Farmland – A Better Mousetrap 2

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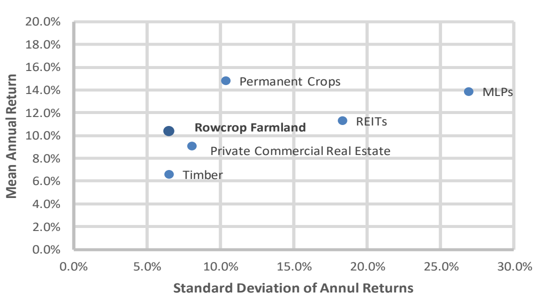
Return vs. Variance for Key Real Asset Classes 1999-2018



Source: NCREIF Annual Commodity Cropland Index; NCREIF Timber Index; NCREIF Permanent Crop; NCREIF NPI; NAREIT; Alerian MLP (AMZ) Ceres Analysis,

Investors are attracted to Real Assets for their combination of current income, low volatility, capital preservation/appreciation, and especially for diversification in a financial portfolio. However, not all real assets meet these objectives equally. We believe U.S. rowcrop farmland meets investors' objectives better than do other Real Asset classes including: permanent crops; timber; commercial real estate; and energy. In other words: it's a better mousetrap. Specifically, we observe:

- Rowcrop Farmland has **more attractive risk-adjusted returns** than either permanent crops or timber. This has been true historically and we argue below that the fundamentals of rowcrop farmland today are more attractive than other Real Asset classes, while the risks are lower.

- Rowcrop Farmland provides **better diversification**, protecting against drawdowns in both the equity and fixed income markets. Again, this has been true historically, and we argue below that the economics driving farmland are further removed from broader markets than those driving either permanent crops or timber. Consequently, we expect rowcrop farmland to continue to be a stronger diversifier going forward.

- Rowcrop Farmland is **less exposed to rising interest rates** than other income producing real asset classes. Where other asset classes are priced largely off rates, rowcrop farms are overwhelmingly bought by farmers. The prices farmers pay are primarily driven by farming economics, not interest rates.

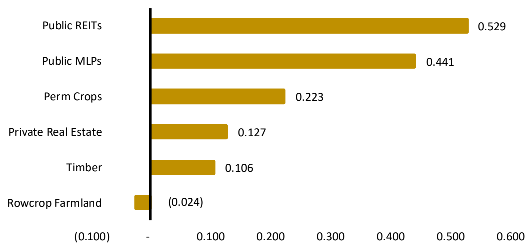
1 MORE ATTRACTIVE RISK-ADJUSTED RETURNS

Historically, Rowcrop Farmland has provided more attractive risk-adjusted returns than other real asset classes including: Permanent Crops; Timber; Commercial Real Estate (both Private and Public); and Master Limited Partnerships. This is clear from the data:

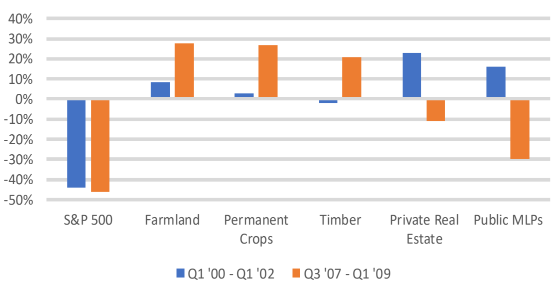
- **Permanent Crops** have provided higher returns, but with correspondingly higher incremental volatility (*and* the data mask the actual volatility most investors face – see below)

This research note revisits and expands upon a whitepaper originally published in September 2015

CORRELATIONS WITH S&P 500
Key Real Asset Classes
(Annual Total Returns; 1999- 2018)



PERFORMANCE DURING EQUITY DRAWDOWNS
(Quarterly Total Returns)



Source: NCREIF Annual Commodity Cropland Index; NCREIF Timber Index; NCREIF Permanent Crop; NCREIF NPI; NAREIT; Alerian MLP (AMZ); Ceres Analysis

The exhibits above also illustrate another point: the tradeoffs for public listing. Public REITs (NAREIT) have significantly higher volatility and correlation with the broader market than does Private Real Estate (NPI). This highlights the benefits of a private farmland strategy vs. public farmland REITs. The public REITs have their place, but investors sacrifice low volatility and diversification for liquidity.

- **Timber** has provided significantly lower returns, with the same volatility.
- **Private Commercial Real Estate** has provided lower returns and higher volatility
- **Public REITS** have provided slightly higher returns with nearly 3X the volatility
- **Public MLPS** have provided modestly higher returns with 4X the volatility

2 Better Diversification

Diversification is perhaps *the* leading reason investors are including real assets in their portfolios today. All privately traded real assets have historically provided low correlation with the broader market as represented by public equities (S&P 500), but rowcrop farmland has provided a slight *negative* correlation.

Even more compelling than correlations in our view is how these assets perform during major drawdowns in the broader markets. Looking at the total return performance of each of these asset classes during the last two major equity market drawdowns we see that only rowcrop farmland had strong performance during both events.

These results should not be surprising, and they speak to why we believe that today rowcrop farmland is a better diversifier than other real assets: returns for all the other real asset classes are strongly influenced by the broader economy (e.g., GDP; housing starts, consumer spending, etc.), and consequently are likely to move in concert with the broader market.

3 Less Exposed to Rising Rates

In contrast, returns on farmland are driven ultimately by demand growth for rowcrops which is driven by people rising from poverty in emerging markets. As their incomes rise, they spend nearly half of every incremental dollar on improving their diet with more animal protein which in turn drives demand for feed crops such as corn and soybeans. This dynamic is largely independent of the broader economy. Even as China's top-line economic growth has slowed, their demand for animal feed has remained strong.

Farmland prices are set by farmers who represent the overwhelming majority of buyers. Less than 1% of rowcrop farmland in the U.S. is institutionally owned – we estimate institutional ownership at $10 to $15 billion out of approximately $1.6 trillion of cropland in the U.S. When farmers buy farms typically they are driven more by farming economics and their own liquidity than they are by interest rates.

We remain firmly bullish in our long term outlook, and believe grain prices are poised for a cyclical recovery in the next 12-24 months

Corn and soybeans are subject to the same cycle as any commodity

In contrast, all other real asset classes are much more institutional, with pricing more directly linked to interest rates.

- **Permanent Crops** are much more institutionally traded than rowcrop farmland and so are more exposed to interest rates. However, of the other real asset classes permanent crops are probably the next least exposed to interest rates
- **Timber** valuation is marked based on a discounted cash flow – rising interest rates mean higher discount rates and lower values
- **Private Commercial Real Estate** trades on market cap rates which closely track interest rates.
- **Public REITs** and **MLPs** trade largely on yield

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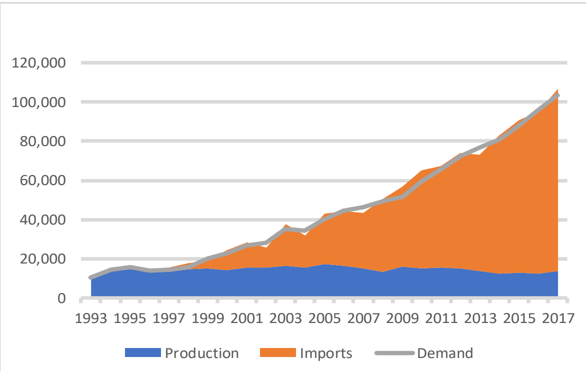
US Rowcrop Farmland

Despite a prolonged cyclical trough in grain prices, U.S. rowcrop farmland returns have remained positive in the low single digits the last 5 years with the NCREIF Annual Commodity Index returning 3.3% on average. Despite the tough environment in the past five years, we remain firmly bullish in our long term outlook, and believe grain prices are poised for a cyclical recovery in the next 12-24 months.

The rowcrop thesis is straightforward:

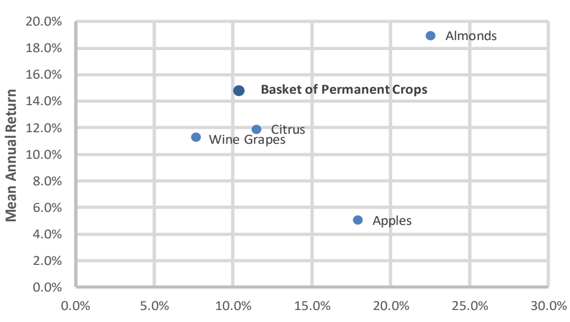
1. New demand is being driven primarily by emerging markets' middle class growth. This growth is fueling demand for animal protein which translates directly into demand for corn, soybeans and other feed crops.
2. Long run demand is growing faster than productivity (yield per acre), requiring more capacity (acres) globally.
3. Acres are scarce and with the commodity market being reasonably efficient, incremental acreage tends to be higher cost than existing acreage.
4. Consequently, expanding capacity requires a strong price signal in the form of higher crop prices.
5. Higher prices raise the value of cropland.

Chinese Soybean Demand, Production & Imports (MMT)



Source: USDA FAS; Ceres Analysis

Return vs. Variance for Key Permanent Crops 1999-2018



Source: NCREIF Permanent Crop; Ceres Analysis

Demand for corn, soybeans and other feed crops continues to grow. China has been the leading driver of demand growth and today accounts for nearly 30% of world soybean demand and 2/3 of world soybean imports. Even as China's top-line growth has slowed in recent years, her demand for soybeans (primarily to feed hogs) continues to grow. Over the past 25 years, China has gone from a minor exporter of soybeans to the dominant importer, accounting for 65% of global trade in 2018.

Permanent Crops

Relative to rowcrop farmland, permanent crops do not offer the same exposure to a single long run Emerging Market thesis as do rowcrops. Demand for individual permanent crops are idiosyncratic and largely driven by consumer preferences (almonds vs. pistachios vs. something else; what variety of apples; etc.). Thus, investors need to underwrite the global supply and demand dynamics of each individual permanent crop.

Furthermore, because permanent crops are idiosyncratic, the diversified basket that compromises the index significantly understates the risk typical investors face. Individual crops are far more volatile than the basket (See Exhibit) and investors who do not own the entire basket will likely face higher volatility.

There are several factors driving higher risk in permanent crops:

- Boom-bust cycles. Permanent crops are notorious for booms driven by tight supplies followed by busts caused by overplanting. We believe this is mitigated with rowcrops because of the global constraint on adding capacity (i.e., acreage)
- Biological Assets. In rowcrop farmland, our asset is dirt and our return comes from renting it out. In permanent crops the dirt has little value vs. the plants which are susceptible to disease and weather related disasters.
- Operating risk. In rowcrops, we own dirt and lease it out – our tenant takes all of the operating risk. In permanent crops, investors own AND OPERATE the farm, taking crop risk and marketing risk, as well as the burden of employees, etc.
- Water. 85% of the NCREIF Permanent Crop index is in California. We believe permanent crop managers are significantly underestimating their long run water risks as the state moves to enact regulation regarding the "highest and best use" of this resource.

The data show that rowcrop farmland provides the most attractive risk-adjusted returns and the strongest diversification against the broader market

Timber

Timber has been an institutional asset class for 20 years and has become predominantly institutionally-owned. Most timber transactions today are between institutional owners, whereas Ceres most often competes with farmers to buy farms from non-farming heirs. In contrast to rowcrops but similar to permanent crops, timber is not a unified asset in a global market, but rather a series of local / regional markets for different types of wood with different end uses which must be underwritten separately.

Similar to permanent crops, timber has been more volatile than rowcrops and several risk factors suggest that it will remain less attractive on a risk-adjusted basis going forward.

- Biological Assets. In timber, the asset values are in the trees and not the land on which they are grown. In this way, timber resembles permanent crops, though with up to a 30-year growing cycle. As biological assets, timber is subject to disease and infestation.
- Subjective returns Timber returns are based upon subjective estimates of growth rates, future prices, etc. and discounted cash flows. They are notoriously subject to "massaging".
- Exposure to interest rates. We are highly skeptical of timber in the face of rising interest rates. Timberland carrying values are based on a discounted cash flow methodology as pointed out above. When interest rates rise, discount rates must rise as well, and values will go down.

The Bottom Line

While all the real asset classes meet investors' objectives for stable, low volatility returns while providing strong diversification, the data shows that rowcrop farmland provides the most attractive risk-adjusted returns and the strongest diversification against the broader market. We further believe that the continued need for additional capacity (acreage) globally over the next 10-20 years will translate into higher grain prices, and ultimately higher farmland returns.

About Ceres Partners

Ceres Partners is a $750 million AUM specialist money manager focused exclusively on North American Food & Agriculture. Ceres has been investing in rowcrop farmland since 2007, and in food & agriculture private equity since 2016.

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Risks related to the Fund's management and structure include but are not limited to the following:
The Fund is managed solely by the Manager, and investors in the Fund have no right to take part in the management or control of the business of the Fund or to remove the Manager.
The Fund's leverage will exaggerate the impact on the valuation of the Fund's assets of any change in the value of the Fund's farmland investments.
The Manager will receive a quarterly performance allocation based on both realized and unrealized appreciation in the Fund's assets, as determined based upon recent appraisals of some but not all of the Fund's properties.
There is no trading market for interests in the Fund, and none is expected to develop. No interest in the Fund may be sold or transferred except with the Manager's consent, which the Manager may give or withhold in its sole discretion. Investors in the Fund have a limited right to redeem interests in the Fund annually upon timely notice to the Manager.
An investment in the Fund may result in "unrelated business taxable income" or "UBTI" for pension or profit-sharing plans, individual retirement accounts, and other tax-advantaged investors.

Risks generally applicable to the Fund's investment strategy include but are not limited to the following:
The value of the Fund's farmland properties, and the Fund's income derived from those properties, may decline due to developments that are specific to the Fund's properties, as well due to factors relevant to the value of real estate generally.
The Fund's principal investment strategy is to acquire and lease farmland used primarily to grow corn, soybeans, wheat, and other commodity crops. These price of these crops can and often do fluctuate widely. If the value of one or more of these crops decline, it could negatively affect the level of rent that the Fund can charge to tenant farmers and in turn cause a decline in the value of some or all of the Fund's properties.
General factors that may adversely affect the value of the Fund's real estate portfolios include increases in interest rates; a general tightening of the availability of credit; and changes in supply and demand for farmland.