BLACKBEE

pollinating great ideas

BlackBee Renewables Sector

Insights / July 2021

Forestry Benefits

Diversification, protection against inflation and a positive impact on society are among the benefits offered by forestry to investors.

Forestry - An investment offering numerous benefits

In recent months BlackBee added to its offering in the renewables space with the launch of our Forestry Series 1 bond. We believe forestry as an asset class offers numerous benefits to investors at this time.

- A stable asset class which 'grows' with the world economy.
- Attractive returns for a low to medium risk investment compared to government bonds and cash.
- Protection against inflation
- Portfolio diversification benefits thanks to its low correlations with other assets, and
- An ESG (Environmental, Social and Governance) themed investment which will have a positive impact on the environment and mankind's efforts at reducing the impact of climate change.

From an investment perspective forestry represents a typical real asset where the return comes primarily from two sources

- Income - from the growth and subsequent sale of the timber crop, and
- Capital Appreciation – from appreciating land values.

Generally, the income part of the return profile tends to be very stable over time while the capital appreciation part is more cyclical over time. Using US data as an example (the NCREIF Timberland Index in the US has been in existence since 1987, see table 1 below), capital appreciation tends to be stronger during economic expansions and lower during economic slowdowns.

The cyclical element of returns also stems from timber's vital role as an input into the construction sector. Given the importance of construction to timber demand the outlook for construction and housing markets in Europe will be a key driver of the returns from the asset class and from our first Forestry Bond.

Table 1 shows that forestry enjoys an excellent long-term track record both in absolute and risk adjusted terms (captured in its higher Sharpe ratio) versus the other main asset classes. We can also see in the table below that its returns are very lowly correlated with equities and bonds, meaning it should also help reduce long term portfolio risk for investors.

Table 1: Forestry Performance 1990-2020**

	Timberland	Equities	Government Bonds	Gold
Average Annual Return (Per Annum)	8.9%	8.4%	5.5%	5.5%
Annualised Volatility	6.9%	15.7%	5.0%	12.8%
Risk Adjusted Return (Sharpe Ratio*)	0.9	0.4	0.6	0.2
Correlation with Timberland		0.014	0.128	-0.029

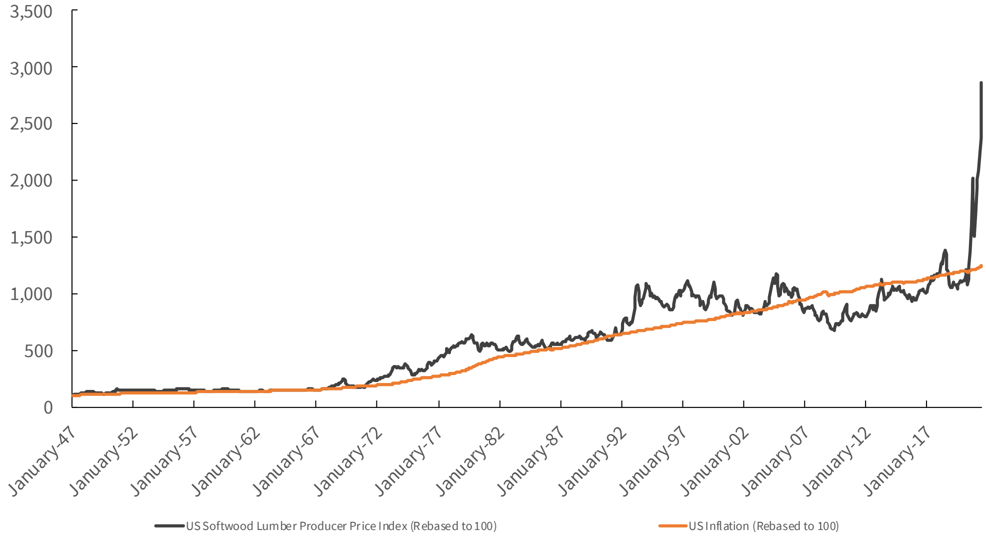
*Defined as Average Annual Return minus Risk Free Rate (2.67%), divided by annualised volatility
**Analysis based on quarterly returns between 1990 and 2020, risk free rate = avg 3m T-Bill yield 1990-2020
**Source: NCREIF Timberland Index, S&P 500, FTSE US Treasury Index, Gold Prices
**Source: Bloomberg, March 2021

The other crucial advantage for investors is that forestry returns are generally positively correlated with inflation. Chart 1 shows this clearly with producer prices for lumber broadly tracking US inflation over time. Therefore, investing in forestry could play a critical role for investors in protecting them against inflation, a very topical investment risk at the present time with headline inflation rates in many parts of the global economy hitting their highest levels since 2008.

Forestry Performance

Crucially forestry tracks inflation over time, a big plus for investors given how much inflation has accelerated this year.

Chart 1: Forestry Products like Lumber track inflation trends over time



Source: Bloomberg, June 2021

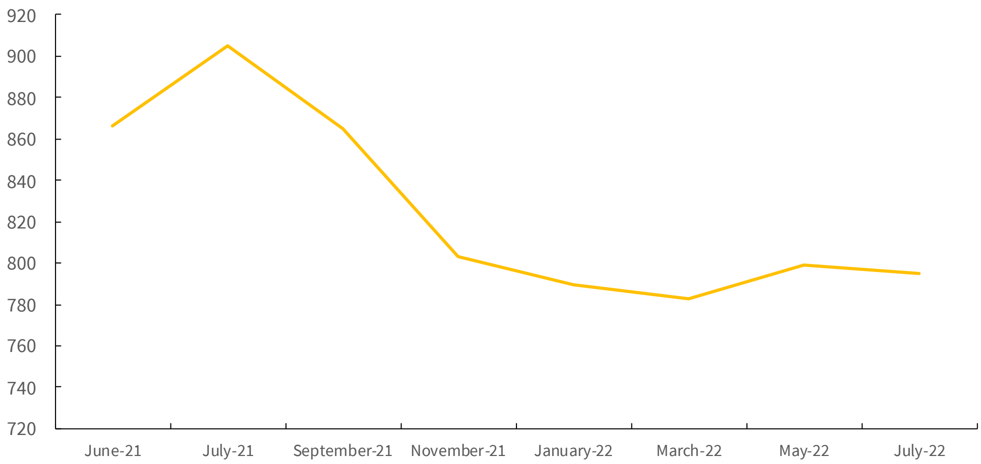
Lumber price volatility far removed from Q1 Timberland Returns

2021 has given us firsthand evidence of how forestry and lumber price changes are correlated with inflation rates. As the world economy reopened quickly this year lumber demand has exceeded supply leading to significant price spikes as inflation rates too have accelerated. For example, chart 1 instantly shows how lumber price volatility has exploded in recent months. Having hit a high of $1,500 per 1,000 board feet as recently as May, US lumber prices have come back down to earth recently settling at around $800.

Price increases have also become more visible further down the wood products supply chain. In the OSB market (Oriented Strand Board, typically used in walls, flooring and decking) prices in Europe have doubled over the past year. Meanwhile MDF prices (Medium Density Fibreboard, commonly used in building materials) in Europe are up over 50% year on year at present.

In our view the volatility in lumber markets should begin to settle down over the next few months. For example, the lumber futures curve implies prices of around $700 through 2022 (chart 2). However even at these levels this would imply prices of around 50% higher than pre pandemic levels so the inflationary impact on building material markets should continue to linger for the time being.

Chart 2: US Lumber Futures Curve (US$)*



Source: Bloomberg, June 2021 *Prices per 1000 board feet

Forestry Performance

Forestry is a stable investment, driven mainly by longer term supply and demand for logs for industries like construction.

Thankfully recent performance back in the forestry space has been much less volatile. The latest update from NCREIF's US Timberland Index for example shows a much calmer performance although one where the stronger environment for lumber pricing began to positively impact returns in Q1 2021. NCREIF separates total returns into two components; operating income (also known as EBITDDA) and capital appreciation. For the last twelve months operating income grew by 2.7%, slightly weaker than historical averages but improving into Q4 and Q1 as lumber prices began to move higher and reflect a recovering US economy.

Of course all of this does prompt one obvious question - why doesn't the volatility in lumber prices translate into volatile log prices and forestry returns?

There are mutual factors that drive both log prices and lumber prices but there are also short term factors that can affect each separately, leading periodically to a disconnect between the two

Generally the factors affecting short term lumber prices can include

- Housing starts, including RMI (Renovation, Maintenance and Improvement)
- Lumber inventory
- Investor speculation

In contrast log prices are driven more by concepts of longer term supply and demand including

- Supply of logs (as standing timber) in a given region compared to demand in that region.
- Demand from wood product mills which typically require a significant amount of raw material to produce finished wood products.

When viewed in this way we can see why such a lumber shortfall (and subsequent volatility in prices) has happened - a combination of reduced activity at sawmills in 2020 as a result of much weaker anticipated demand and a fall off in demand which was much shorter than initially anticipated.

These disconnects between lumber prices and log prices also highlights why we assume relatively modest inflation rates for timber (approximately 2%) in our projections for Forestry Series 1 – that is, that the timber price inflation will reflect a more gradual medium term supply demand imbalance which has been projected by the Council for Forestry Research and Development (COFORD).

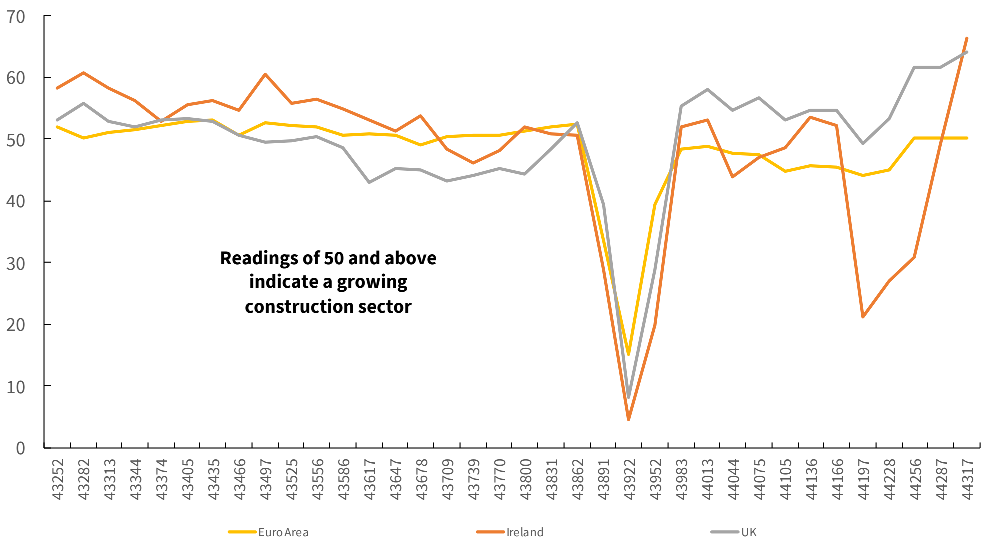
Construction & Timber Demand

Acceleration in construction activity a positive for timber demand

The improvement in timber demand in the past few months has very much been driven by the reopening of the construction sector around the world. In the US for example March housing starts were at their strongest since 2006. They have slowed of late with supply bottlenecks for key inputs (including lumber) a factor here but the outlook for US housing over the next number of years remains underpinned by positive housing demand, repair and maintenance activity (home offices on the rise as greater numbers work from home) and low interest rates (US interest rates look unlikely to rise before late 2023).

In Europe the progress has been more chequered over the past few months because of rolling lockdowns across the continent. However we are now beginning to see a marked acceleration in construction activity as the penetration of vaccines rapidly increases, allowing economies to reopen. Chart 3 below shows the construction sector Purchasing Managers Indices for Ireland, the UK and the Euro area. From April onwards we've seen a marked increase in PMI readings (a reading over 50 indicates a growing construction sector) and we expect that the construction sector across Europe will grow strongly over the next twelve months as projects play 'catch up' following the pandemic.

Chart 3: Construction Purchasers Managers Indices (PMIs)



Source: Bloomberg, June 2021

The construction sector in Europe is recovering rapidly from COVID 19 disruptions which bodes well for medium term timber demand.

Forestry Licence outlook - Recent action should yield dividends

Forestry Licence Outlook

The entire area of forestry licencing has been a major headwind for the sector in Ireland in recent years. The falling number of licences issued for both afforestation and felling over the past number of years poses difficulties for the industry on two fronts

- Afforestation - The governments forestry target of 18% coverage by 2050 implies an average rate of net acreage being planted annually of nearly 15,000 hectares per annum until 2050. If this is to be achieved, it is crucial that any blockages in the licencing system are ironed out.
- Felling - Licencing log jams also pose issue for the sawmill industry in Ireland which in recent years has been forced to increasingly import timber to meet its requirements (imports of sawn timber nearly doubled over the 2014-18 period)

Fortunately the problems arising in the licencing system have been recognised at government level which led to the commission of the MacKinnon review of forestry in November 2019 and which in turn has led to the establishment of Project Woodland earlier in this year under the leadership of Minister for State Pippa Hackett. Project Woodland has four workstreams of which two crucially relate to forestry licencing – one for reducing the current backlog (which currently stands at 6,058 with the vast majority of these, 4,599, relating to felling) and a second for streamlining the licencing process.

We are optimistic that the establishment of Project Woodland by the Irish government will help overcome the licencing log jam which has been a headwind for the forestry sector in recent times.

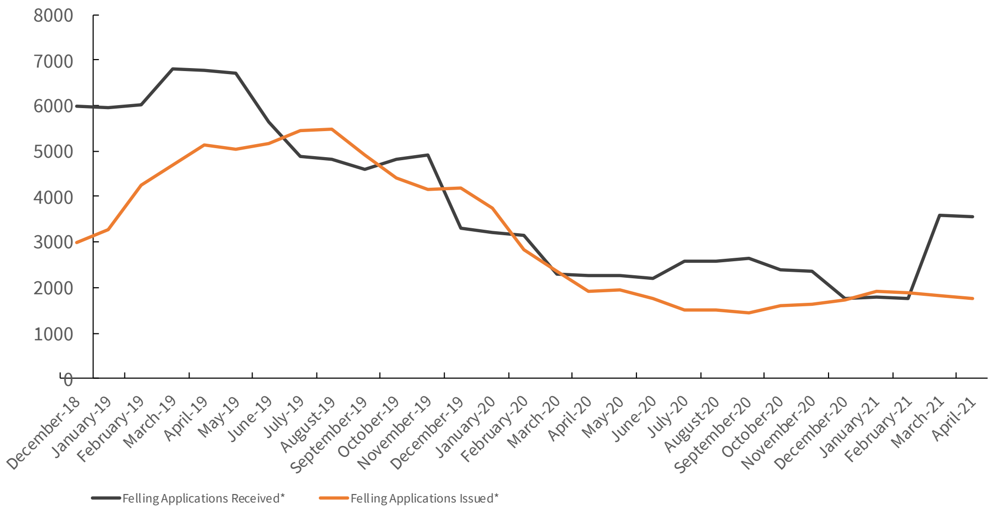
On a year on year basis the number of licences issued have grown although some of this should be expected given the low levels of issuance at the height of the pandemic twelve months ago. On a smoother twelve month basis (charts 4 and 5) we can see progress so far has been slow in eating into the felling licence backlog in particular.

However, it is early days yet for Project Woodland and we are optimistic that it will begin to yield dividends. On the specific licence issue we note that the Department of Agriculture, Food and the Marine hired additional inspectors and ecologists late in 2020 and the Minister’s recent Dáil responses suggest further hiring is in the offing which we are optimistic will help reduce the backlog.

Forestry Licence Outlook

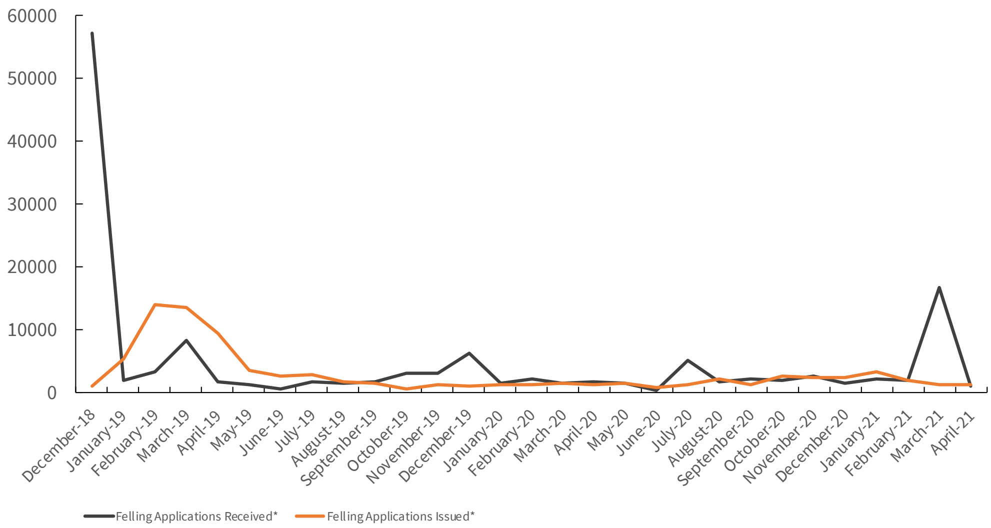
Large scale voluntary carbon trading schemes are vital if companies are to reduce their carbon footprints over the medium term.

Chart 4: Irish Felling Licences*



Source: Department of Agriculture, Forestry and the Marine, April 2021 *12 month moving averages

Chart 5: Irish Felling Licences*



Source: Department of Agriculture, Forestry and the Marine, April 2021
****12 month moving averages of number of hectares associated with applications***

Voluntary Carbon Offset Schemes quickly becoming the route to "net zero"

Over the past year in particular the drive towards net zero carbon emissions amongst large companies has intensified. For example, over 100 global companies representing five million employees and $1.4 Trillion in revenues have now signed up to Amazon and Global Optimism's Carbon Pledge to have a net carbon footprint of zero by 2040 or sooner.

Many of these companies will need to rely on what is known as voluntary carbon offset schemes over the medium term to reduce their carbon footprint. Broadly speaking these schemes allow companies to buy carbon credits from small consultancies or brokerages.

Forestry Licence Outlook

At the present time voluntary carbon offset schemes are relatively small but growing markets. For example Ecosystem Marketplace recently estimated that a total amount of $320m was traded in voluntary carbon markets in 2019. However, we believe future demand for voluntary carbon trading could dwarf the 2019 level of trading, particularly given the number of net zero pledges being made by companies and related environmental pressure on corporate governance. To highlight this, the Institute of International Finance (IIF) Taskforce headed up by former Bank of England Governor Mark Carney recently commented that voluntary carbon trading will need to scale up 15 fold if (in addition to direct emission reductions) the challenge to limit the rise in global temperatures to 1.5 degrees is to be met by 2030.

In our view the creation of a successful global carbon trading framework faces a number of challenges chief among which are scaleability and the issue of how to price carbon efficiently given it can be sequestered in various ways. However, if policymakers and corporate stakeholders can succeed here then it brings the prospect of reducing the impact of climate change one significant step closer.

The benefits of using forestry to sequester carbon are clear and a recent paper in Nature magazine* makes the case that commercial forest planting could actually offer greater potential for greenhouse gas mitigation compared to planting only conservation forests. This is because in addition to carbon storage commercial forestry offers alternative means of greenhouse gas mitigation through the production of harvested wood products (which store carbon), fossil fuel substitution and bioenergy carbon capture and storage (capturing and permanently storing carbon dioxide through biomass, a wood byproduct).

In an Irish context, the Irish Timber Growers Association have made the case that a carbon offset scheme (similar to the UK's Forestry Carbon Code) could be put in place in Ireland, allowing firms to purchase voluntary carbon offsets. It recently called for the establishment of an Irish carbon code which would help facilitate the creation of a similar offset scheme in Ireland. As well as allowing companies to offset their carbon footprint, an Irish carbon offset scheme could assist the government in meeting its 2050 forestry acreage targets while also providing a source of income for growers.

https://www.nature.com/articles/s41467-021-24084-x

The global economic reopening, strong housing demand, continued fiscal spending and voluntary carbon offset schemes are all huge potential sources of growth for the Irish forestry sector.

Overall Outlook

Overall – Forestry well positioned to benefit from economic recovery and shifting corporate landscape

Like most industries the spectre of global recession hung over the forestry sector over the past year. As the global economy now begins to recover however, we believe it is well positioned to prosper. The reopening of economies, a strong housing outlook in the US and Europe and continued fiscal spending all bodes well for timber demand. From an Irish perspective, it is crucial that licencing backlogs are eliminated, and this gives way to a more efficient licencing regime over time - one which will allow the sector to take advantage of this improving economic outlook.

This will also help unlock the crucial longer-term role Irish forestry can play in combatting climate change. Initiatives like voluntary carbon offset schemes are vital mechanisms through which climate change targets can be achieved. If they can be successfully built to scale over the next number of years, then they really could be a 'game changer' for both the forestry sector and mankind.

Disclaimer:

Certain statements contained within this document may be statements of future expectations and other forward-looking statements, which are based on management's current views and assumptions, and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such statements. In addition to statements which are forward-looking by reason of context, words such as "may", "will", "should", "view", "see","expects", "plans", "contemplates", "intends", "anticipates", "believes", "estimates", "predicts", "potential", or "continue" and similar expressions typically identify forward-looking statements.

By their nature forward-looking statements involve known and unknown risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. As such, no forward-looking statement can be guaranteed. Undue reliance should not be placed on these forward-looking statements.

Subject to applicable law requirements, we disclaim any intention or obligation to update or revise any forward-looking statements set forth herein, whether as a result of new information, future events, or otherwise.

This document is for information purposes only and shall not be treated as giving any investment advice and/or recommendation whatsoever.

These materials are directed only at relevant persons and must not be acted upon or relied upon by persons who are not relevant persons. Any investment or investment activity to which these materials relate is available only to relevant persons and will be engaged in only with relevant persons.

Figures in this document may have been rounded, this could result in percentage changes differing slightly from those provided in such reports. We have exercised utmost diligence in the preparation of this document. However, rounding, transmission, printing and typographical errors cannot be ruled out. We are not responsible or liable for any omissions, errors or subsequent changes which have not been reflected herein and we accept no liability whatsoever for any loss or damage howsoever arising from any use of this document or its content or third party data or otherwise arising in connection therewith.

Blackbee Alternatives Limited is an unregulated entity

BLACKBEE®

BlackBee Alternatives
City Quarter, Lapps Quay,
Cork, Ireland

T: +353 (0)21 206 1710
E: invest@blackbee.ie

Registered Office: City Quarter, Lapps Quay, Cork