Access to Finance

The Biggest Challenge in Converting The Intangible Into Tangible

A report for:

NUFFIELD IRELAND
Farming Scholarships

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Executive summary

To be successful can mean many things.

For some, it is climbing the corporate ladder within a large multinational organisation to achieve high-levels of wealth and living standards. For others, it is starting their own business from the ground up and seeing their family's name above a door on a high street shop or business. For a young person looking to accumulate wealth within a farm business from a standing start, then success is about growing net worth in terms of land and livestock while maximising profit through operational excellence.

What is the common denominator between these three examples of success? It is the successful conversion of 'intangible assets' into 'tangible assets'. The conversion of ambition into wealth. The conversion of determination into a profitable business.

Key Findings

Affordable finance is one of the most important factors in leveraging intangible assets to achieve ownership of tangible assets.

At present in Ireland, it is virtually impossible for young people who neither own land nor have a guarantor to access sufficient amounts of affordable finance to build equity. As a result, there is a substantial risk that the next generation of dairy farmers will be significantly reduced in number.

In New Zealand, there is an abundance of success stories of first generation farmers (i.e. not from farming backgrounds) succeeding in dairying and progressing through sharemilking structures to build high levels of equity. Mark Townsend, one of the most successful dairy farmers in New Zealand, states:

"*I notice that many of the young star performers on farms in NZ today were not raised on farms, nor did not leave school and go on farms. No. They educated themselves, learnt different skills and entered farming with no preconceived ideas*."[1]

1. Extracted from presentation titled *'12 Commandants for Wealth Creation in Agriculture'* by Mark Townsend.

If the Irish dairy industry is to become a dynamic growth-orientated world leader, it cannot afford to narrow its pool of talent only to those with access to land as collateral.

Recommendations

Sharemilking is a model which gives young farmers the structure to demonstrate their intangibles and progress from Lower Order Sharemilking ("**LOSM**") to: 50-50 sharemilking, building equity, creating wealth and also adding value for the land owner.

Ireland has not embraced sharemilking to the same extent as New Zealand, which enabled New Zealand to increase its national herd by over 1 million. There must be opportunities for young people, who do not have the capacity to provide the equity for 50-50 sharemilking, to begin as a farm manager or LOSM and progress to Variable Order Sharemilker ("**VOSM**") and then to 50-50 sharemilking. The engine which drives this progression for the young farmer is equity through livestock. Chattel mortgages is a vital part of this structure.

This Report recommends the establishment of a committee, with representatives from the relevant bodies, who will collaborate and produce a submission to the Minister for Agriculture on the implementation of chattel mortgages.

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Foreword

I grew up on a dairy farm in Claremorris, Co. Mayo where I developed a passion for dairying at a very young age. This gave me clarity on my career path. However, due to land fragmentation, a heavy soil type and scale, the family farm in Mayo was not suitable for dairying going forward.

I decided that I needed to enter a collaborative arrangement outside of the family farm to grow my own dairy business, but soon realised the barriers facing young farmers in applying for finance when they do not have any land to offer as collateral.

At the date of this Report, I am almost 4 years in business. The timeline is as follows:

- **2012**

  After completing my leaving certificate, I started a two year Certificate in Agriculture degree in Mountbellew Agricultural College.

- **2013**

  I won FBD / Teagasc National Student of the Year award.

  Halfway through my degree, the opportunity to lease my uncle's farm, a 35 hectare block in Caherlistrane, Co. Galway arose. This was my chance of farming independently.

  I set about obtaining finance to source 72 cows. Between December 2012 and March 2013, I had nine loan applications declined by banks before finally succeeding on the 10th attempt.

- **2014**

  Awarded a Nuffield Scholarship.

  After milking 72 cows in 2013, I began getting replacement heifers contract reared on a neighbouring farm. As a result, there was the capacity to expand cow numbers. I increased cow numbers and milked 100 cows.

- **2015**

  As part of my Nuffield Scholarship, I travelled to the United Kingdom, France, Germany, Poland, Czech Republic, Belgium, Italy, USA, Kenya and South Africa.

- **2016**

  I gained ownership of my first piece of land after purchasing 8 hectares which adjoins the land being leased from my Uncle Joe.

I leased the neighbouring farm which was contract rearing my replacement heifers - this allowed me to expand the herd to 220 cows.

I won FBD / Macra Young Farmer of the Year 2016.

- **2017**

  I took a lease on 2 additional farms - this brought the total area being farmed to 140 hectares and allowed me to expand to 300 cows, with potential for a further 53 cows.

Growing a herd from 0 to 300 cows in four years presented many challenges. The single biggest challenge however was obtaining finance.

As mentioned above, I was declined finance 9 times over a period of four months. Eventually, I had a loan sanctioned after my Uncle Joe agreed to act as guarantor.

My case is typical of other young farmers looking to establish a career in dairying, but not every young person will have a family member willing and / or able to act as guarantor. If my uncle had not provided a guarantee for me, I would not be in Ireland as I write this report (2017).

After my personal experience in starting up a dairy business, I became interested in exploring structures which would allow young farmers better access finance to start and grow equity without requiring ownership of land. My Nuffield scholarship has presented the opportunity to do exactly that.

I would like to sincerely thank my sponsors, Aurivo, for their support.

Acknowledgements

Firstly and most importantly I would like to thank my family for the support given to me during my scholarship. In particular, I would like to thank my father, John and my uncles, Joe and Michael, for looking after the farm while I travelled - this favour merely added to an already long list. I also want to thank my sister, Marguerita, for her endless support.

I would like to thank Geoff Dooley, my Nuffield mentor. When you google 'mentor' it says 'an experienced and trusted advisor', which epitomizes Geoff. I will be eternally grateful to Nuffield and in particular Bill O Keefe and John Tyrell for giving me the opportunity and for the endless amounts of work they do for all scholars. The Nuffield experience is what it is because of this work.

One of the most pleasurable aspects of being a Nuffield scholar is the people you meet along the way - my global focus comrades (Derek, Andrew, Adam, Tom, Baptiste, Sharon and Han),my 2015 fellow scholars (John, Joe, Brian, Aidan, Maire and Maeve) and all the Nuffield alumni.

I want to thank everyone who helped me in producing this Report via interviews, contacts, advice etc. There are a lot of people who were very generous with their time - Paidi Kelly, Kevin Twomey, Pat Ryan, Kevin Coffey, Andrew Gow, Shane Fitzgerald, David Murphy, Jean Lonie, Peter Young, Matt Ryan, David Baker, Eamonn O'Reilly and Tadgh Buckley, to name but a few.

I am sincerely grateful to both Sean Coughlan and Brian Reidy for helping prepare me for the interview process for the scholarship.

Again, I would like to thank my sponsors, Aurivo. The sponsorship is a fantastic representation of the West of Ireland and our role in Irish agriculture.

Abbreviations

BES	Business Expansion Scheme
CIA	Central Intelligence Agency
DIF	Designated Investment Fund
EIIS	Employment Investment Incentive Scheme
EU	European Union
FH2020	Food Harvest 2020
FSA	Farm Service Agency
GIIL	Glanbia Ingredients Ireland Limited
KPI	Key Performance Indicator
LTV	Loan to Value ratio
MFI	Micro Finance Ireland
ROI	Return on Investment
YESS	Young Entrant Support Scheme

Objectives

This Report aims to:

- identify the barriers in establishing high levels of equity for young farmers who do not own land and do not have collateral
- assess the alternative options available to such farmers, and
- highlight the economic importance of a dynamic, growth orientated, dairy industry which justifies the recommendations set out in this Report.

Methodology

This Report was produced on the basis of 36 executive interviews in 12 different countries. It is also substantiated by information retrieved from EU Financial Instrument conferences, previous Nuffield International reports which relate to the topic, as well as reports and pre-budget submissions from farm lobbyist groups in different jurisdictions.

The author toured seven countries within Europe - Ireland, the United Kingdom, France, Belgium, Poland, Czech Republic and Italy. There was over 20 executive interviews conducted in the USA over the course of 3 weeks. The author also travelled to Kenya and South Africa as part his research for this Report.

Introduction

As opined above in the Executive Summary, success for a young person looking to accumulate wealth within a farm business is about growing net worth in terms of land and livestock while maximising profit through operational excellence. This is achieved by the conversion of 'intangible assets' into 'tangible assets'.

The question is - if you are a young farmer with no collateral or land, then how do you convert the intangible into tangible in order to achieve wealth?

After conducting many executive interviews the report finds there are a number of key components.

'*People think of education as something they can finish*' - Isaac Asimov.

On-going education and self-development, mentorship, access to good extension and research, structurally correct collaboration i.e. share milking, equity partnerships etc., were only some of the key components identified in achieving wealth. H

However, this Report evidences that one of the most important 'converters' is access to affordable finance. This in turn has resulted in being one of the greatest barriers facing young farmers.

Figure 1: Road Map to Achieving Wealth

Young farmers should be able build equity within certain structures and collaborative arrangements. When looking for a country to benchmark against in terms of structures which allow young people build equity through livestock and climb a ladder, New Zealand is the most prominent. There were 3 million dairy cows in New Zealand in 1982. This increased to 4.2 million in 2007[2].

It became clear to the author during numerous interviews with farmers at each stage of the roadmap in the above diagram, the greatest barrier they face is obtaining finance. Traditionally in Ireland bank lending policy is 70% 'loan to value' ratio. This means that for every €70,000 euro paid out, the bank requires €100,000 worth of collateral. Land is the most commonly used form of collateral. Unlike countries such as the USA and New Zealand, Irish legislation does not enable banks to take livestock as a form of collateral.

There has been an emergence of alternative funding models. In recent times there have been record low interest rates on deposit accounts, with some even placing negative interest rates on deposit accounts with large sums. Bank of Ireland are to place a negative interest rate on deposits exceeding €10,000,000[3]. Initiatives such as EIIS, Crowdfunding and other ways of channelling private investment into farms are being explored.

Once finance is obtained, whether it is sourced from banking finance or private finance, the farmer must achieve a ROI (Return on Investment) greater than that of the cost of the finance. The goal should not be to just meet repayments. If real wealth is to be leveraged from the young farmers 'Intangible' assets then they must realise the power of compound.

"A lump sum of $20,000 will compound to $5.36 million over a working lifetime of 40 years if invested at 15%, compared with a meagre $140,000 if left on the 'going nowhere' 5% pathway."[4]

2. New Zealand official yearbook, 2008.

3. Irish Times Report, August 2016.

4. Ryan, pathways to wealth creation

Intangible assets

Young people looking to obtain finance and grow wealth must have the ability to leverage their intangible assets in order to obtain tangible assets. Intangible is defined as 'not tangible; incapable of being perceived by sense of touch'. Something you cannot visibly see or touch. Examples of 'intangible assets' are ambition, determination, discipline, punctuality, clear thinking, positivity etc.

To get and keep a job you typically need a repertoire of technical skills. Dentists need to know how to fill cavities, secretaries need to be able type 100+ words per minute, and accountants need to be certified. In all three examples, tangible skills are required. Beyond the technical/tangible skills, which dentist do you go to? The one who is pleasant and takes time to answer your questions; or the one who treats you like a number in a long line of numbed mouths? Which secretary do you retain when times are lean? The one whose attitude is positive and upbeat, and who is always willing to help; or the one who is inflexible and has a hard time admitting mistakes? Likewise, think about accountants. The one who has a great work ethic and encourages his/her colleagues is the one who will, most likely, excel in his/her position and organisation. This shows the importance of intangible assets.

Having a dream

"*It is those who start with why that have the ability to inspire those around them or find others to inspire them*".[5]

In her paper on wealth creation in the dairy industry in New Zealand, Lynaire Ryan states that the first of five steps to achieving wealth is having a dream and purpose. The other four being: build a pool of money, educate yourself, invest your money well and magnify your borrowing with sensible return.

"*In dreams begin responsibility, overcoming negativity and naysayers is what makes dreams real*."[6]

5. Sinek 2011

6. Obama, 2011

The journey from intangible to tangible begins with clear thinking and having a dream. To have clarity on dreams and goals will simplify decision making along the way.

During an interview with Geoff Dooley in January 2017, he described the importance of knowing where you are at the beginning of the journey in order to achieve your dreams and get to the final destination. 'If you are trying to get to Dublin, how will you navigate your way there without knowing where you're starting from'. In order to get from A, A being the point at which you determine your dreams/goals, to B, B being the point at which you achieve them, you must understand fully what A is.

For young farmers it may be to evaluate their financial health, what are their skills, knowledge, strengths and weaknesses. Many people become too enthralled by their point B to actually evaluate point A.

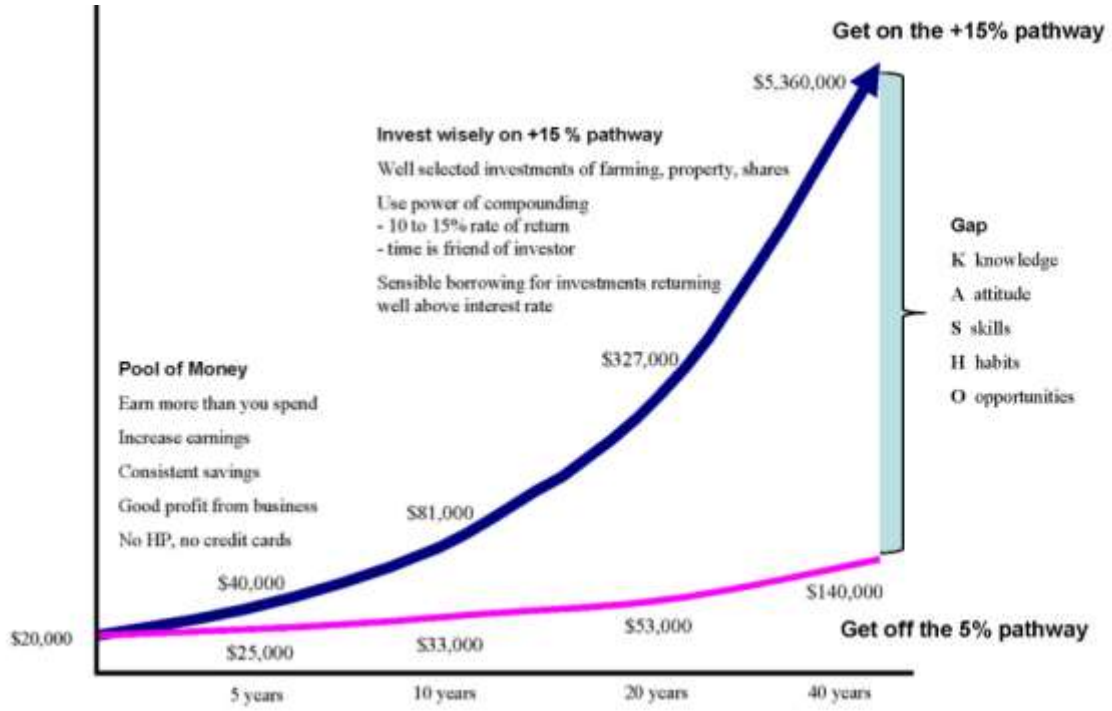
> "*The size of your dreams must always exceed your current capacity to achieve them. If your dreams do not scare you, they are not big enough."*[7]

7. Ellen Johnson Sirleaf.

Return on Investment and the Power of Compound

Table 1: Wealth creation pathway (Ryan, 2014)

$20,000 invested, 15%ROI vs 5%ROI



In her paper on wealth creation, Lynaire Ryan describes the power of compound and importance of ROI.

'Learn to invest wisely on the +15% pathway. Invest in appreciating assets or good businesses such as rearing calves, sharemilking cows, leasing cows, house rental properties, commercial property and well selected shares. Money spent on machinery, cars, sound systems or the latest TV or mobile phone is not an investment. These are depreciating items and they lose value.' (Ryan, 2014).

'Money flows from those who do not value it to those who do, when asked, 90% of people say they aim to gain financial independence, yet only 0.3% of people actually achieve it'. (Dooley, 2017).

The power of compound is compelling.

Table 2: Wealth creation pathway (Ryan, 2014)

Annual savings for 5 years	Investment %	Sum after 5 years 2015	Sum after 20 years 2030	Sum after 40 years 2050	5% return for 5 years then 15%
$10,000	15%	67,423	548,625	9,000,000	5% initially then 15% $7.4m
	5%	55,256	114,873	304,792	
$20,000	15%	134,846	1,097,250	18 000,000	5% initially then 15% $14.7m
	5%	110,512	229,746	609,584	
$50,000	15%	337,225	2,194,500	45,000,000	5% initially then 15% $36.8m
	5%	276,280	574,366	1,523,961	

It is sensible to borrow provided that ROI is higher than the interest rate on the borrowings, this way you have a greater pool of money working for you.

The table below shows how you can increase your return on equity by borrowing money and delivering a ROI greater than the interest rate of on the borrowings.

The following example from Ryan's paper in 2014 shows a 50-50 sharemilker generating a 16% return on asset from the operating profit on their business. In this example the sharemilker has $800,000 worth of assets, of which they own $350,000 (their equity) and they have borrowed $450,000 from the bank at 8% interest. Because the sharemilker is earning a higher return on their asset than they are having to pay for the loan (i.e. earning 16% while only paying 8% interest), then the return on their equity lifts to 26%. They have leveraged their returns up by sensible borrowing.

Table 3: Wealth creation pathway (Ryan, 2014)

Return On Dairy Assets	*Return On Equity* *Assume $450,000 borrowed at 8% interest*
ROA = $\frac{\text{Operating Profit x 100}}{\text{Asset Invested}}$	ROE = $\frac{\text{Operating Profit minus interest x 100}}{\text{Equity Invested}}$
= $\frac{\$128,000 \times 100}{\$800,000}$	= $\frac{\$128,000 - \$36,000 \times 100}{\$350,000}$
= 16%	= 26%

Obtaining finance

Accessing finance and generating a high ROI on it is what converts intangible into tangible yet it is the greatest barrier young people face on their journey.

The New Zealand sharemilking model works very well because young farmers are able to prove themselves while working as a farm manager and can then obtain banking finance to purchase cattle, using the cattle as collateral. This is referred to as a 'chattel mortgage'.

Banks operate a 70% LTV, which is important for keeping a low risk profile in order not to return to the devastation of the banking crisis of 2009. The issue is not with the LTV ratio, but rather what qualifies as collateral.

Private investment is an alternative to banking finance. There are incentives for Private investment such as:

- Tax relief for investors - availability of schemes which enable investors to reduce their personal tax bill by investing in SME's; and
- Government enterprise initiatives - aimed at stimulating economic growth and increasing employment.

The following section of the Report assesses the finance options available to young farmers. It covers: (i) banking finance; (ii) private investment / alternative finance; (iii) sharemilking and chattel mortgages.

Banking finance

The Five 'C's of Credit

When approaching financial institutions, it is important to remember the five 'C's of credit:

- Character
- Capacity
- Capital
- Collateral
- Conditions.

To the extent collateral is an issue, the other 'C's must be over delivered - none more so than character.

Character

"*If you were to ask me to define a good banker, it is someone who has a good judge of character*".

Bounds, K (December, 2015)

When lenders evaluate character, they look at:

Stability	Achievements	Credit rating

Management ability	Presentation	Education
Mentorship	Previous experience	Qualifications
Good track record	References	

Capacity

Capacity is the ability of the borrower to repay a loan.

For established farmers looking to expand, they must realise that their current account history is the most effective way for a lender to determine this. Strong accounts from previous years are essential in painting a positive image to a lender. The farmer must demonstrate good planning in all areas of finances. Particularly in respect of taxation - showing proof of a good, proactive relationship with a respected accountant.

For young farmers looking to start up, the case is made via a strong, realistic and comprehensive business plan. To formulate a business plan capable of convincing a lender to sanction a loan, a credible third party who is willing to put their stamp of approval on the plan is necessary.

"*The farmer must have all figures and stats within the plan on the tip of his/her tongue and know their plan*". Fry, L (December, 2015)

The plan must be conservative in all assumptions, there should be a comprehensive sensitivity analysis built into it and it should demonstrate a 'worst case scenario'. By doing so, the farmer gives himself/herself the ability to over-deliver and under-promise.

In order for a lender to accurately assess repayment capacity, they should be provided with 24 month on month cash flow projections - this is necessary as most business planners only show year-end cash flows.

Farming can be a very cash hungry business at certain times of the year, for example, a plan can show a surplus in December of €30,000 yet in April run a deficit of €50,000. Cash flow planning helps determine working capital required. Having the right level of working capital ensures all commitments are met and creditors are paid on time, which helps build strong relationships going forward.

Lessons from Business Planning on the Greenfield Farm, Kilkenny

The following lessons are extracted from the Greenfield Open Day booklet, 2011:

1) The best time to expand is during lower milk price years when you are much more motivated to negotiate better deals and when other farmers are not spending. Build a war chest of funds for these occasions.

2) The need for very close monitoring and recording of all activities that are part of any expansion development (loads of stone, loads of concrete, contractor hours, depth of concrete, quality of material from quarries etc.) cannot receive enough emphasis.

3) The temptation to include additional work (extra development,) not in the expansion budget is great. A large amount of unplanned small capital spends will cause significant deviations from the plan and may cause cash flow problems.

4) Make sure that everybody involved in the operation is fully familiar with the detailed business plan and create monthly accounting procedures to compare budget to actual position within a week of the end of each month.

5) During expansion, a farms financial position will remain very tight and this will continue until expansion is complete and a high level of operational performance is achieved.

Capital

Capital refers to net worth — the value of assets minus liabilities. Capital is more applicable to established operations.

The main factor which affects capital as a 'C' of credit is a healthy balance sheet. The borrower should have a strong debt to equity ratio or net worth. This assures lenders the borrower is not becoming over leveraged or exposed.

Collateral

Collateral is one of the main obstacles when applying for credit.

As outlined above, the general lending policy with banks is 70% LTV. While this is important for banks maintaining a low risk profile, there is an issue with what qualifies as collateral. In America and New Zealand, livestock is commonly used as collateral. By comparison, Irish

legislation makes it difficult for banks to take security over livestock and therefore restricts the banks from offering chattel mortgages.

As things stand in Ireland, a young farmer's best chance of obtaining collateral is through guarantors, typically land owners. Some of the most successful farmers in Ireland have had family members to guarantee their start-ups outside the family farm -

"*I was 21 going on 22 when my parents helped me negotiate buying this farm with the bank. That is what I would see as a commonality between successful farmers, we got control of it very young.*"[8]

However, it does not necessarily have to be a family member who can act as guarantor. A landlord or previous employer are also potential guarantors.

If it is your intention to secure a loan via a guarantor, you must recognise who that guarantor most likely will be and spend years building trust and developing that relationship, whether it be family or not. Walking in the door of the bank is one of the final steps of the process, not the first.

Conditions

Banks generally consider a number of external circumstances that may affect the farmer's financial situation and ability to repay, for example what's happening in the local economy, the dairy industry and competition.

Terms

Currently, banks offer finance for their products on different terms. In general, the following terms apply[9]:

Area	**Term**
Land	20 years
Buildings/Infrastructure	15 years
Stock	7 years

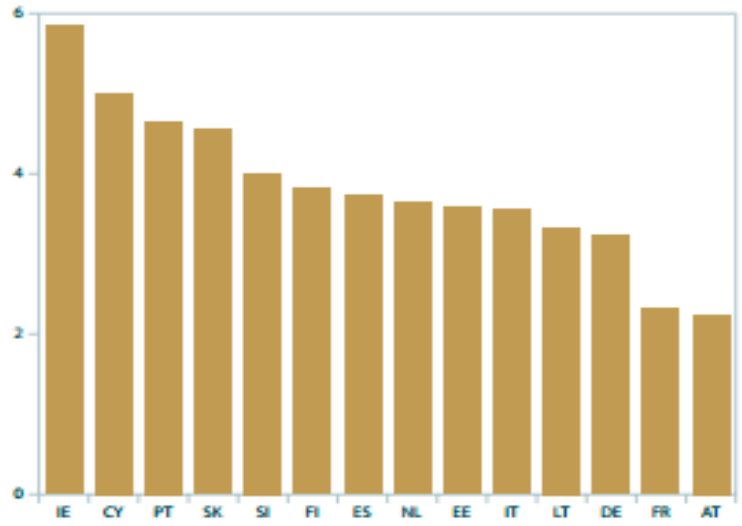
8. Twomey, K (2013)

9. O'Reilly, 2015

"*Irish financial institutions view livestock as a short term investment, however livestock is the asset with the highest return and highest rate of appreciation when offspring are taken into account. 7 years is too short term for young farmers looking to grow from a standing start if they have to invest in on farm infrastructures and facilities also*."[10]

Interest rates

There is an all-time low on interest rates at the moment as a result of the global recession experienced in 2009. The following table compares interest rates being offered on SME lending across Europe. It is for amounts of up to €250,000, for non-corporate entities.



Source: ECB Monetary and Financial Statistics.

Ireland has the highest interest rate at 5.8%, while Austria is lowest at 2.2%.

The Euro Interbank Offered Rate, known as the Euribor, which is a daily reference rate, published by the European Money Markets Institute, based on the averaged interest rates at which Eurozone banks offer to lend unsecured funds to other banks in the euro wholesale money market was negative for periods of 2015. The evidence suggests that the Irish banking sector has become uncompetitive.

10. Waldron, J (2013)

SBCI (Strategic Banking Corporation of Ireland)

Product Features

- Available for investment by agricultural SMEs involved in primary agricultural production, the processing of agricultural products or the marketing of agricultural products
- Lower interest rates
- Loan amounts up to €5m
- Minimum loan maturity of 2 years.

In addition, subject to the relevant financial institution's credit policies and procedures, the following features may also be available to qualifying SMEs:

- Repayment schedule flexibility
- Loan maturity of up to 10 years
- Facility maturity tailored to correspond with investment life cycle

Example – Agriculture Investment Loan

The Facts: A dairy farmer in Tipperary needs to invest in a new milking machinery to increase the productivity of the farm. A new robotic milking machine will cost €130,000 (including installation). It has an estimated lifespan of 15 to 20 years.

Existing Products: In this scenario, without the SBCI, the SME's bank may approve a term loan of €130,000 at their standard agricultural term loan rate of 6.95% interest (for example purposes only).

SBCI Loan: The SBCI agricultural investment loan, provided through its on-lender, is approved at 5.00% over a 7-year repayment term (for example purposes only).

The reduced cost of the SBCI loan is illustrated below:

	Existing Products	SBCI Product
Facility Amount	€130,000	€130,000
Interest Rate	6.95%	5.00%*
Loan Term	7 years	7 years
Monthly Repayment	€1,959	€1,837
Total Cost of Credit	€34,545	€24,342

** Estimated SBCI nominal rate. SBCI rates may vary by On-Lender and according to loan size and other factors. Repayments calculated on basis of constant payments and constant interest rate.*

Summary of Eligibility & State Aid

- Available to qualifying SMEs
- Borrower must submit a written loan application before work on the project or activity commences along with a list of costs.
- Loan amount must not exceed 1.5 times the amount of eligible costs (as defined in Commission Regulation (EU) No 702/2014 of 25 June 2014), as follows:

a. the construction, acquisition, including leasing, or improvement of immovable property;

b. the purchase or lease purchase of machinery and equipment up to the market value of the asset;

c. general costs linked to expenditure referred to in points (a) and (b), such as architect, engineer and consultation fees, fees relating to advice on environmental and economic sustainability, including feasibility studies; feasibility studies shall remain eligible expenditure even where, based on their results, no expenditure under in points (a) and (b) is incurred; and

d. acquisition or development of computer software and acquisitions of patents, licenses, copyrights, trademarks.

The following costs are not eligible:

a. costs, other than those referred to in paragraph (a) and (b) above, connected with leasing contracts, such as lessor's margin, interest refinancing costs, overheads and insurance charges;

b. working capital; and

c. VAT (except where it is non-recoverable under Irish law).

- The aid intensity or total aid resulting from a loan shall not exceed 40% of the amount of the eligible costs.
- Investments shall be in conformity with EU legislation and with Irish law on environmental protection under the Protection of the Environment Act 2003.
- Loans may be advanced to support investments in tangible assets or intangible assets on agricultural holdings linked to primary agricultural production or processing of agricultural products and the marketing of agricultural products.
- Where the loan is to support investments in tangible assets or intangible assets on agricultural holdings linked to primary agricultural production, the investment should pursue at least one of the following objectives:

a. the improvement of the overall performance and sustainability of the agricultural holding;

b. the improvement of the natural environment, hygiene conditions or animal welfare standards, provided the investment goes beyond EU standards;

c. the creation and improvement of infrastructure related to the development, adaptation and modernisation of agriculture;

d. the achievement of agri-environmental-climate objectives;

e. The restoration of production potential damaged by natural disasters, adverse climatic events, animal diseases, plant pests and the prevention of damages caused by those events.

Summary of Excluded Activities

- Finance of specific export operations, or finance contingent upon the use of domestic over imported products. In particular, it should not apply to financing the establishment and operation of a distribution network in other States, or current expenditure linked to the export activity.
- Loans to support investments required to comply with EU standards in force.
- Loans to an undertaking which is subject to an outstanding recovery order following a previous Commission Decision declaring an aid illegal and incompatible with the internal market.
- Loans to undertakings in difficulty.
- Loans to support the purchase of production rights, payment entitlements and annual plants.
- Loans to support the planting of annual plants.
- Loans to support drainage works.
- Loans to support the purchase of animals.
- Loans to acquire land.

(SBCI)

Although the SBCI offers a keen concession on interest rate it does not fully address the issue of securitisation or livestock lending.

Private Investment / Alternative Finance

Private investment is a very viable option - with best practice and the right personnel in an average milk price environment, dairy farms can generate a very attractive return when profits, equity accumulation and asset appreciation are taken into account.

All around Europe banks are beginning to place a negative interest rate on deposit accounts with large sums.

From October 2016, Bank of Ireland announced they are to charge 0.1% on deposits above €10million.

Farm lobbyist groups need to work to establish intermediaries to channel and administer these funds between investors and farmers. Finance Ireland, Aurivo, GIIL, FBD, FDC, IFAC are a number of potential intermediaries. Fund managers have expressed the difficulty in attracting investment funds into agriculture:

"*Investors tend to want returns in the region of 10 fold in 3-5 years, because typically 85% of their investments will fail, they get their money back on 10% of their investments and need a 10 fold return in 3-5 years to cover the loss on the other folios*."

(Dooley, 2017')

Employment and Investment Incentive Scheme

Formally known as BES (Business Expansion Scheme), this scheme offers investors tax relief up to 40% of the amount they invest into the scheme. The borrower repays the capital in a lump sum after 4 years. EIIS has replaced the Business Expansion Scheme (BES).

From the investor's point of view, this can be hugely beneficial to significantly reduce their tax bill. The scheme allows an investor obtain tax relief up to a maximum of €150,000 per annum up to 2020. The investor is entitled to a relief of 30% initially and an additional 10% at the end of the 4 year term if the company obtaining the finance can provide proof of increased employment during the term.

'An investor who cannot claim relief on his/her investment in a year of assessment, either because his/her investment exceeds the maximum €150,000 or his/her income in that year is insufficient to absorb all of it, can carry forward the unrelieved amount to the following years up to and including 2020'. (IT55, Revenue)

Investors can invest their money through a Designated Investment Fund, operated by a fund manager. This is where a number of investors are pooled together and their money is invested in a number of different ventures, thus diversifying and reducing risk.

From the borrower's point of view, EIIS is a relatively cheap way of funding an investment and does not require collateral. The business must be registered as a limited company. EIIS provides a good avenue for the farmer's family and friends to invest in him/her in order to achieve tax relief - a win, win. However there are challenges. The two areas which can be difficult to get around are:

Term

It is not realistic to expect a start-up or expansion project to repay all principal at the end of year four. One way around this is to use the four year period to 'paint a picture' to your bank and build a track record, they can then part fund the principal repayment to the investors. Should this be the intention of the farmer, it is important that he/she communicates with their bank on a regular basis throughout the four year period to demonstrate their ability to grow the business and achieve key performance indicators.

Some farmers say they meet their bank in January with a projected 12 month budget, then meet again in June and year end to discuss budget vs actual. You must have an excellent track

record, credit rating and reputation for them to do so. The farmer must be very conscious of this during the four years within the EIIS.

Attracting investors

Intermediaries and fund managers have hinted the major challenge in applying EIIS to agriculture is to convince investors that young and expanding farmers are a safe investment. The commonality in attracting investment whether it be from banks or investors is the ability to sell yourself. Possession of good interview skills, persuasive presentation style, strong business plan, awareness of the business/proposed business and financial acumen are vital.

The author conducted a number of interviews with successful young farmers who built high levels of equity through livestock, the common denominator between these farmers was they built equity through buying young stock and reared them while employed as farm mangers or assistant managers. This allowed them acquire unsecured banking finance, in some instances up to €80,000.

The following assesses the viability of EIIS to be the third step for young farmers who have achieved:

- Step One - building replacement/young stock numbers through savings and rearing them); and
- Step Two - unsecured lending.

Example – Case Study

The following assumes:

- the farmer has 30 cows, 30 maiden heifers and 30 heifer calves (Step One), plus
- 55 cows purchased from €80,000 of unsecured bank finance (from Step Two) on a 10 year term at 6% interest per annum
- the farmer obtained €500,000 of EIIS funding
- the farmer leases 100 hectares on a long term lease at an annual cost of €445 per hectare with subsidies handed back to the land owner.

Variable and fixed costs were sourced from The Greenfield Farm (budget 2016) with exceptions being made for labour, land lease and depreciation.

MILK SALES	332732	385000	410000	425000
LIVESTOCK SALES	48246	48550	48550	54000
TOTAL	380978	433550	458550	479000
VARIABLE COSTS	185498	185498	185498	185498
GROSS MARGIN	195480	248052	273052	293502
FIXED COSTS	108650	108650	108650	108650
BANK REPAYMENT	6000	10869	10869	10869
LIVING EXP.	18500	18500	18500	18500
HEIFER REARING	22500	40500	40500	44000
CASH SURPLUS	39830	69533	94533	111483
TAXATION	1900	4875	8004	10122
CUMULATIVE CASH		102588	189117	290478

The above sample demonstrates the viability of a 250 cow well-managed dairy farm. It is calculated at a milk price of €4 per kilogram of milk solids. The plan generates a viable return as a result of the investment into cattle and grazing infrastructure such as roadways, reseeding, water etc.

Of the €500,000 EIIS funding - €250,000 was allocated to the purchase of 165 cows which brought the total number of cows to 250. It assumes the cows deliver 332 kilograms of milk solids per cow in year one and increases to 425 kilograms of milk solids per cow by year four. The farm is stocked at 2.5 cows per hectare. Assuming the cow will need her kilograms of solids times 12 in dry matter each year the plan projects there is a requirement to utilise just under 9 tonnes of dry matter in year one.

At 80% utilisation, the farm must grow 11.25 tonnes of dry matter per hectare to achieve this. By year four this increases to 11.5 tonnes utilised per hectare and little over 14 tonnes per hectare grown. All very achievable targets under good grassland managements. This budgets for 10% of the cows total annual feed to be imported in the form of concentrates or fodder.

As can be concluded from the above exercise, operational excellence is crucial. The plan is only viable if leasing a farm with some wintering and milking facilities already on it. In this scenario the young farmer is going to the bank at the end of year four looking to finance 42% of the original amount borrowed from the EIIS having accumulated 58% in cash while honouring all other commitments. The farmer has demonstrated repayment capacity during the four years while gaining a substantial track record and with it, credibility.

"*There is an opportunity within them 4 years to build a solid relationship with your bank*" (Bell 2015).

To the extent the structure had run for an additional year, the young farmer would have 80% of the cash, requiring just 20% to pay back the investors.

The table below gives a breakdown of the costing of a Greenfield site of considerable scale. The start-up costs of the Greenfield Farm in Kilkenny were used.

Table 4: Greenfield costings (2010)[11].

ITEM	DESCRIPTION	PROJECTED	ACTUAL
STOCK	265 lactating cows @ €1300 70 heifers @ €1200	€344,500 €110,500	€389,268 €84,000
Reseeding of farm	117 ha, one pass till, sow, roll + grass seed + fertiliser	€35,000	€48,589
Fencing	20,000 m @ 90c per meter	€17,500	€17,617
Water supply	40 water troughs + 7 km water pipe laid + water store + Boring the well	€26,500	€29,040
Infrastructure	Stand-off pad, Earthen bank tank, roadways, site work, gate, tank fencing, bark mulch, Head feed, calf shed, gates, yarding.	€176,400	€326,738
Milking parlour	30 unit herringbone, shed, dairy, collecting yard, office, wiring, plumbing, heating	€196,140	€228,709
Silage slab	Silage bases	€16,300	
Feed bin			€4,000
Electricity supply	3 phase transformer + connection fee	€9,742	€8,584
Machinery	Jeeps and tractor	€20,000	€16,230
Labour	Labour from start to December	€3,500	
Planning	Drawings, site assessment, mapping, planning application, council development fee	€20,000	€12,770
Working capital	Feed	€19,000	€24,800
Office	Computer, farm package, phone connection, broadband etc.	€5,000	€25,688
Company	Set-up plus legal		€5,705
Contingency	10% allowance to allow for unexpected costs that may arise	€99,968	€8,669
VAT Paid Total VAT back			€86,000 €1,316,408 €77,400
Net capital		€1,100,000	€1,239,008

11. Kilkenny Greenfield open day booklet (2011).

It also emphasises the importance of planning, budgeting and monitoring.

"*As a farmer carrying out capital works you are a project manager as well as an operations manager*". (Ryan, 2015)

The following table details the financials of the Greenfield farm for the first six years of business, projected and actual.

Table 5: Year end cash surplus, projected vs actual.

	Year 1 (2010)		Year 2 (2011)		Year 3 (2012)		Year 4 (2013)		Year 5 (2014)		Year 6 (2015)	
	Projected	Actual	Projected	Actual	Projected	Actual	Projected	Actual	Projected	Actual	Projected	Actual
Farm Receipts (€)	380,397	397,949	419,132	567,323	458,657	573,666	490,029	725,910	512,089	690,090	534,140	600,028
Total Costs (€)	387,462	397831	445,888	537,640	460,015	527,654	454,996	608,626	462,432	593,392	463,984	551,706
Net Profit (€)	-7,066	118	-26,756	81,433	-1,057	45,323	35,034	90,283	49,656	100,898	70,156	69,122
ROI	-			9		6	7	10	7	11	8	8
ROE	-			23		13	10	21	11	21	13	12
Surplus Cash (€)	24,093	47,239	4,403	103,334	30,101	20,155	17,715	97,339	30,156	30,747	48,376	48,884

The figures show there is a cumulative cash surplus of €268,067 at the end of year four and €347,698 at the end of year six in circumstances where no capital works had been carried out. This equates to just 22% and 28% of the total investment in years four and six respectively. Even at 20% equity at start-up (meaning €991,207 being borrowed) there was 27% of the amount borrowed initially in cash at the end of year four and 35% at the end of year six.

These findings show that EIIS is not viable for a farmer looking at setting up a greenfield site as a second unit run by hired labour.

12. Kilkenny Greenfield open day booklet (2016)

Milkflex

Milkflex is a joint initiative between Glanbia Co-operative Society, The Irish Strategic Investment Fund, Rabobank and Finance Ireland.

"*Our Suppliers have told us they intend to expand substantially in the coming years. In anticipation of this GII has invested over €200m to increase processing capacity, most notably the flagship plant that is Belview. This level of investment is minor when compared to the level required at farm level and in order to facilitate this and provide a competitive choice for our suppliers Milkflex was born. It's a clever product that is now regarded as a pilot for Europe*". Ryan, P (2016)[13].

Milkflex is a €100million fund for Glanbia suppliers. Successful applicants can borrow from €25,000 to €300,000. There are volatility triggers built into the repayment schedule. It also incorporates triggers for disease outbreaks. It is an eight year term, however this can be extended to a 10 year term if the triggers are implemented.

Trigger 1

- 3 consecutive months of a milk price less than 28cpl
- Principle and interest reduced to 50% for the following 6 months
- Can be implemented up to 4 time over the schedule of the loan

Trigger 2

- 3 consecutive months of milk price less than 26cpl
- Principle and interest reduced by 100%
- Can be activated twice over the term of the loan

Trigger 3

- 3 consecutive months of milk price greater than 34cpl
- Repayments increase by 25% for the following 6 months
- Can be activated up to 4 times over the term

13. Interview with Pat Ryan, GIIL, 20/06/2016.

Trigger 4

- Notifiable disease outbreak which reduces milk supply by 30% or more when compared to the same month the previous year
- Loan principle and interest suspended for 6 months
- Can be activated twice through-out the term

Note: Milk price references are all inclusive of Vat and are set at base constituents. Milk price triggers are based on the monthly announced GII base manufacturing milk price and exclude any Glanbia Co-op support payments.

The cost of the funds is set at 3.75% above the Euribor the month previous. The annual repayments are structured in such a way that works with the seasonal cashflow of a spring calving system. 15% per month May – August. 10% per month for September, October, March and April. There are no repayments made from November to February.

The security for the facility is effectively the suppliers Milk Supply Agreement and land lease agreement. There is no asset based security required. All repayments are deducted from the supplier's milk cheque.

The administrative fees are 1.25% of the initial amount borrowed, followed by annual fees of €75 per 100,000 borrowed.

An amount of €2.5million of the fund's cash is ring fenced for new entrants. However, there is 12 months' supply history required.

"*A solid business plan is crucial to approval*".

Ryan, P (2016).

It is the responsibility of Finance Ireland to make all approval decisions.

In response to a question posed by the author to Milkflex General Manager, Conor Boyle, about the level of equity required from the farmer, Boyle explains:

'*Essentially new entrants can access MilkFlex finance (i.e. unsecured loan of up to €300k over 10 years @ 3.75%., with flexed repayments build around changes to milk price) subject to the following criteria*

- *They meet the definition of new entrant*
- *A 5 year Business Plan is required*
- *Leaseholder must have a minimum 5 year lease arrangement in place with at least 3 years to run*."

The key requirement is the sustainability of their existing and projected cash flow to cover all existing and proposed MilkFlex debt.

Therefore if the above criteria is met equity in a particular deal is not required (e.g. asset purchase costing €50k can qualify for a €50k loan).

As there are 17,000 dairy farms in Ireland (Kevin Lane 2015), the 4,800 Glanbia suppliers represent only 28% of all dairy farmers - only 28% of farmers have access to Milkflex. If other Co-ops are to offer a similar product to its suppliers they will need to pay a royalty to Glanbia.

In an executive meeting with Geoff Dooley, Geoff suggested Co-ops could explore the possibility of selling a bond to raise funds to allow farmers purchase livestock and produce a similar product to Milkflex, giving the repayments first preference in the monthly milk cheque.

Our Co-ops do have the capacity to channel funds from investment funds to primary producers and offer investors the security of first preference on monthly milk cheques which reduces the risk involved from the investors point of view.

Micro Finance Ireland

Micro Finance Ireland (MFI) is a non-profit lender. Its purpose is to distribute the governments Microenterprise Loan Fund, with an annual allowance of €10million. Successful applicants can borrow €2,000 – €25,000, generally over 3-5 years. Farmers can access up to a maximum of €15,000 and farm diversification businesses can access up to €25,000. Interest rates are 8.8% per annum, however an application through the Local Enterprise Office applies a 1% discount rate or alternatively it is possible to apply online.

It is designed for those finding it difficult to obtain finance from banks, however there have been cases of borrowers receiving part of the money required from banks, supplemented by a MFI loan.

The key in being successful on application is identical to that of a loan application with a bank, which has been analysed above.

The problem with this model is that, although a useful supplementary finance model, it is insufficient at €15,000. If we take a 100 cow Greenfield site costing €5,000/cow to establish, a Micro Finance Loan of €15,000 would only equate to 3% of the overall finance required.

Crowdfunding/Peer 2 Peer lending ("P2P lending")

Crowdfunding or P2P lending is the practice of funding from a number of different investors, usually through an online intermediary. There are hundreds of online crowdfunding sites to be found with a simple google search, such as: Razoo, Pledgie, Sellaband, IndieGoGo, Fundageek, GiveForward, FundRazr, Kickstarter, RocketHub, Fundly, GoFundMe, Microventures, YouCaring, and SeedInvest.

The borrowers must undergo a vetting and approval process by the intermediary. Once approved, the intermediary displays their venture on the website. Investors bid for the different businesses with interest rates, the investor with the lowest interest rate usually attains the project.

There are a number of different formats. Equity crowdfunding is where the borrower exchanges shares for equity and so entering into an equity partnership.

In Ireland, there is only crowdfunding or Peer to Peer (P2P) in operation - this is a debt based structure which is similar to a loan from a bank. The investor generates profit from interest payments. On linkedfinance, for example, a borrower can obtain up to €100,000 over three years. On average the interest rates are 8-9% varying from 7 – 15%, depending on the amount of investors bidding on the project. The borrower can be a sole trader or limited company. Ceilings and terms vary from site to site. You do not require collateral or security, although there are often personal guarantees provided. Crowdfunding has gathered a lot of momentum on a global scale in recent years.

In 2013, the crowdfunding industry raised USD$5.1bn worldwide. For the month of March 2014, there was an average of USD$60,000 raised hourly by Crowdfunding initiatives worldwide. With 442 Crowdfunding campaigns launched daily during this period[14].

In Ireland, in the agriculture sector there were 10 companies who sourced finance via linkedfinance in the 18 months leading up to August 2015[15].

14. The State of The Crowdfunding Nation a report by The Crowdfunding Centre, UK, May 2014

15. P. Donoghue (2015)

It is the added-value, processing and retail sectors that tend to avail of crowdfunding, when both the term and cost of finance are taken into account, the evidence would suggest that crowdfunding is not viable for the primary sector.

Conclusions

The conclusions to draw from the current financial products available to farmers without collateral are that they are limiting. From a banking point of view a young farmer can borrow up to €80,000 unsecured.

There is potential in a collaborative approach with the EIIS and banking finance, where a bank would provide a portion of the principle repayment after four years, that way the young farmer has track record. The startling reality is that it easier to purchase land than livestock.

The barriers in accessing finance is for livestock and infrastructure. Other products such as crowdfunding or loans from MFI are not viable because of terms and interest rates.

The harsh reality remains that without a guarantor, a landless farmer who wants to pursue avenues that allow them achieve tangible assets in dairying would be better served in New Zealand or America where chattel mortgages and structures such as sharemilking are far more accessible.

So what about chattel mortgages and sharemilking here in Ireland? The next chapter of this Report looks at how sharemilking works, what stage it is at in Ireland, and examines why chattel mortgages are not available here.

Sharemilking

Sharemilking has a range of different structures and is a relatively new concept to Irish dairy farming. It is a collaborative arrangement between the land owner and sharemilker, where depending on the particular situation, profits are split in an agreed ratio.

Sharemilking allows a young person progress within a farm structure and build equity by providing labour. A farmer can start from zero and work their way to farm ownership. Sharemilking is mostly associated with New Zealand.

The farmer starts of as a farm manager, earning a wage and begins to accumulate small amounts of equity through savings.

The next step on the ladder is LOSM, lower order sharemilker, where the sharemilker provides the labour to run the farm and some minor inputs such as a quad, liners for a milking machine, ESB etc. in return the sharemilker would typically receive 21% of the profits.

The next stage of progression is VOSM, variable order sharemilker. In this scenario all variable costs are split between the land owner and sharemilker, the sharemilker provides the labour to run the farm and receives a 33% share of profits.

Variable order sharemilkers can then progress onto 50-50 sharemilking. Here the sharemilker provides all cows, machinery and labour. All costs and income are split 50-50 between the land owner and sharemilker.

After 50-50 sharefarming, typically the next step is land ownership however this is very case specific.

There were 3 million dairy cows in New Zealand in 1982. This increased to 4.2 million in 2007. [16]

New Zealand processed 5.868 billion litres of milk in the 1981/1982 season. This grew to 21.3billion litres in the 2014/2015 season. [17]

The evidence suggests that dairy farming has become a key part of the New Zealand economy through its growth. Sharemilking has served that growth very well. It is a model which connects young farmers rich in intangible assets with land owners rich in tangible assets and offers a sensible return on investment. Sharemilking allows a young person progress from farm manger to 50-50 sharemilking or land ownership, thus converting intangible into tangible.

Irish dairy farmers must embrace sharemilking in its entirety, where a farm manager can build equity and progress to a 50-50 sharemilking, in order to grow and overcome the issue of labour with scale, it is the established large scale farmers who need to provide this opportunity for their staff with the right attitude and work ethic.

In a number of interviews, numerous young farmers expressed their frustration at a lack of opportunities of sharemilking beginning with being a farm manager and progressing to LOSM to VOSM to 50-50 sharemilking. They explained most tenders are for 50-50sharemilking from the beginning, they explained they do not have the equity at that early stage to compete for such opportunities.

16. New Zealand official yearbook, 2008

17. New Zealand dairy stats 2014/2015

Chattel mortgages

If the potential of sharemilking, milk production partnerships and other collaborative forms of farming are to be realised, there is a clear requirement for chattel mortgages similar to that on offer in New Zealand and USA.

With very positive movements around taxation on long-term leasing, chattel mortgages are the silver bullet to unlock the potential of youth for the Irish dairy industry. Youth who want to grow equity through livestock within existing farm businesses via sharemilking or long term leasing.

"At a national level, in order to meet the target of 50% increase in dairy output it is estimated that we will require 330,000 additional cows".

(Meehan Dec. 14, IFJ)

The evidence would suggest that chattel mortgages are the engine behind successful sharemilking, allowing young farmers buy their way into scalable enterprises through livestock and progress from lower order sharemilkers up to 50-50 sharemilkers.

At the moment, with existing legislation banks can offer chattel mortgages, however it is very complex if they are to do so. Instead they offer unsecured money, however this is usually capped at €80,000.

Under current legislation a fixed or floating mortgage can be created over livestock if they comply with the terms of the Agricultural Credit Act 1978 and are the absolute property of the mortgagor.

The security must be registered within one month of creation with the Circuit Court where the stock are situated, if the farmer has two or more blocks of land in different districts then the security must be registered with each of the Circuit Courts. Once registered the farmer is prohibited from selling the stock without serving the financial institution with 7 days' notice in writing of his/her intention to sell them. They (the farmer) are obliged to pay the sum of the mortgage in full, or with the amount agreed within seven days of the sale.

The information around the chattels is not published, in the event of a farmer who is buying livestock and want to ensure they are buying livestock free of any charge and are not being used as security, they would need to act through a solicitor to get the information through the

Circuit Court belonging to the district where the livestock are situated. Again, where the livestock are situated in 2 or more mobs in different districts the solicitor acting for the farmer buying the livestock would need to check with all the relevant Circuit Court Offices.

It is understandable that banks do not offer chattel mortgages given the complexity of the legislation currently. Yet we have a CMMS that traces the movement of all cattle in the national herd – "*If you bring an animal, with an expired TB test, to a mart and try sell it, you are unable, a bank should be able place a similar charge on animals enabling chattel mortgages*"[18].

In order to replicate the success of New Zealand there needs to be an action plan put in place on how to implement chattel mortgages. There needs to be a committee set up, with representatives from all of the relevant bodies, and a submission formed for the Minister of Agriculture on how to implement chattel mortgages.

18. Kelly, 2016

Jurisdictional Comparison

With access to finance for livestock falling short in Ireland, this Report looks at what is working well in other countries such as USA, New Zealand, the United Kingdom and Australia.

CowBank

CowBank is a small agricultural finance company which specialises in leasing cows to dairy farmers in Victoria, South Australia, Southern NSW and Tasmania. Established in 1999 by Rod Banks, CowBank has leased more than 48,000 cows to over 250 dairy farmers since.

The shareholders and directors of CowBank are Rod Banks and five dairy farmers and industry professionals who are passionate about the dairy industry.

The principle is repaid over a 4-5 year term. CowBank could be easily replicated here in Ireland giving a return in the region of 7-10%.

YESS (United Kingdom)

YESS - Young Entrants Support Scheme. The assistance package includes[19]:

1. A one-off grant payment for eligible capital expenditure when a young entrant (under 40) is setting-up as head of holding for the first time or when the applicant has set-up as head of holding for the first time within the previous 12 months.
2. Access to funded mentoring services from established farmers and/or professionals.

   To qualify applicants are required to submit a Business Development Plan, including details of the capital investment that the grant will support. It requires that:

   a. The holding must be viable or the applicant will be required to demonstrate in the Business Development Plan that the holding will become viable within 5 years after entry into the Scheme.

   b. The holding must comply with animal health and welfare legislation, Good Agricultural and Environmental Conditions and must be used for an agricultural purpose.

19. Information extracted from YESS 2012

c. This investment cannot cover the purchase, rent or lease of land, livestock, Single Payment Scheme entitlements or farm machinery to be used for contracting activities.

Financial assistance will take the form of a grant payment (made in arrears upon successful completion of an approved project) for an investment made in setting up as head of holding for the first time. The grant is for 50% of agreed eligible expenditure or maximum grant of £15,000.

Farm Service Agency (USA)

When the author travelled to the USA to compare what is being done at government level as regards young farmer finance, he was shown the various finance models which allow young farmers to get their businesses off the ground - they are sometimes state funded or in some cases guaranteed by the USDA (United States Department of Agriculture) under the FSA (Farm Service Agency).

The farmer must first apply to either commercial banks or the Farm Credit Bureau (which is the equivalent of Credit Unions in Ireland). If declined by both and is thought to be high risk, the farmer applies to the FSA. All products on offer from the FSA are outlined in the table below. The goal of this programme is for the farmer to then graduate to a commercial bank or a Farm Credit Bureau after a number of years when they have demonstrated repayment capacity. The loan portfolio is transferred from the FSA's books to the banks books.

In some cases the FSA will guarantee a percentage of a loan to be given to the farmer by the bank.

Table 6: Farm Service Agency

PROGRAM	MAXIMUM LOAN AMOUNT	RATES AND TERMS	USE OF PROTOCOLS
Direct Farm Ownership (FO)	$300,000	Rate based on agency borrowing costs Term up to 40 years	Purchase farm Construct buildings or other capital improvements Soil and water conservation Pay closing costs
Direct operating (OL)	$300,000	Rate based on agency borrowing cost Term from 1-7 years	Purchase of livestock, poultry, equipment, feed, seed, farm chemicals and supplies. Soil and water conservation Refinance debts with certain limitations

There are over 10 different products on offer by FSA. Above are the two products most relevant to this report, young farmers in these examples can obtain up to USD$300,000 for up to 40 years, for land purchase and capital expenditure, and up to seven years for livestock purchase. Interest rates are in the region of 2-3%.

To offer a program in Ireland similar to what the FSA offers in America, EU state aid regulations need to be adhered to - De Minimis Aid is small amounts of State Aid given to an enterprise which cannot exceed €200,000 over any three fiscal years to any company irrespective of size or location.

De Minimis Aid can come from any State body, agency or department. If a Company is part of a group then the €200,000 limit applies to the group.

Such amounts of De Minimis Aid are regarded as falling outside the category of State aid that is banned by the EC Treaty and can be awarded to an enterprise without notification to or clearance from the European Commission. De Minimis Aid can be in the form of grant or equity.[20]

20. Enterprise Ireland

Economic Benefits

With the abolition of milk quotas on April 1st 2015, Irish agriculture enters a new era. There must now be an emergence of different partnership and sharemilking models to facilitate the expansion and replicate the success of New Zealand when subsidies were abolished in the 1980's.

Table 7: Food Harvest 2020[21].

Headline Targets	Baseline (2007-2009 Average*)	FH2020 Target
Primary	€4.596 billion	€6.27 billion
Exports	€8.298 billion	€12 billion
Gross Value Added	€6.053 billion (*2008 only)	€8.57 billion
Sectoral Data		
Milk Output Value	€1.465 billion	+50%
Cattle Output Value	€1.552 billion	+20%
Pigs Output Value	€309 million	+50%
Sheep Output Value	€172 million	+20%

The average age of the Irish farmer is 59. There are more farmers over the age of 80 than there are under 35. With each year that passes the average age of the Irish farmer increases by 6 months. 5.9% of farmers are under 35.[22]

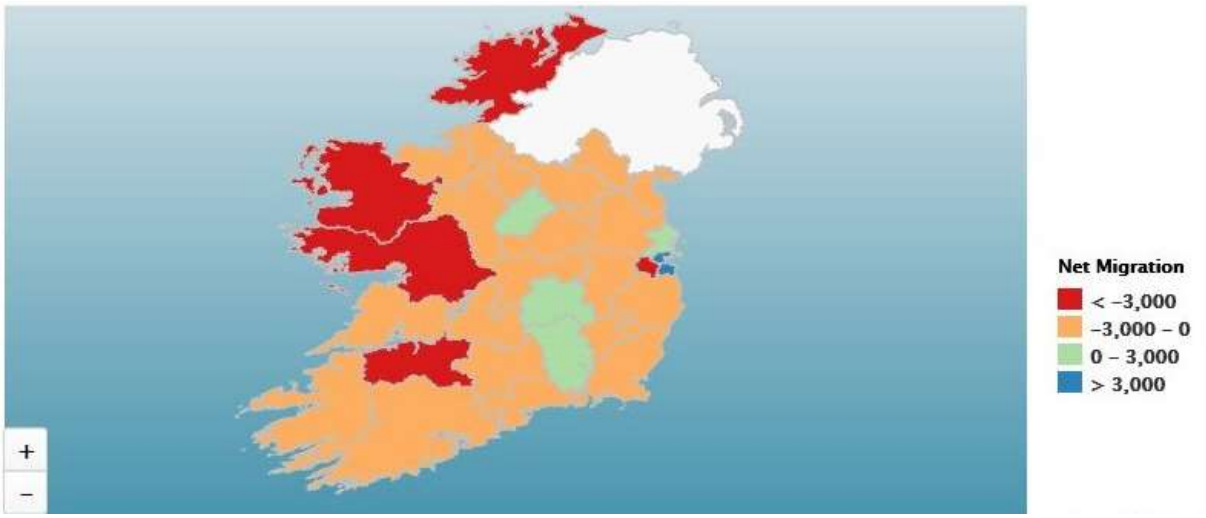
Agriculture is acknowledged as being the cornerstone of rural Ireland. In 2015, 63.8% of the Irish population lived in urban areas, it is estimated this will increase annually by 1.58 %.[23]

21. Department of Agriculture, food harvest 2020, July 2010

22. Macra na Feirme, August 2015

23. CIA (2015)

Table 8: Net migration 2011 – 2016[24]



Example – Ballyragget

Ballyragget situated on the N77 18 km (11 mi) north of Kilkenny and has a population of 1,451 people.

79 farmers in Ballyragget parish

27 m litres currently milked

Increase by 63% (average GIIL increase)

@ 30 cpl

= €5.1m additional milk receipts

X 2.06 (multiplier used)

= additional €10.5m circulated in local, rural economy.[25]

24. CSO (2016)

25. Bergin, April 2015

Table 9: Projected job creation under FH 2020[26]

	Milk	Cattle	Sheep	Pigs	Total
Primary (farm level)	4,691	633	-15	537	5,847
Food Processing	2,520	1,635	-139	1,306	5,323
Other Sectors	7,337	3,795	-251	2,672	13,552
Total	**14,548**	**6,063**	**-405**	**4,515**	**24,722**

The above findings emphasise the importance of agriculture in our economic recovery, both in terms of job creation and export potential.

These results should motivate the banks and politicians to deliver investment at primary level. It is young and expanding farmers who will grow their businesses to deliver on the above targets, revitalise rural economies, reduce urbanisation and create almost 25,000 jobs by 2020.

It is because of these young and expanding farmers' extra production that exports will increase to 12billion and increase the value of primary output in the Agriculture and Fisheries sectors by 1.5billion by 2020, an increase of 42% and 33% respectively on the base years 2007 – 2009.[27]

Yet in Macra na Feirme's pre-budget publication, young farmers are a minority. If partnerships are to develop, sharemilking arrangements succeed and truly utilise the land leasing tax incentives put in place then farmers with limited collateral must be able to access finance.

26. Miller at al. (2012)

27. FH2020 (July 2010)

Findings

At present in Ireland, it is virtually impossible for young people who neither own land nor have a guarantor to access sufficient amounts of affordable finance to build equity. As a result, there is a substantial risk that the next generation of dairy farmers will be significantly reduced in number.

In New Zealand, there is an abundance of success stories of people, not from farming backgrounds succeeding in dairying and progressing through sharemilking structures to build high levels of equity. Mark Townsend, one of the most successful dairy farmers in New Zealand, states:

"*I notice that many of the young star performers on farms in NZ today were not raised on farms, nor did not leave school and go on farms. No. They educated themselves, learnt different skills and entered farming with no preconceived ideas*."[28]

If the Irish dairy industry is to become a dynamic growth orientated world leader, it cannot afford to narrow its pool of talent only to those with access to land as collateral.

Our banking sector has become uncompetitive, with Irish SME's paying some of the highest interest rates in Europe. Although the SBCI offers a keen interest rate concession, it still fails to fully address the key issue which isolates young 'landless' farmers, securitisation.

'*People think of education as something they can finish*' Isaac Asimov.

On-going education and self-development, mentorship, access to good extension and research, structurally correct collaboration i.e. share milking, equity partnerships etc., were only some of the components identified. One of the most important 'convertors' is accessing affordable finance.

The evidence suggests that, EIIS, in conjunction with banking finance at the end of the four year term of the scheme, is the most viable for young farmers if conventional banking finance is not an option because of security. However, young farmers will find it difficult to attract investment outside of their own social/family circles.

28. Extracted from presentation titled *'12 Commandants for Wealth Creation in Agriculture'* by Mark Townsend.

Milkflex is another viable source of finance however it is only available to Glanbia suppliers. Initiatives such as crowdfunding and loans from MFI, are not viable in one or more of the following; term offered, cost of finance or amount that can be borrowed.

Recommendations

Sharemilking is a model which gives young farmers the structure to demonstrate their intangibles and progress from LOSM to 50-50 sharemilking, building equity, creating wealth and also adding value for the land owner. Ireland has not fully embraced sharemilking to the extinct that allowed New Zealand increase its national herd by over 1 million cows.

There must be opportunities for young people who do not have the capacity to provide the equity for 50-50 sharemilking, to begin as a farm manager or LOSM and progress to VOSM and then to 50-50 sharemilking. The engine which drives this progression for the young farmer is equity through livestock. Chattel mortgages is a vital part of this structure. This Report **recommends** the establishment of a committee with representatives from all the relevant bodies in order to produce a submission on how to implement chattel mortgages, which can be presented to the Minister for Agriculture.

Initiatives similar to CowBank in Australia or Milkflex with Glanbia could be replicated with the aid of private investment which would allow people to earn a return on their money while helping young farmers gain tangible assets. This Report **recommends** that our Co-ops channel funds between investment funds, to primary producers and act as intermediaries, offering first preference to loan repayments from milk cheques which would reduce the risk from the investor's point of view.

EIIS was identified as one of the most viable forms of finance. However, as this Report shows, a four year term is not sufficient. In the example given in the report, a young farmer borrows €500,000 in an EIIS. After four years, the young farmer has 58% of the principal in surplus cash to repay investors. By rolling over the scheme for another four year period, it is very viable for the young farmer to have the full principal repaid at the end of a second term after eight years in business. However, we cannot assume this will be the case. With a four year track record and clear evidence of good character, repayment capacity and a very healthy balance sheet, the young farmer must be bankable. Our banks need to become more involved in the EIIS process and at the end of a four year term, provide the capital required to repay investors.

With structures like this in place, a young farmer will be perceived as being low risk to an investor, as a result, there will be more investment attracted.

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