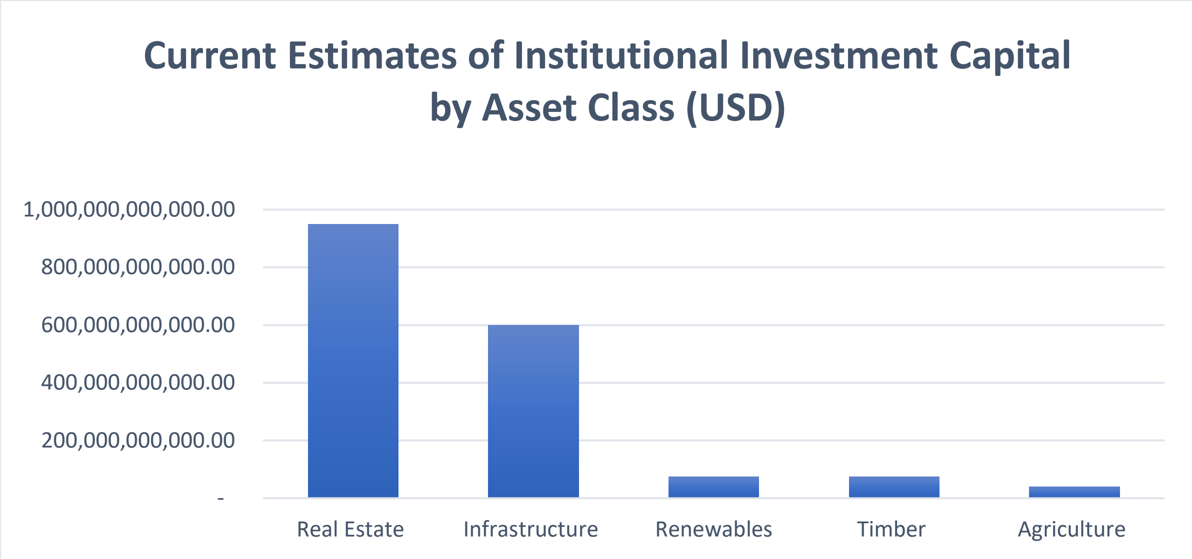


Figure 10: Chart Showing Agriculture Investment Versus Other Real Asset Strategies

Source: Preqin 2019

5.7 What is the outlook for Institutional Capital flows into Agriculture?

Some commentators have described a 'wave of capital' waiting to enter the agricultural sector. Whilst there is certainly increasing interest and increasing flows, it will take time for levels of comfort and deployment to gather steam. I personally think there will be a steady increase over time as opposed to a wave. A key challenge to date for larger investors is finding the right conduits and opportunities to absorb large amounts of capital and this has certainly slowed deployment. Rather than diminishing in its absolute significance or importance, agriculture has simply lost its proportional relevance within the economic and investment universe versus other asset classes that have developed, consolidated and attracted investment capital more rapidly.

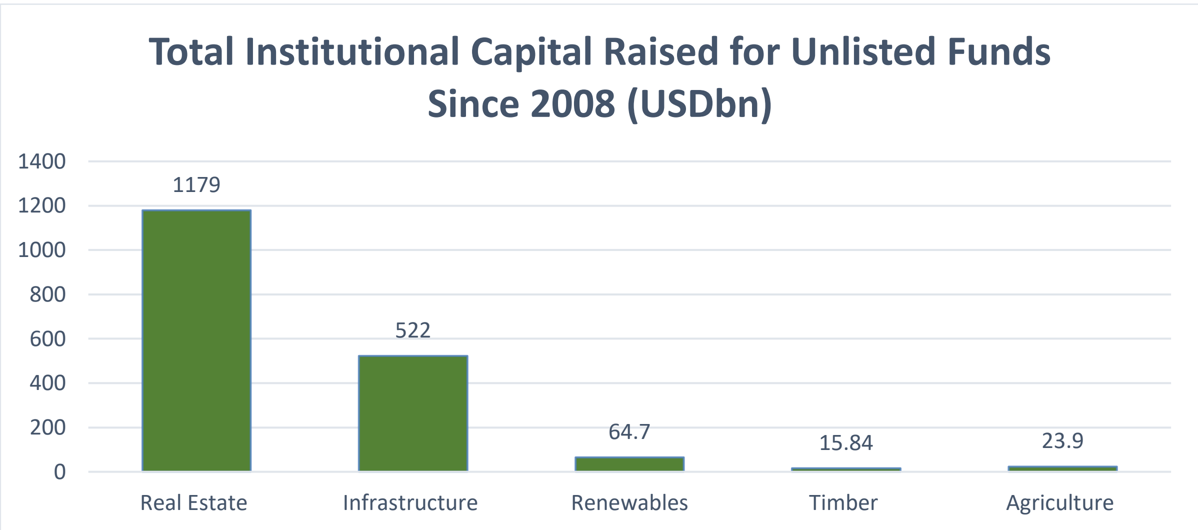


Figure 11: Chart showing capital raised for agriculture Versus other real asset strategies

Source: Preqin 2019

It will be interesting to observe the relative patterns of agriculture, timber and renewables over the coming years. The sustainability theme may also provide strong momentum for agriculture - especially as the carbon-climate theme gathers momentum - and there is clearly space for more investment into agriculture given the very low levels of penetration versus the investable market. And finally the evolving economic and COVID 19 crisis are again illustrating the low correlations of the Food and Agri sector which could encourage further portfolio diversification and interest in the asset class. Indeed the current crisis (like the GFC) is demonstrating agriculture's unique profile - planes can stop flying and oil prices can drop to $20 per barrel but as Marcus Elgin from Australia loves to remind me "*people always need to eat*".

5.8 Chapter Conclusions

There has been an accelerated flow of Institutional capital into the farming sector over the last 15 years and there is a growing pool of capital interested in the sector. This has been driven by a combination of attractive fundamentals and the relative diversification benefits and long-term performance of farmland. Looking ahead there will be increased focus on sustainability from investors which will provide further emphasis towards agriculture.

The key takeaways from this chapter are as follows:

- There is approximately $45bn of current institutional exposure to agriculture in farmland, farming and illiquid value chain related investment strategies
- $35-40 bn of this has been invested or generated since 2000
- Another $15bn of 'dry powder' – i.e. identified and approved but as yet uninvested
- These amounts are still insignificant versus other Asset Classes
- Most investment capital has emanated from North America, Europe and the Middle East and most of this has been invested into farmland strategies in the US, Brazil, and Australia.
- Institutional investment still represents a tiny proportion of the agri asset class by value (<1%) globally and across most regions
- Less than 6% of this investment has come from UK institutions and only 4% is invested into UK agriculture most of which is long term (historic) legacy investments from college endowments.
- Less than $300m has gone into UK agriculture since 2008 and the next chapter will explore some of the reasons for this.

6. Key challenges for investors in agriculture and specific challenges in UK agriculture

6.1 Introduction

There are many challenges facing agriculture investors and the UK faces an additional mix of specific local challenges that complicate the investment case further. Most of the observations in this chapter are based on personal experience over twenty years, refined and affirmed by the many recent conversations and discussions during my Nuffield particularly with the investment community. This chapter is designed to provide further context on the interface between the investment sector and the world of agriculture before we get into specific examples, structures and models.

6.2 General Challenges for Investors in Agriculture

Farmland is arguably the oldest fixed asset class but has remained relatively informalized due to its localised and fragmented profile. Institutional investors are showing increased interest as per the previous chapter but continue to struggle to understand the asset class and position it within 'their' world. Track records and data remain limited, inconsistent and difficult to verify and there are a series of unconventional asset class characteristics and behaviours that investment analysts often find difficult to rationalise and explain effectively. Other asset classes have emerged more recently but have developed, consolidated and achieved scale much more quickly (e.g. Tech, Infrastructure, Renewables). The following section aims to list and discuss the key challenges for investors.

6.2.1 Perception of Low Return Profiles

Average return profiles for agriculture are often perceived as relatively low. In most mature agri markets net average returns through the commodity cycle are 7-10% depending on structure. However, current returns can significantly vary during the cycle and other asset classes have delivered considerably higher returns at different stages of the cycle. Over the long term (>15 years) however, agriculture has actually delivered higher returns than most core indexes and comparative asset classes as illustrated in Figure 12, the well circulated chart below.

Farming also has a wider range of performance between the best-in-class farmers and the average operator than most sectors. Low costs of debt in most key markets have also inflated asset values and compressed return profiles over the last decade. Investors like to think in relative terms and a 400 basis point (bp) premium (ie 4%) versus other asset classes is a compelling proposition, whereas a 200bp spread with lower liquidity (flexibility) and 'heavier lifting' (higher administrative effort) is far less attractive. As returns have compressed over recent years this relative spread has narrowed and consequently the perception of low current returns is a headwind especially for investors with shorter timeframes.

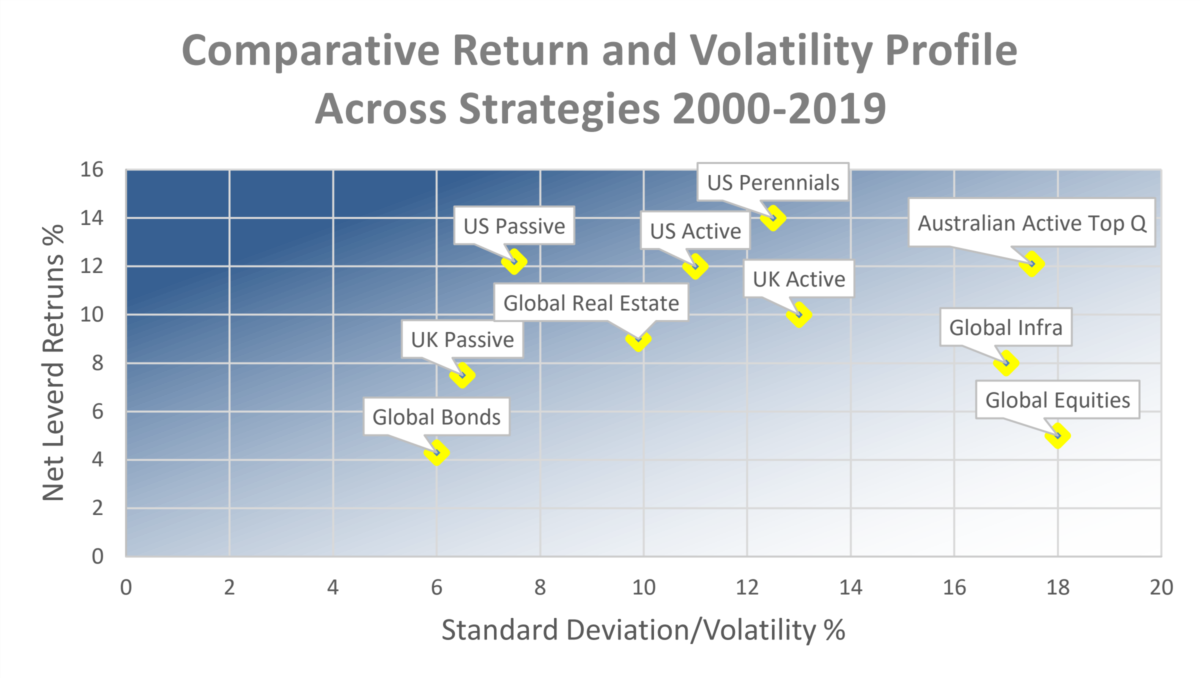


Figure 12: Chart illustrating agriculture and farmland returns v other asset classes

Source: NCREIF; USDA; Savills; ABARES; UBS Global Infra; Brookfield Global Infra; MSCI World Equities Index; Barclays Global Composite

6.2.2 Low Cash Component of Returns

Farming returns have a combination of cash yield and asset growth components (See Figure 13 following). Active farming strategies (own and operate) typically return 8-10 percent over time of which about half (4-5%) can be attributed to capital growth and half to cash yields. Passive farmland strategies in the US might deliver 7-9% through the cycle but typically compose of only 2-3% cash yield and the balance in capital growth. UK passive returns will have an even lower component of cash (ie net 1.5-2%) with greater reliance on longer term capital growth. By nature, investors have to wait longer for the majority of the value growth in passive models. Some investors with more patient timeframes (e.g. pension funds with young demographic profiles) are comfortable waiting for 15 or 20 years or even longer to realise the bulk of their return. However, in this day and age where yields are in high demand to meet liability profiles (e.g. mature pension funds or insurance companies) there is more focus on near term yield within shorter timeframes.

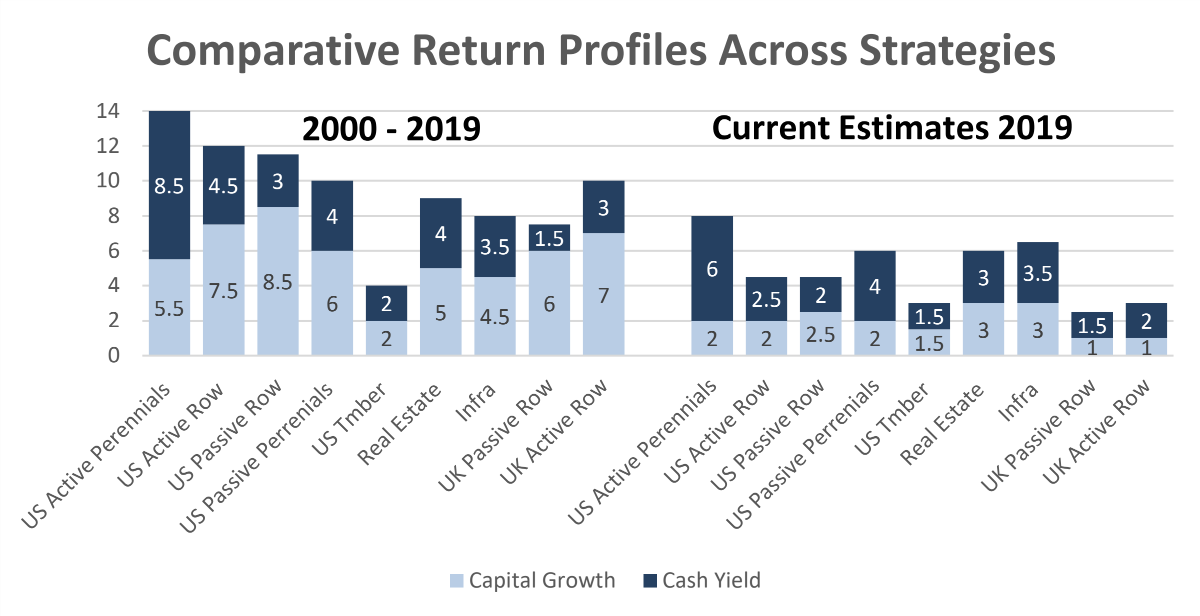


Figure 13: Cash v Capital Components of Return and Long-Term v Current

Source: NCREIF; USDA; Savills; UBS Global Infra; Brookfield Global Infra; S&P and Author research estimates

6.2.3 High Seasonal Volatility

Farming's seasonal nature carries inherent volatility. Weather patterns amplify this seasonal production variance to create much higher seasonal supply volatility than most other sectors. Agri markets are often working with more limited and more segregated information which further amplifies the volatility profile at price levels. This is nothing new and many of the financial hedging instruments and techniques used to manage volatility developed from the agriculture and gambling sectors.[7] However in a world where volatility has become synonymous with risk, institutional investors (especially those with shorter timeframes) are often reluctant to take exposure to seasonal volatility.

Figure 12 on page 18 illustrates a wide range of volatility across strategies. Two key aspects of this need to be explained; firstly, that the passive lease models generally have lower seasonal and near-term volatility, and secondly, the active models are more volatile in those regions with inherent seasonal risk and insufficient crop insurance e.g. Australia. In my view volatility in agriculture is often misunderstood and really needs to be contextualised within a minimum 5 year rolling average perspective - any shorter timeframes are impossible to rationalise effectively or they create unrealistic risk-adjusted expectations. Volatility and risk under different timeframes are very different concepts which shorter term investors often find challenging to reconcile.

6.2.4 Cyclical Profile

Another characteristic of the agriculture sector which investors worry about is the commodity cycle. Many agri investors argue that with a long enough timeframe (15 years plus) they are agnostic to the stage of the cycle and able to mitigate the impacts. Many investor respondents made the point that during the build-up to the GFC investors paid high prices for average assets and were then 'underwater' for many years, testing the patience of their investment committees. Experience has

[7] For an entertaining and interesting read on this subject see *Against the Gods: The Remarkable Story of Risk* by Peter Bernstein

suggested that with shortening time horizons of investors and thinning return profiles (and the low cash components and volatility of agri-returns) timing the cycle is actually very important. It has certainly defined the success or otherwise of many agri investment funds through the last cycle and increased the levels of caution by investors across the sector.

Cycle timing also explains a great deal about the different experience between timber and agriculture. Timber enjoyed a strong twenty-year bull market that allowed both scale and realised track records to establish, which in turn recycled funds to further support and build the asset class. The Agricultural cycle only really had a 5-year bull window which gained limited traction before any compelling track records were established. This challenge was compounded with currency movements. Had the cycle timing been more friendly on prices (and currencies) most investors agree we would have seen a much bigger asset class by now.

6.2.5 Deal Size and Scale of Strategy

Institutional investors have been steadily growing in terms of Assets Under Management (AUM) over the last two decades. The concentration of institutional capital has also increased dramatically compounding the size of funds, against which the relative scale of agriculture (as illustrated in the previous chapter) has remained very small. Consequently, as institutional investment teams are handling bigger portfolios they need bigger strategies and bigger deal sizes. The adage that 'it takes the same amount of work to do a small deal as it does a big deal' is increasingly applicable in this sense and constitutes a challenge for a fragmented/unconsolidated asset class. For many mainstream investors, opportunities or strategies which are not in the "hundreds of millions of US dollars" simply don't move their needle. Even in the US most institutional investment strategies in agriculture will not look at any opportunities below 10 million dollars which simply keep them out of 95% of the deal flow at farm level. Some groups have managed to implement creative structures with localised teams that allow them to access a range of deal flow from small, medium and large sizes but for many investors (particularly those new to the sector or with small teams) deal size remains a key challenge.

6.2.6 Governance Complexity and Admin Costs of Private Equity

The farming sector and its operating entities have historically developed off simple family business profiles of sole traders, partnerships or small companies using conventional commercial debt (often subsidised) to grow, consolidate, diversify, restructure and innovate. Many commercial banking systems in the mature agri economies have an inherent social purpose behind them to facilitate and encourage the rural economy. Low interest rates with high Loan-to Value (LTV) thresholds have encouraged the bulk of capital flows into the sector in this format becoming the default capital solution for most farmers. Equity solutions and structured debt by nature are often bespoke/tailored to the situation and require both planning and negotiation which are time and resource consuming. Coupled with the fragmented nature of the sector, the ability to pull together meaningful numbers of meaningful deal sizes is more difficult. So, for many investment strategies, agriculture doesn't carry the return profiles to justify the additional time and effort required to structure equity-based investments or structured debt transactions. This challenge should not be underestimated and will continue to be a key question for institutional investors.

Equity transactions by nature carry higher and more bespoke levels of governance than debt but many farmers are unwilling to give up information access - let alone rights – let alone control - and many investors want minimum governance thresholds for equity positions over longer terms. Most equity solutions don't have the guaranteed yield/interest element of debt and rarely have the same default provisions and herein lies one of the key challenges that investors and farmers face when trying to cut a deal.

6.2.8 Trust

Many respondents (both farmers and investors) across regions agreed that the only way to bridge the gap on governance is through mutual trust which represents the major hurdle. Of all the issues identified in discussions during my study tours, Trust was the central factor. The stereotypical perception by farmers that all bankers and fund managers must be crooked, greedy, slimy and non-transparent was almost universal. Only politicians were seen in a more negative light! Whilst there are clearly grounds for scepticism of the finance sector so recently after the Global Finance Crisis (GFC), I did get the feeling that much of the perception has been unhelpfully driven by the media and by easily identifiable stereotypes propagated by media.

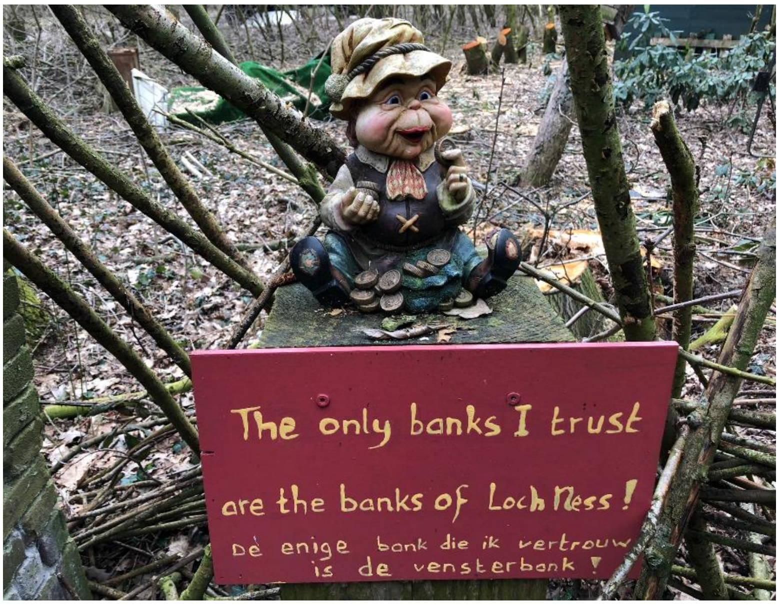


Figure 14.Random but relevant statement (protest?) in a remote wood in the Netherlands

Author's own photo

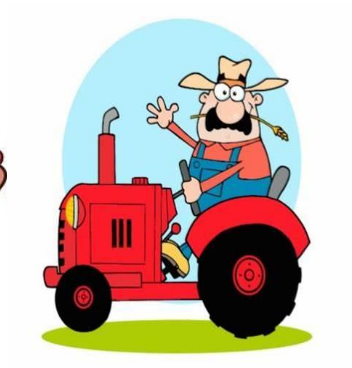
Similarly, most investors have significant 'trust' issues with the farmer stereotype. Most farmers were seen as honest but informal, out of their depth in financial discussions, often territorial and defensive, and sometimes a little backward. At the stronger end, some perceptions were that farmers were an unruly lot - holding policy makers to ransom despite an active hobby of tax evasion. Most of this is perception rather than reality but perceptions reinforce stereotypes and compound the challenges already noted. The prospects of deal making and creative thinking to achieve alignment is a lot easier without the opposing stereotypes. An old mentor used to tell me that deal making is difficult, and the best deals are those where the two parties like, respect and trust each other – and the greatest of these ingredients is trust.

6.2.9 Stereotypes

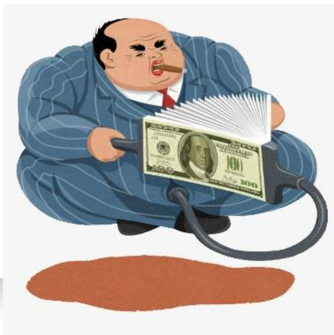
A google cartoon search on 'bankers' and 'farmers' illustrates the extent of the stereotyping between and across the sectors. I've taken the liberty of reproducing some of these illustrations below.

"We're often seen as a bunch of inbred country bumpkins…"[8]





"There are Bastards, Lying Bastards and then there are Bankers!"[9]


Having spent considerable time across both sectors over the last two years for Nuffield (and indeed the last two decades professionally) I felt compelled to note how distorted these stereotypes have become. Both communities have much more complex and differentiated profiles, characters and personalities and styles. Farmers are some of the most sophisticated real-time risk managers around and some bankers are among the most generous, considerate and community minded people I know. But perceptions are important and for institutional capital to flow into agriculture, deals will have to look beyond the stereotypes that persist, including power point's farmer icon below, complete with dungarees, floppy hat and pitchfork– just missing the bucked teeth!

[8] Comment made by an Australian farmer in NSW
[9] Maxim that appeared across a number of articles and commentaries during the financial crisis

6.3 Key Challenges specific to the UK Farmland Market

My assessment of the challenges above was based mainly on feedback and perceptions of investors and across farming sectors across regions. Specific consideration of the UK sector raised a number of further challenges, some relative, some distinct as discussed below:

6.3.1 Higher Land Prices and Lower Returns of UK Farmland

Average UK farmland prices have increased by more than 400% since 2000 and capitalisation rates (a real estate measure of annualised return, shorthand 'cap rates') have fallen below 2%. On a relative basis this is roughly half the net cap rates of the US Midwest (Figure 15) which generally has a purer economic basis to farmer margins, land values, rents and cap rates. In other words, it would take nearly twice as long to pay off a UK farm asset versus the Midwest which seems bizarre on a risk adjusted basis. Land agents in the UK regularly talk of amenity value as a significant element of justification for high UK land prices but at these levels it is difficult for an investor to rationalise on a relative return basis.

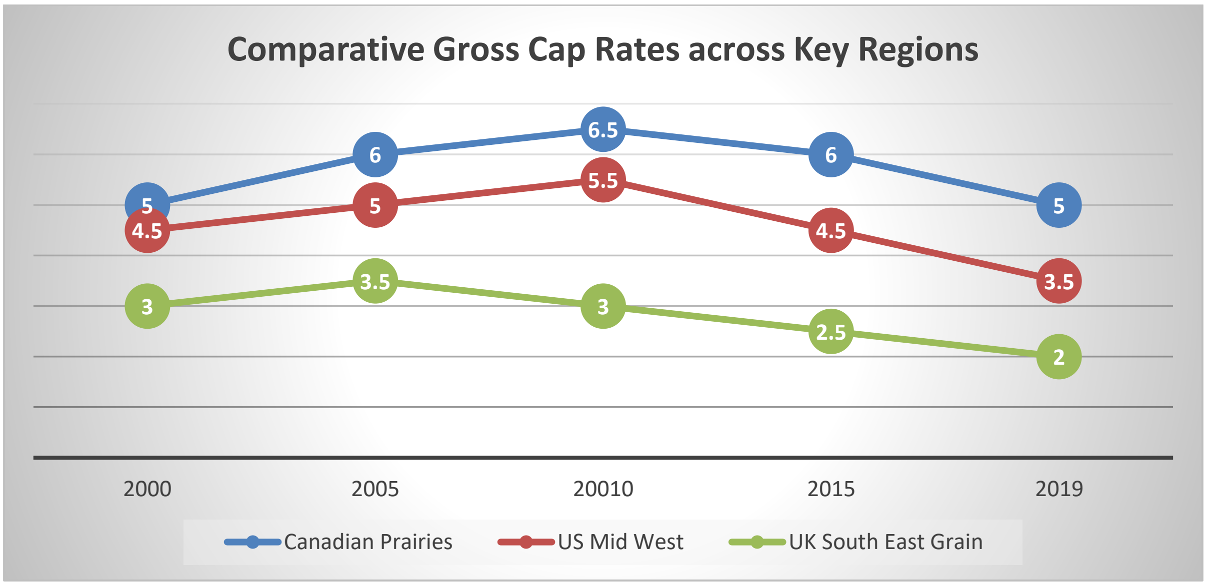


Figure 15: Chart illustrating Farmland Capitalisation Rates in Key Regions

Source: NCREIF; USDA; Savills; Farm Credit Canada; Author's research estimates

UK land values have a much wider array of drivers than other regions, and these have appreciated land values beyond their generative earnings profile. As one respondent noted:

> *"Don't underestimate the impact of ponies, parkland, rose-gardens, and some good old-fashioned shooting, and fishing to push up general farmland values! And don't forget the influence of development potential and middle eastern money looking for a safe haven – none of these drivers*

are really interested in the current productive potential of the land, so the earnings based economic model of the US doesn't really apply". [10]

In general this is probably right but I would argue that the economic model has to apply at some level at some stage particularly under wider economic pressure if debt levels reach certain thresholds. Three other key drivers have also distorted the UK market as well: firstly, the inheritance tax relief (which is increasing demand and also restricting supply); secondly, capital gains rollover relief which has increased demand; and finally the subsidy regime which has certainly provided a floor to the land market and curbed supply. The bottom line here is that, at a professional investment level, UK farmland prices and prospects are difficult to justify at a relative basis versus the US or Canada.

6.3.2 Relatively Small Deal Sizes in the UK

UK farm sizes have increased gradually since the industrial revolution and technology continues to push this trend albeit with a recent plateau. However the average farm size (and transaction value) which would typically dictate the rate of capital deployment for a large investor is smaller on a relative basis than some of the other geographies under consideration. The largest farmland deal in the UK in recent times was probably the Coop farms ($300m Total Enterprise value) which is large by any geography but very isolated in its scale and profile. Average farm sizes in the UK are < 100 acres with an average asset value of about GBP700k.[11] In Australia and Brazil USD$100m farm deals and larger are on the market regularly. US average farm sizes are 500acres with an average asset value of around USD$2.5m and larger consolidated deal sizes and even portfolios are an increasing feature of the US market particularly in key regions such as California and parts of the Midwest. So, from a relative size prospect the UK is at a disadvantage to the other core farmland markets for any institutional investor that would like to establish quick meaningful scale within their portfolios.

6.3.4 Regulatory Risk and Uncertainty of BREXIT

Policy or regulatory risk is always a key consideration for institutional investors. In the wider European context this has been a topic of focus around subsidy regimes and the risk/possibility of changes for long investment horizon assets. Different agri sub-sectors are exposed to different levels of subsidy profile, but the uncertainty around BREXIT has certainly unsettled perspectives around UK asset values in general especially with further currency risk predicted. This is a core consideration in the agricultural context where the skewed risk towards a downside scenario in farmland assets (widely perceived to be overvalued anyway) makes it a very difficult case for any investment committee to get comfortable. Perhaps the most obvious recent example is the relative success of the Co-op farm sale to the Welcome Trust in 2015 - a competitive process completed at very low cap rates - versus the limited interest in the more recent Strutt and Parker Farms sale in which there were few bids, considerable caution and a much lower relative price. Investors like certainty and policy consistency neither of which appear to be in great supply in the UK (or indeed the US) at the moment. More of that later.

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[10] Discussion with an Essex based farmer and former real estate agent

[11] The slower consolidation profile of the UK farm profile is well illustrated in Chapter 1

6.4 Chapter Conclusions

This chapter has identified a list of hurdles and headwinds facing investors and farmers as they explore partnership opportunities. On reflection, it highlights the enormity of the task in terms of the number and magnitude of issues to overcome and this probably explains much of the slow traction regarding institutional capital flows. Virtually every farmer I spoke to in the UK mentioned the 'trust' factor as a deal breaker with investors. Almost every investor I spoke to mentioned the 'language barrier' in dealing with farmers. Farmers by nature tend to be more private, more subtle, more discreet (and perhaps more insular) especially on financial matters – and UK farmers seem to be more conservative than other farming cultures? It is worth noting that financiers structure equity and structured debt deals on a daily basis while most farmers probably only do so a couple of times in their lives.

It would be easy to be negative about prospects for a healthier farmland market and agri investor sector in the UK but we shouldn't lose sight of the positives: UK property rights are very strong, there are few barriers to entry for foreign investors and relatively low transaction costs. The non-cash returns of UK farmland over recent decades have been strong and for those investors not chasing yield there have been few better stores of value and underlying capital growth.

However, institutional capital is increasingly mobile with optionality in terms of geographical choice. As such, any investment portfolio carries opportunity cost between different destinations and on current terms, sentimentality aside, it is very difficult to argue that the marginal dollar for a global investor should go into UK farming or farmland versus the US at this particular point in time. BREXIT could present opportunity but is more heavily skewed as a risk for now and this uncertainty is unlikely to help the near-term prospects for institutional investment – either domestic or foreign!

My key conclusions for this chapter are that UK farming faces the following key investment challenges:

- Return profiles for UK agri are lower than other regions –with a lower cash yield component and low capitalisation rates versus other geographies
- UK transaction sizes and volumes are both low so the prospects of building larger institutional scale portfolios are limited especially on a relative basis
- The cultural and trust gaps remain key barriers to entry and are not helped by persistent stereotypes

7.Innovative Business Models

7.1 Introduction

The purpose of this section is to showcase some key business models that are successfully attracting institutional capital into the family farming sector. This was always going to be an enjoyable element of my Nuffield, particularly exploring some of the more innovative approaches. Creativity and solution-oriented discussion drives industries forward and innovators, by their nature, tend to be passionate, entrepreneurial, optimistic personalities (and indeed risk takers) and I certainly enjoyed these discussions with a mix of very interesting people.

7.2 List of Innovative Business Models

During my Nuffield travels I concluded that farmers generally need capital for one (or a combination) of the following five reasons: Starting Out; Growth; Diversification; Innovation and Restructuring (which usually means Succession …but sometimes Divorce!). Traditionally, Debt has been the first and main source of finance. Equity seems to have been, and continues to be, an underutilised option. In the end, my study has uncovered the following core structural models, ideas and opportunities:

1 – Landlord Tenant Model

2 – Variable Lease Models

3 – Strategic Asset Co Partnerships

4 – Private Equity Models

5 – Ring-Fenced Subsidiary Model

6 – Tailored/Structured Debt

These are discussed in detail in Appendix 1.

7.3 List of Relevant Case Studies

I also encountered 4 very relevant and interesting structures in specific Case Studies, also explained in more detail in Appendix 2 :

Case Study 1 – The Area One Farms Young Farmer Model

Case Study 2 – The New Zealand Share Milking Model

Case Study 3 – The LATAM Public Equity Model

Case Study 4 – The Institutional Deployment Platform

7.4 Chapter Conclusions

It became apparent over the past 18 months that most structures and opportunities are usually very specific and as a result the most innovative solutions around them were often quite unique. However, I felt it was important to try and group the business model options into categories even though many have crossovers or could be iterations of others. The reality is that equity solutions are predominantly more bespoke than debt solutions and, as discussed in the previous chapter, often take a lot of time and engagement to resolve. Accordingly, given the relatively small deal sizes in the UK, this creates a heavy administrative and time cost for the investor. Also apparent was that all these models are ultimately shaped by tax considerations and indeed personality styles or preferences.

- The landlord tenant model remains the most common form of shared capital arrangement in the UK, and indeed across most family farming sectors, but is not necessarily the most optimal solution or indeed the most aligned form of partnership.
- Other models which have demonstrated success in other countries such as share milking still have limited applicability in the UK environment for many of the reasons discussed in the previous chapter.
- There is plenty of structural opportunity around growth and diversification where risk can be effectively ringfenced and I believe that this has further relevance and potential in the UK
- There is also prospect for creative innovative structures such as the Area One Case Study that might apply in the UK context where long term alignment and mitigated downsides can be managed.

Finally, I'd like to re-emphasise that the main objective here is to share the wide variety of business models that could be shaped to attract investment capital to a particular circumstance. It is not a comprehensive or definitive list but I hope that it stimulates some ideas and thoughts and at very least convinces family farmers that there are options that can attract capital without giving up the family assets! Please read the Appendices for specific details on these structures.

Chapter 8

8.1 Introduction

Unlike many scholars, I did not experience any eureka moments as part of my Nuffield journey. I did have moments of clarity and realisation within the many hours thinking and talking through the topic, but I don't feel that I unlocked any game-changing material within the specific context of my topic. Part of this may have been down to complexity and part of this due to the overriding macro issues that prevail across UK farming at present.

I certainly identified a range of progressive and innovative business models, as outlined in Chapter 7 and Appendix 1 that I hope will help to stimulate thought, create opportunity and possibly even catalyse some change. Perhaps, realising the extent of the challenges of attracting institutional investment into UK agriculture was in itself a Nuffield moment? And perhaps the realisation of the extent and dangers of a structural stagnation in the UK land market and farmer demographic profile were also Nuffield moments? Realising the extent of our agriculture policy deadlock and lack of vision and alignment may also have been key moments?

There are some positive stories within all of this, both within the UK but also elsewhere and I remain optimistic that if some (albeit fundamental) change is made to the UK landscape then there are good prospects on many fronts: prospects for new capital flow into the sector, for new entrants, for new business models and partnership structures and indeed prospects for a new vision for the sector

8.2 Key Issues to Address

My central conclusion is that the gap between family farms and institutional investors in the UK remains wide and is likely to prevail over the foreseeable future. Likewise, the challenges facing young entrant farmers are considerable and getting bigger and unless material policy changes are implemented this concern will worsen. The following list of issues and key observations summarise my view of the challenges facing farmers and investors looking to partner:

- Conservative culture of family farming in the UK prevents innovative investment structures versus other countries
- Stereotypes persist between investors and farmers and exacerbate language and culture barriers
- Lack of mutual Trust remains a key issue
- Average Return Profiles in UK Ag are lower and more volatile than other countries
- High Land Prices remain unsupported by productivity levels
- Material distortions in land values underpinned by key tax rules
- Succession planning remains woefully inadequate
- New entrant support remains very limited
- Policy environment remains very uncertain without a clear aligned vision
- On current specs, Investors will tend to look elsewhere on a relative and absolute basis

8.3 Chapter Conclusions

Despite encountering these significant and varied challenges there were also many positive aspects. I came across many entrepreneurs and interesting characters that have managed to attract capital in various formats and guises and I think the key message in this is that, with a combination of passion and drive and direction, and a creative mindset, opportunities do exist.

This entrepreneurial set is definitely in the minority however, and if there was one key observation it is that family farmers and new entrants in the UK really should look beyond the Anglo-rooted farming cultures and consider some of the Latin-based approaches of Europe and South America that have delivered significant structural innovation and evolution of the family farm concept. Some of the European farming cultures with closer perspectives on collaboration (eg Netherlands) have also driven greater and often more pragmatic sectoral advance too.

My key topic specific recommendations would be as follows:

1) Farmers need to adopt a flexible and creative mindset when looking at ways to attract institutional capital and borrow from relevant cases studies and models
2) Farmers need to get around the distrust of the Banking Sector and recognise that there are distinct benefits to having the right capital partner to grow, diversify, or restructure their business
3) Capital Investors need to get around stereo types of the farming sector and recognise that the sector needs patience, time and alignment

The UK clearly has the underlying talent and raw materials to move the sector forward - but it needs the right mix of vision, policy, energy and leadership as discussed in my recommendations in the next Chapter.

9.Recommendations

Given the dominance of the structural issues affecting UK agriculture, the evolution of conclusions throughout my Nuffield study naturally and increasingly trended towards more ambitious and provocative recommendations - aimed at addressing the bigger issues as a precursor to any topic specific suggestions. Without addressing these bigger issues many of the observations, conclusions and suggestions relevant to the specifics of my topic felt rather irrelevant. For me the deadlock in the political system, the structural stagnation of the sector and the lack of an aligned vision for UK agriculture dominate the current situation.

I also felt increasingly strongly through my Nuffield journey that now is the time for our generation to step up and take responsibility. We are lucky here in the UK to have established democratic systems and policy making structures, but we should also be prepared to stand up and call into question when these systems or policies become stagnant, obsolete or monopolised by apathy or intransigence.

Consequently, the core recommendations of my report are focused on 'the elephants in the room' – the policy factors which I believe are most critical to a successful way forward. I hope that these are taken in a constructive sense, aimed at achieving a healthier, more progressive and more sustainable farming sector?

9. 1 Recommendation 1

Agree a Clear Aligned Vision with Relevant Targets for UK Agriculture

For too long there has been a disparate lack of vision and alignment in UK agriculture with competing and often antagonistic interests. The current mix of BREXIT and COVID 19 might ironically pave the way for a more aligned vision. But it will need the NFU, the CLA and DEFRA to proactively drive this vision and build a supportive policy framework around it. I believe that there are a few basic considerations to guide this vision:

- We need to decide what level of food self-sufficiency to target? There is no point being 100% (and this would be risky) but 60 % seems vulnerable, so why not pick 75% set a supporting policy agenda (which will obviously need to be protectionist to an extent) and get on with it?

- The UK will not compete with Brazil and US industrial farming systems and we shouldn't try to! Brazil and the US have the scale, cost base, policy support and regulatory leniency to outcompete us on all fronts. And I shouldn't have to mention that the environmental impacts of replicating the large-scale intensive systems of the US in the UK would be catastrophic.

- The UK's competitive advantage (and opportunity) is to position ourselves as the highest-quality, most-sustainable producers in the world. The era of cheap food must come to an end and be replaced with good quality, sustainable, affordable food. The full/real price of cheap food was/is being paid by the environment and by our health system. We have an opportunity here to acknowledge this and become the global leader on quality, value, health, traceability, and sustainability. The next generation is already showing the way on this and a policy framework that supports this with a clear vision is our best bet and will get public support.

- Some will say that this will increase the cost of food and impact more vulnerable elements of the population? This may be true at the margin, however our proportion of disposable income spent on food (8% currently) is lower than at any stage since WW2 when it was as high as 35%. We also spend a third of our immense NHS budget (currently 1/3 of GBP145bn = GBP 45bn p.a) on treating dietary-related illnesses, compared to a relatively meagre GBP3.5bn spent on agriculture subsidies! And yet these policies hardly talk to each other ?
-

  There has to be a way to reconcile these shocking statistics and transition our agriculture and health systems concurrently? The concept of a profitable and sustainable farming sector within a healthier, better quality and affordable food system alongside a lower cost more effective health service is not beyond our reach.

- Perhaps COVID 19 is the catalyst for this change and hopefully help us avert a likely 'fudge' on the current agriculture bill and US trade discussions?

9.2 Recommendation 2

Review and Revise Key Distortions of the UK Farmland Market

Most local farmers that I spoke to seem to agree that UK agriculture is in a stagnant position vis-a-vis land markets, farmer demographics and indeed low farming returns. Many of these distortions can be attributed to policies around subsidies and land tax legislation. At the very least I would argue that the following policy suggestions should be addressed:

- Review and revise Inheritance Tax and Rollover Relief - not necessarily remove them but certainly moderate or band them more effectively – they have distorted land values and created perverse incentives well beyond their original intentions
- Moderate/amend/widen rollover relief to alleviate the pressure of recycled capital from development windfalls on the farmland market
- Revise the subsidy support program towards programs that help to drive the new vision – amend production support and ensure that the environmental pillar is not encouraging inefficiency or environmental damage

9.3 Recommendation 3

More Action and Resources on the Young Farmer Issue

We need a proper, serious program to encourage younger farmers and new blood into the sector. The demographic timebomb is a key structural barrier for the industry and will only compound if it is not addressed adequately. The laissez faire approach of allowing inheritance and consolidation to decide this pathway is not an optimal solution and will only isolate the farming community further.

My strong view on this matter is that collectively we need the following actions to implemented as an industry:

- Encourage and incentivise succession planning
- Incentivise intergenerational handover of farms - not just within families
- Stop the decline and disappearance of our agri colleges
- Ensure that a meaningful quantum of the pending support amendments are directed at young farmers

The enormity of these tasks is clear and can't be underestimated, which is why I remain grounded on their prospects - but if nothing else, Nuffield has illustrated how other countries have successfully negotiated major policy and structural change before, so we shouldn't be afraid of it!

Ominous Artwork? Discovered in the lobby of a Skyscraper in central Chicago

10.After My Study Tour

My Nuffield has been a fascinating experience. I would have liked more time as feel that I have only scratched the surface of my topic. Tackling my primary questions generated a myriad of further secondary questions. I would have liked to visit more countries, and farms, and farm businesses, and farmers. and that in itself was a realisation that this is not a project but rather a process and will remain a subject of interest and curiosity for me over many years to come.

I did not find the elements or secrets required to step back from my day job and venture in a totally different direction – not at this stage - but it has certainly refined my thinking around the sector. It has reminded me of what's important in life and in our noble sector and that certainly shifted my view on the path ahead primarily around what subjects and which people I would like to work with going forward and vice versa. It has also clarified and reinforced my perspectives on the policy environment in the UK. I suspect that many of the macro factors influencing the UK opportunity will not be resolved quickly but hope that at some stage these may trigger some opportunity.

I look forward with interest to watching the UK farming sector navigate and evolve through this interesting juncture and hope that the near-term hurdles of uncertainty around trade policy, subsidy and property reform will allow a more aligned and sustainable direction forward. And I hope that for all its negative elements the COVID 19 crisis may be the catalyst for a proper rethink on many fronts.

11.Acknowledgements and Thankyous

This has been an unconventional Nuffield topic but hopefully of relevance and interest and I would like to thank the Nuffield Trust for recognising this and supporting my application. My colleagues, my respondents and the many people I met along the journey have played an important role in this exercise for which I am very grateful. Your inputs and insights have shaped my perspectives and ultimately formed the core part of the output here. Churchill once complained that the problem with farmers was that they were all politicians - and that the problem with this was that they were all members of different political parties! This strong set of different individual opinions among farmers is both an endearment and a challenge for our noble sector.

There are a number of important individuals and groups that have played a key part in this journey:

- Professor Paul Webster who I've kept in touch with since Wye days and who has been an interested and generous supply of references, perspectives and mentorship.
- Richard Crane was my boss at Deloitte more than twenty years ago and we have kept in close touch. He has been a great mentor and friend and his interest and experience in the UK farming sector remains passionate, considered and wise.
- The NFU Mutual Charitable trust has been a generous and attentive sponsor - thank you!
- My parents have been a constant source of support and encouragement through the many and varied chapters and experiences of my formative years and our shift to Plan B.
- Geoff Hawksley (our neighbour back in Zim) was a scholar from 1969. He epitomises all the values of Nuffield and is a true gentleman and proper farmer!
- Nigel Dorward, my brother-in-law, is also a Nuffield Scholar and was always a positive and enthusiastic sounding board during my application and the journey itself.
- Charlie Newton has been a diligent work colleague through several professional chapters but also an insightful and patient sounding board unafraid to share an alternative perspective.
- Ned Terry, no longer with us, but 23 years ago hosted my friends and I on his farm in Tasmania where he inspired and entertained us with stories of giant trout, Tasmanian tigers and the first 10 t wheat crop in the southern hemisphere.
- Peter Cooper, also from Tasmania, who kindly hosted the same crew and fascinated us with his truffle project.
- My Nuffield colleagues, the class of 2018, are a special group of people who have been an excellent source of entertainment and inspiration throughout the journey - Despite the broad range of backgrounds, professions, ages, subjects and dreams we all bonded very quickly and will remain a tight knit group
- The wider Nuffield family really is a remarkable network and our CSC conference and the Global class of 2018 reinforced that realisation.
- I would also like to thank Mike and Poey Vacher and Claire Laidler in the Nuffield office. Theirs is not an easy job and herding each year of Nuffield scholars (cats!) successfully through the journey deserves both acknowledgement and thanks … and a great deal of respect.
- Huge thanks to my editor Alison Blackburn – her selfless and patient commitment to what I imagine to be an often-frustrating task is much appreciated.

- Helen Wooley, Chris Graaf-Grote, Julian Darling and the wider Trustees have all been very interested and engaged throughout our formal Nuffield journeys.
- Finally, and most importantly, to Callie, Paddy and Jomo who have supported my time away as well as the inevitable 'local absences' when I was home but work needed to be done. This is for them and the hope that Plan B gets us back farming sometime soon.

APPENDIX 1 –Innovative Business Models (listed in Chapter 7)

This appendix describes the following innovative business models:-

The Landlord-Tenant Model

Variable (Shared-Risk) Lease Models

Strategic Asset-Co Model

Private Equity Partnership Model

Ring-Fenced Subsidiary Model

Tailored/Structured Debt Model

The Landlord-Tenant Model

The landlord-tenant model is arguably the original and most common form of capital partnership in agriculture, having emerged from the feudal system. In principle, lease models allow farmers the opportunity to establish or grow their businesses alongside an investor or capital partner who benefits from a combination of lease income and long-term capital growth on the land. It is worth noting that this model is also prominent in the US and in Canada where over 40 percent of farms are rented - although the North American model tends to have very short lease terms (1-5 years). This model is less common in Australia because of the annual operational volatility where the burden of a fixed rent is often too much for the operator to bear in a bad year(s).

The advantages of this model for the investor are that it is relatively simple to agree and implement (and replicate) without any shared equity agreements or tailored governance. Advantages for the farmer are the ability to expand their operations and spread overheads without compromising the ownership structure or indeed governance/control of their business. A top-quality operator during favourable stages of the cycle would be entitled to all the seasonal upside under a fixed lease arrangement. The disadvantages are that it does not align the capital partners during difficult seasons or downturn stages of the cycle. This model also segregates the relative performance of the assets versus the operations, which can undermine alignment even in good years especially in shorter term examples.

Variable (Shared-Risk) Lease Models

The variable lease model is similar to the landlord tenant model above but a variable lease rate (or element thereof) provides a buffer for the operator and some potential upside for the landlord. This may be based on crop yields (crop share) - and traditionally rents in many regions have been based on quantities of product - or on a combination of yield and price (revenue share) or, indeed, in some cases on a combination of yield, price and costs (profit share). These models are increasingly difficult and complicated to agree, implement and monitor but the advantages are closer alignment between the capital providers and operators in both good and bad years. Typically, shared-risk models are more common in more difficult or volatile regions. For example, in the US, these models predominate in the Delta South versus fixed rent profiles in the Mid-West. The main question in these models for the investor is what premium to apply to the lease rate for taking each step of additional operating risk? Or, from a good farmer's perspective, what share of up-side to give up in good years to mitigate the stress of a bad year? For an interesting variant of this see Case Study 2 in the appendix, on the New Zealand Share Milking model.

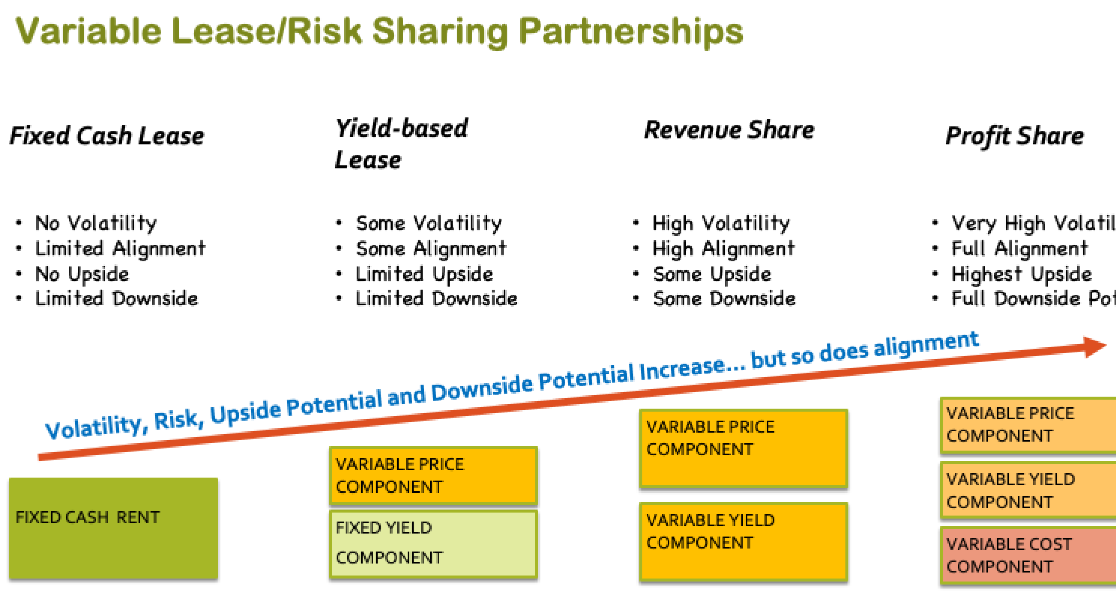


Figure 16: Range of Lease structures

Source: Author

Strategic Asset-Co Model

This is a relatively new model in which elements of the two options above might apply to a more specific set of situations where a farming business, usually more diversified and larger than the average business and possibly with vertical integration, might look to grow or diversify their business by creating a long-term asset-co into which they can attract third party capital. The differences with the variable lease model above would primarily relate to a longer (eg 15-20 year timeframe) rental period; a wider mix of assets than just land (eg: land; water rights; irrigation infra; perennial crop biological assets, pack sheds; cold stores; processing and possibly even logistics assets). The advantages of this model for the farmer are the ability to grow or diversify quickly and effectively across a wider range of specialist assets with a long-term comfort and control. Typically, the combination of duration and asset mix (depreciation profiles) will price higher than a land lease but these structures can also be shaped under a variable-lease basis for closer alignment. This approach seems to apply well to high value businesses with a mix of capital-intensive assets and is hinged on a longer term more strategic relationship compared to standard lease models. I believe that this model will increase in popularity particularly in high-value perennial cropping and vertically integrated supply chains.

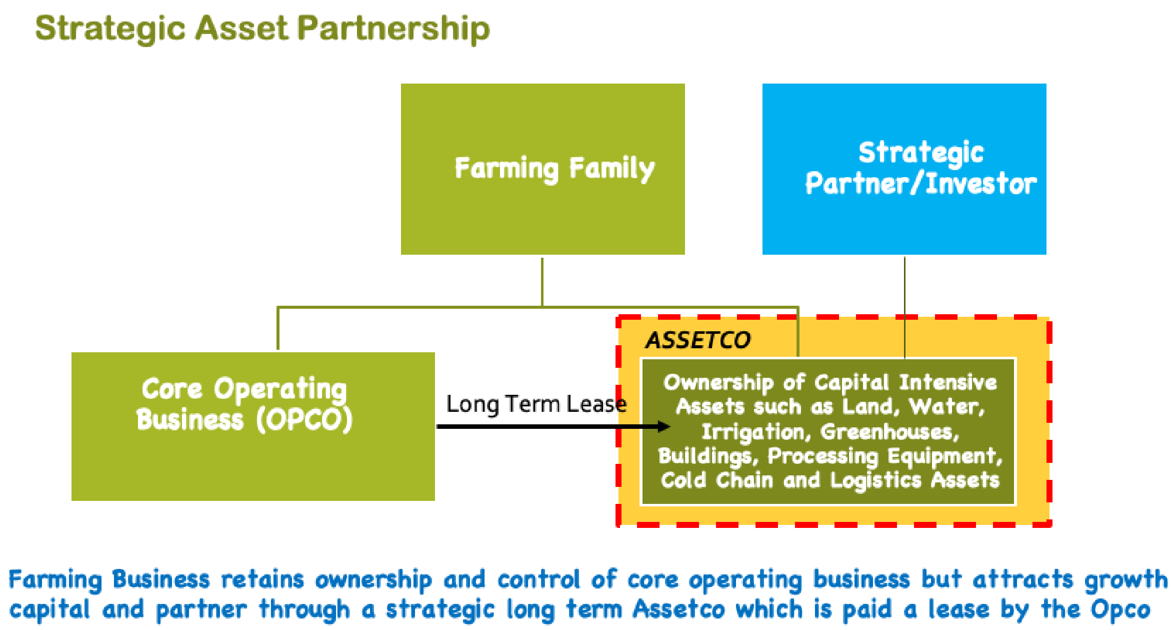


Figure 17: Strategic Asset-Co Model

Source: Author

Private Equity Partnership Model

The private equity model has been used successfully across many of the regions considered but does have a few caveats. The essence of the model is direct alignment in that growth capital from investors comes in alongside the farmers on an equal rights (equity) basis. Depending on relative proportions and valuations this might end up as a minority position for the investor (<25%) a significant minority (>25%<50%) an equal partner (50%) a majority shareholding (>50%<75%) or a full control position (>75%). The specific circumstances of these profiles will depend heavily on the nature of the partners both on the investor side and on the farming side and the specifics of the shareholder agreement. The governance rights relating to the various profiles could differ significantly and these deals typically take a lot of time, patience and trust to negotiate, usually with considerable legal advice (and cost) alongside. This is not a model for everyone and, in my experience, family farms are often reluctant to allow full access to financial information, let alone compromise control or indeed put the family home at risk. Conversely investors are often reluctant to take minority positions without clear rights or some directional path towards exit over time and many PE funds have defined timeframes. In my experience, affirmed by discussions in most geographies, this model applies better in certain circumstances:

1) when a young farmer is getting established and is happy to take a minority position to start up or build out a farming business and investors have the trust and confidence to back him/her; or
2) when a family farming business is looking to release capital to resolve succession planning issues and the prospect of an external investor is a lesser challenge than the incumbent siblings;

3) or, when there is an existing level of trust and understanding between parties whereby investors are largely passive (but play to their skill sets) and the farmers are good farmers and allowed to be good farmers – a rare set of ingredients.

For an interesting variant of this model which directly addresses the questions and concerns around home assets and control of the business/assets over time see Case Study 1 in the Appendix, the Area One Farms model in Canada.

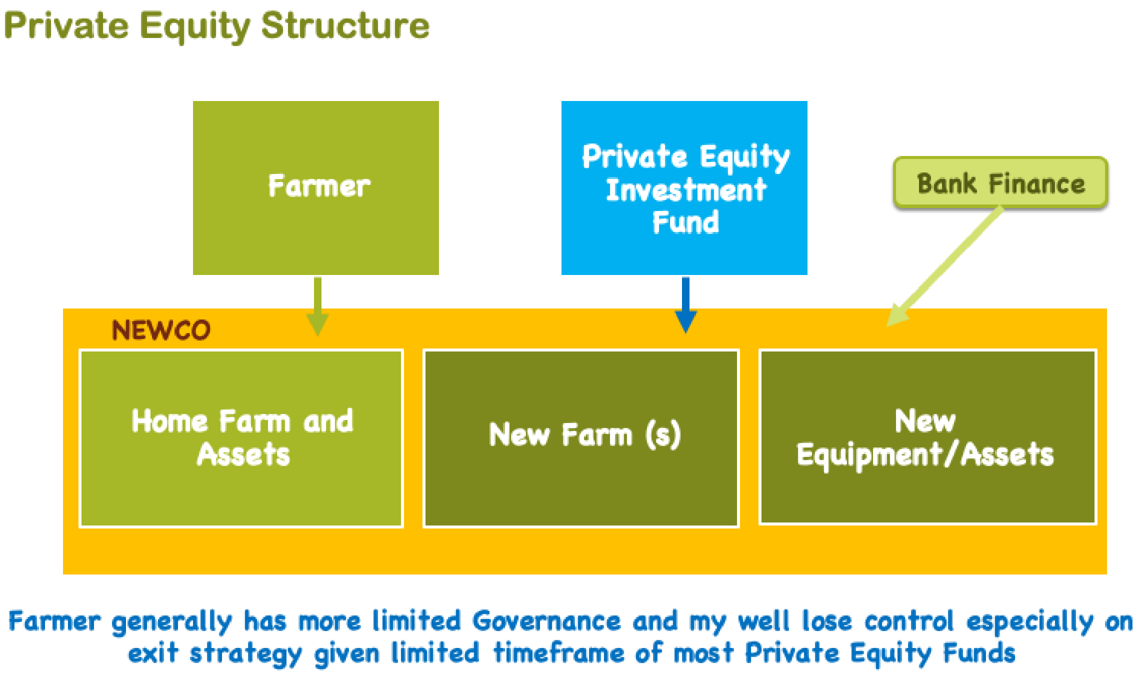


Figure 18: Private Equity Structure

Source: Author

Ring-Fenced Subsidiary Model

This structural variant came up in several discussions and seemed most relevant to family farming businesses looking to expand or diversify, but reluctant to open up the existing home/core business structure or indeed risk the home assets. By establishing an asset model or a private equity partnership model at a ringfenced subsidiary level, the dual objectives of securing capital but limiting exposure on the core home assets is feasible. However, adequate backing or support into the subsidiary from the farming partner is usually necessary to some extent unless a full contract arrangement is possible. Likewise, the investors typically want comfort that the subsidiary is segregated sufficiently at a structural, activity, and indeed responsibility level. This model was evident in a range of structures and geographies from some large family conglomerates in the US and Latin America to a number of examples in the UK context. The most common example in the UK context was around diversification. A number of farming families in the UK have set up property development businesses alongside their core farming activities and have managed to bring in investors at the subsidiary level, sheltering the core business but at the same time bringing in suitable and accretive partners at the property level. The model also appeared in an intensive protein business (chickens) and as well as within some high value fruit and veg producers. At an extreme end of the spectrum in an interesting variant, see Case Study 3 in the Appendix, the Latin American Public equity model, where a number of family farm businesses have managed to raise capital through the public markets whilst retaining control (>50%) of their businesses.

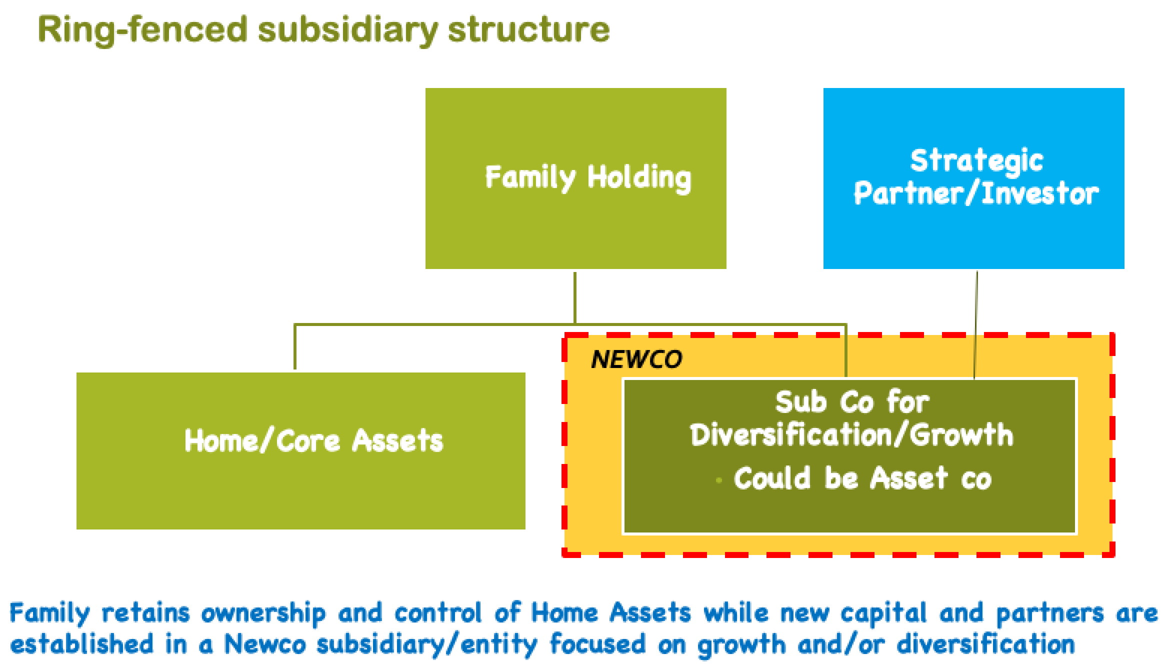


Figure 19: Ring-fenced subsidiary structure

Source: Author

Tailored/Structured Debt Models

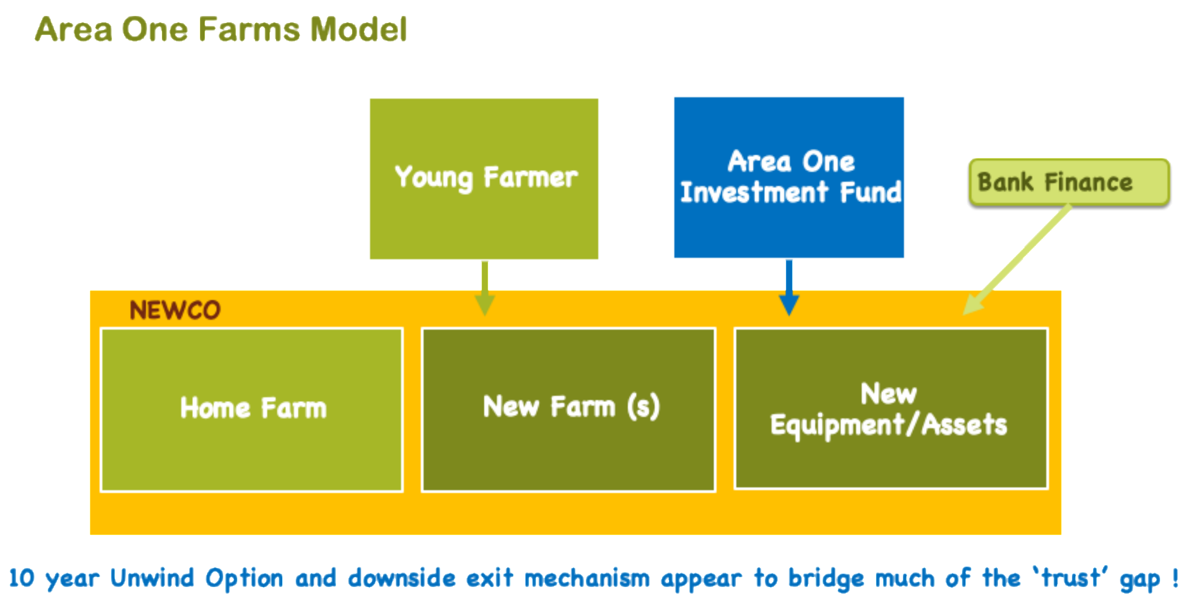
Another method of structuring capital for specific purposes has been to use bespoke debt profiles which may have better fit for purpose than conventional debt. This might include different time horizons, different costs, security or indeed in the case of convertible loans /preference equity which might have more limited or phased governance depending on position in the capital structure over time. These structures are usually established on a case by case basis and (like conventional equity) generally take more time to shape, negotiate and facilitate and, as a consequence, generally have a scale threshold. Ie they apply better to bigger businesses rather than small ones. The other challenge here is that debt options are usually competing with conventional commercial lending which tends to be relatively low across most mature agri sectors.

APPENDIX 2 – Case Studies

Case Study 1 – The Area One Farms Model

Background : Joelle Faulkner is a remarkable woman. An old university friend and colleague, a Rhodes Scholar, and the daughter of a dairy farmer from Ontario. Joelle started Area One Farms about 6 years ago, initially with some High Net Worth capital from a prominent Canadian media figure and has steadily built her business from there. She now manages >$200m worth of farming investments in Canada across about 10 investments. She has tailored a business model to the specifics of the Canadian farming sector which uses an integrated equity approach to create alignment.

Business Model and Structure: Joelle's model is targeted at younger expansionist farmers who have an owned farm base but are either subscale or want to grow their business. Under her model these farmers will go through a heavy screening process to establish track record, asset quality etc (basically convince her that they are top quartile farmers). They will also identify and propose acquisition opportunities nearby (usually from older farmers that are looking to exit) and together with Area One they will acquire these farms into a newco. The home farm will also be independently valued and integrated into the new company and the whole mix operated as a single entity with full alignment. Joelle will provide support at a governance, financing and reporting level whilst the farmers will focus on the farming operations. The basic agreement is to operate on this basis for at least ten years. At the ten-year juncture the farming partner has the opportunity to take back the home farm (at an independent valuation) and call for a wind-up sale of the other farms, or they can ask for a rolling 5 year extension. Area One also has the option to suggest an extension of the agreement if the partnership is working or they can also choose to wind up the JV and return the home farm (at independent valuation) and sell the new farms if they desire. If the farmer misses clear targets repeatedly (measured versus local average yields) within the ten year period this can trigger a right for Area One to accelerate the unwinding of the business before the ten year juncture.



My Opinion: It is an interesting model which provides young farmers with an opportunity to grow and operate a bigger, more efficient business. If they outperform they have the chance to benefit from seasonal performance and longer term asset value growth. They also have the extension options. And unlike most conventional shared equity structures they have the option to pull the home assets out of the partnership if they desire - and are protected on the home assets even in a termination scenario. I found this approach to be very innovative but it requires some heavy lifting to get agreements and structures in place although these would get easier with practice. Equity structures always worry me for when things go wrong, but Joelle appears to have thought this through with clear mechanisms to deal with these scenarios that give her optionality but also provide the partners with the comfort of protection on their home assets, except in cases of criminal activity. By Joelle's own admission they are still in relatively early stages and have not yet run through a full cycle with any of their partners but the logic and structure seem to be working so far.

Is there applicability for this model in the UK? Probably, is my initial view and it's certainly a clever and innovative model to watch. But it would require patient capital and someone with Joelle's patience and expertise to gather momentum. It is probably more suited to High Net Worth capital than conventional institutional capital which instinctively would be reluctant to give away negative control rights or devolve exit/unwind provisions to a minority shareholder.

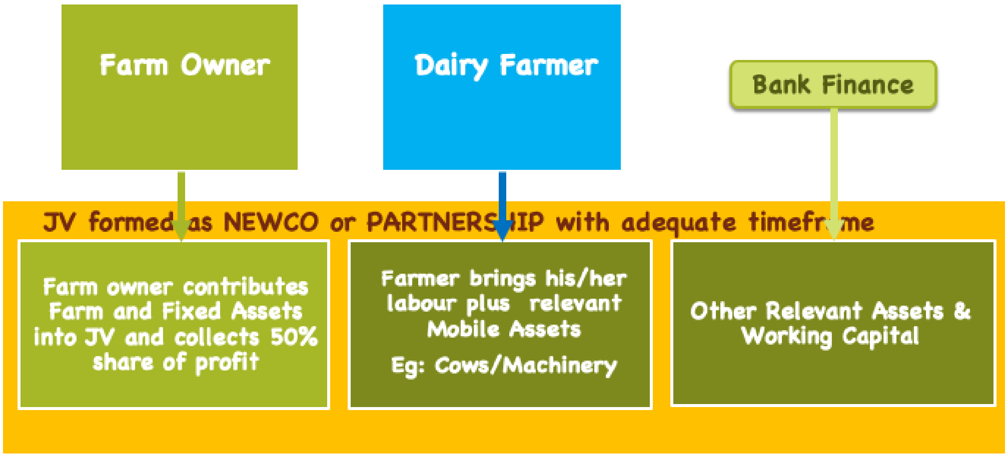
Case Study 2 – The New Zealand Share Milking Model

Background: I have always been intrigued and impressed by the structural evolution in New Zealand's dairy system due in no-small-part to the share-milking business model.

Business Model and structure: Younger farmers bring a mix of labour (sweat equity) and mobile assets (including cows) into arrangements with partners /investors who contribute the farm and fixed assets (parlour) to the table. The businesses are operated on an integrated basis whereby the farmers and the investors share profits 50:50. In practice it has been a win-win scenario which encouraged a whole generation of young farmers into the sector on a basis where they didn't need considerable pools of capital to get them going. Coupled with favourable production conditions and revolutionary management, dairy farming returns during the heyday of share milking were strong enough to support impressive returns to the operators and the farm owners.

My Opinion: I was told that this model created more millionaires in New Zealand than any other industry and that in many cases the share-milkers often ended up buying out the landowners at inflating land values in a win-win scenario. Has this model worked or been applied elsewhere? Offhand I found many examples of it being attempted in other regions but more limited evidence of significant success elsewhere. I'm also told that New Zealand's situation was very specific, notably the subsidy removal and distress out of the 1980s lowered land values whilst the effective marketing system set in place very compelling milk prices and thereby returns over an extended period.

Share Milking Structure



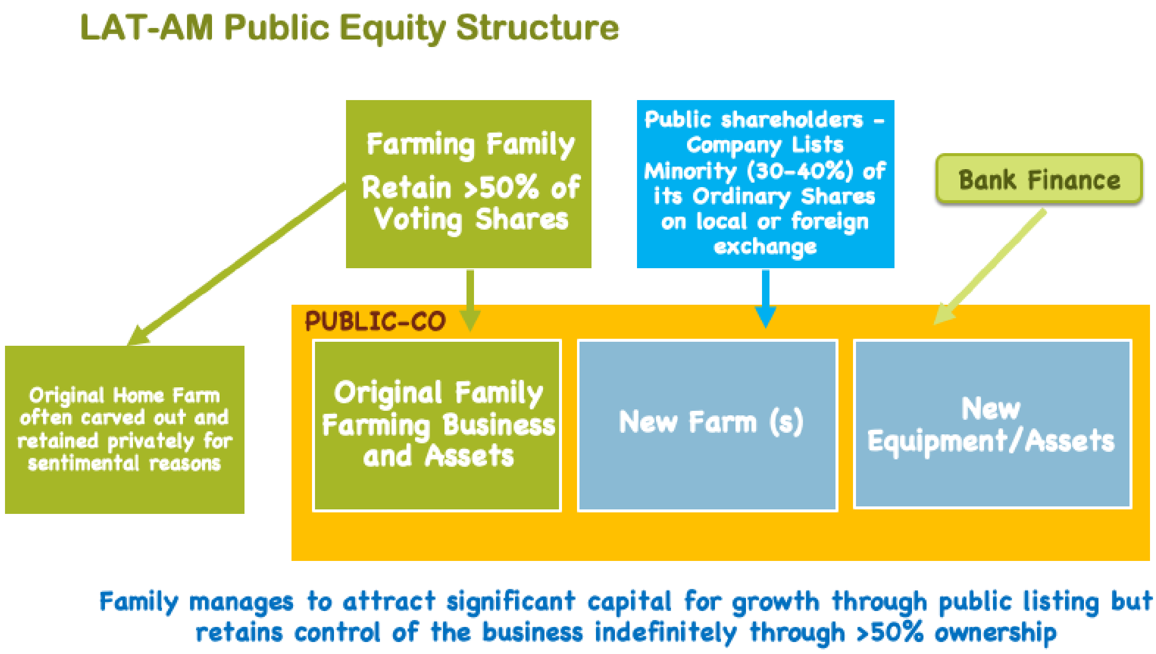
Share-milking allows a matching of heavy fixed assets by farm owner alongside the 'sweat equity' and mobile assets of the farmer with typically a 50:50 profit split

Is there applicability for this model in the UK? Yes, I believe that there is and have seen examples in action. The Norman brothers, Rich and Chris, in Herefordshire have expanded their successful family dairy business across two farms, one under a contract farming arrangement akin to a share milking system where the landowning partner has a long term aligned profit sharing arrangement, and another under a variable lease long term tenancy. I initially questioned whether the UK has the cultural and structural framework to replicate this type of model at this stage in time? Traditional landlord models seem to override the risk profile and I heard a number of stories where badly structured partnerships had gone wrong. However it seems that the Normans have successfully implemented a fresh, innovative and tailored approach. Interestingly, they acknowledge that their approach has been heavily shaped by experiences in Ireland and New Zealand.

Case Study 3 - The LAT-AM Public Equity Model

Background: I wanted to include this case study to illustrate the range of family farming models out there and demonstrate how some creative thinking and risk propensity and willingness to think outside the box has generated some very interesting family farming models.

Business Model and Structure: It has struck me how Brazil in particular (but Argentina too) has developed some of the largest farming businesses in the world and that most of these entities are essentially still family owned businesses that grew out of family farms. In many instances the asset bases of these farms have grown out over decades and generations. The family pride and history often at the forefront of these businesses and their retained control has in part been a key to their success. These models also developed through two other key factors: firstly a strong local political lobby and influence; and secondly the opportunity to acquire large asset bases (mainly farmland) in strategic regions at very low prices during periods of economic and political uncertainty. Stories abound on the Cerrado - Brazil's savannah region - about farmers moving up from Rio Grand do sul in the 1980s and acquiring hundreds of thousands of acres for a case of whisky or in some instances a carton of cigarettes. Those same land holdings now form the multi-hundred-million-dollar core asset bases of some huge private farming businesses such as Amaggi and BomFuturo. In other instances Family companies have listed a minority proportion of their shares on domestic and international markets - eg SLC Agricola; Sao Martinho; In both of these cases these farming businesses are still controlled by the families who hold >50% of the equity but they have managed to issue shares on local and international stock markets as a way of raising investment capital without losing control or diluting governance.



My Opinion: Many analysts criticize the relative illiquidity and limited trading volumes associated with these stocks/equities and performance has generally been muted - but the structuring has certainly benefited the families/companies in question. It remains to be seen whether this model gains further traction or gradually fades on the basis of lacklustre performance and limited governance.

Is there applicability for this model in the UK? Probably not given the relative scale differences versus the largest farming businesses here. And I suspect that a more cautious investor profile and relative availability of other opportunities would complicate things? Perhaps a handful of large producers and packers could justify a limited public listing and manage to retain control, but the key reason for including this was to illustrate some of the creative and very sophisticated models that have been developed in other parts of the world.

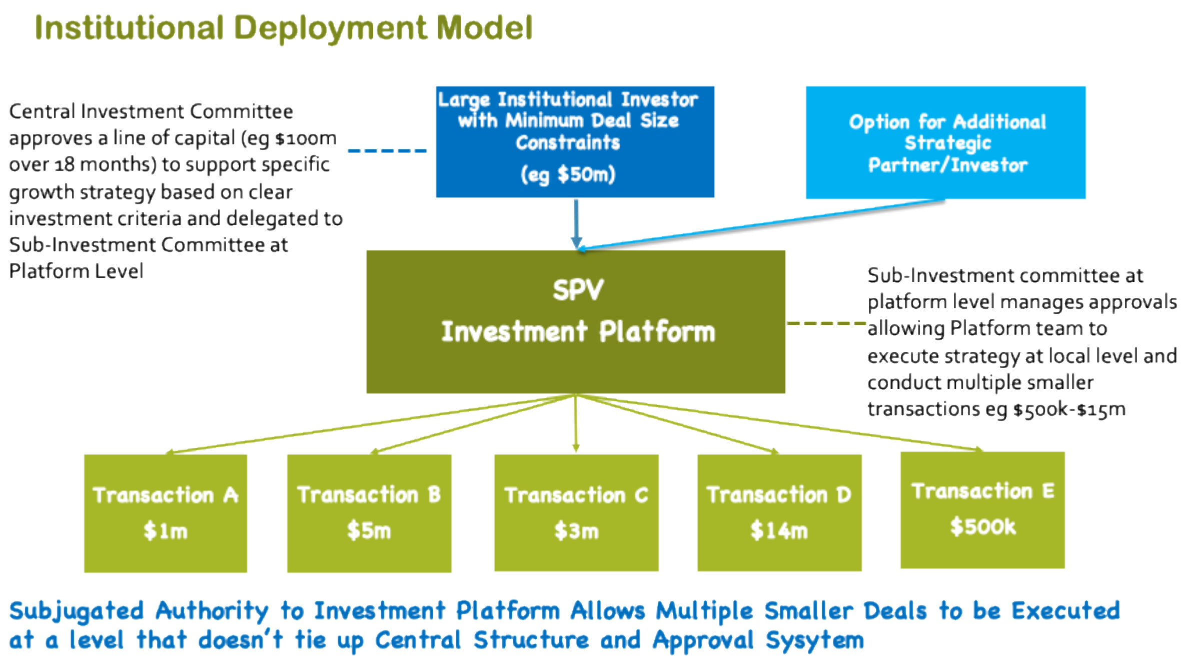
Case Study 4 – Institutional Investor Deployment Platforms

Background: I've included this Case Study structure with investors in mind as it directly addresses the challenges of scale. This variant has come up in a number of circumstances as a solution to address the offset between minimum capital thresholds at the investor level and many small deal sizes at the opportunity level.

Business Model and Structure: By establishing a localised platform with a dual role of local investment and operations, investors achieve their desired exposure at scale by agreeing and approving a large capital line around a broad strategy and then devolving it to the local platform to execute it. This has the benefits of being able to do many small deals at lower costs without impacting the heavy bureaucracy of the central investment organisation.

My Opinion: Historically I have set up several of these structures successfully where multi-hundred million-dollar strategies were able to deploy and grow through multiple smaller transactions in the $200k - $2m range. And over time I have seen other strategies begin to replicate this approach.

Is there applicability for this model in the UK ? Yes Possibly. If the general opportunity (based on return fundamentals) for institutional capital to enter the UK farming sector presents itself then creative structures to address secondary challenges of deployment scale and efficiency should be easier to develop and implement.



APPENDIX 3 - List of Key Discussions

UK

Richard Crane
Nick Tapp
Rob Rand
Doug Wanstall
Stu Philpott
Richard Copaz
Richard Janaway
Rich Norman
Chris Norman
Alan Buckwell
Paul Webster
Dieter Helm
Mark Laird
Richard Warburton
Henry Wilkes
Carl Adkin
Ed Morris
Ian Monks
Martin Gott
Ed White
Charlie Newton
Ed Barnston
Tom Rawson

Canada

Laurie Powers
Murray Gogel
Doug Emsley
Joelle Faulkner
Tom Eisenhauer
Steve Koekhoeven
Steve Yuzpe

USA

Justin Bruch
Tyler Bruch
Chris Erickson
Phil Christiansen
Chris Elliot
Chris Dowson
Archie Griffin
Max Nightingale
Martin Davies
Randall Pope
Jose Minaya
Aaron Rudberg
Bill Devens
Jeff Conrad
Oliver Williams
Tom Murray
Gabe Santos
Lutz Goedde
Greg Mellinger

Canada

Laurie Powers
Murray Gogel
Doug Emsley
Joelle Faulkner
Tom Eisenhauer
Steve Koekhoeven
Steve Yuzpe

New Zealand

Forbes Elsworthy
Nick Tapp
Andrew Waters
Prem Maan
Neil Woods

Brazil and Argentina

Michael Fiebelmann
Rodrigo Mugaburu
Carlos Agote
Fabio Venturelli
Itamar Locks
Joaquin Benes
Colin Butterfield

USA

Justin Bruch
Tyler Bruch
Chris Erickson
Phil Christiansen
Chris Elliot
Chris Dowson
Archie Griffin
Max Nightingale
Martin Davies
Randall Pope
Jose Minaya
Aaron Rudberg
Bill Devens
Jeff Conrad
Oliver Williams
Tom Murray
Gabe Santos
Lutz Goedde
Greg Mellinger
Peter Headley

Australia

David Robinson
Lex Greensill
Sean O'Reilly
Jock Whittle
Marcus Elgin
Tim McGavin

Peter Headley

Australia

David Robinson

Lex Greensill

Sean O'Reilly

Jock Whittle

Marcus Elgin

Tim McGavin

Phil Jarvis

Angus Ingram

New Zealand

Forbes Elsworthy

Nick Tapp

Andrew Waters

Prem Maan

Neil Woods

Brazil and Argentina

Michael Fiebelmann

Rodrigo Mugaburu

Carlos Agote

Fabio Venturelli

Itamar Locks

Joaquin Benes

Colin Butterfield

Alvaro Aguirre

Alvaro Aguirre

Europe

Adam Oliver

Frank Plessman

Chris Graf-Grote

Jos Lemmens

Esben Brandi

Jesper Jensen

Perry Huck

Aritza Rodero

Rob Appleby

Chris Mahoney

Phil Jarvis

Angus Ingram

Africa

Keith Butler

Mick Selby

Jeremy Selby

Nigel Dorward

Gavin Edwards

David Powter

Brian Jenkins

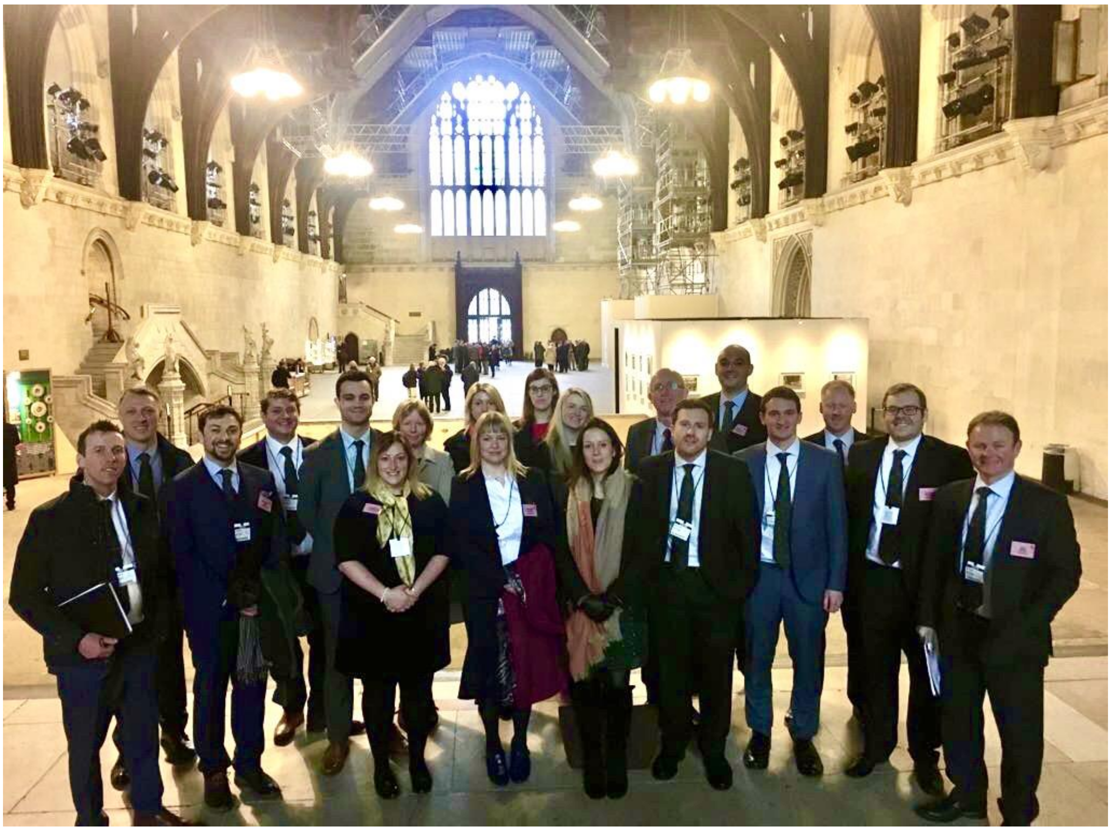
Brian Nugent

APPENDIX 4 – Selection of Nuffield Images

Getting back to our roots…

Nuffield CSC Global Class of 2018 in Rotterdam

Nuffield UK Class of 2018 in the Houses of Parliament



One way to look at farmland … Sao Paulo

Organic Beef, British Columbia

Tricky approach… Rocky Mountains

Farm Storage, Saskatchewan

Key Workers, Tasmania

Early Start, Bundaberg

Long Fibre Cotton, Matto Grosso

Conservation Farming, Zambia

Soyabeans, Matto Grosso

Canada in the Fall

Brachystegia and Maize, Zambia

Global Ag Conference, London

Young Olives, Portugal

Ancient Cork Oak, Portugal

Intriguing Signpost, Central Valley CA

Pacific Coast Highway, Nr Malibu

Global Ag Hospitality, New York

Soyabean Harvest, Iowa

Rest Day, Florida

Corn Harvest, Nebraska

Bearded Oak, Florida

Chicago Bling?

British Humour

Dutch Efficiency in Action

R n R on the Zambezi

Nuffield Conference 2020

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