Macquarie Global Investments

Investing in agriculture

The portfolio benefits of investing in agriculture

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MACQUARIE

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FORWARD thinking

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Tim Hornibrook

+61-2-8232-0579
tim.hornibrook@macquarie.com
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Simon Aboud
+61-2-8232-4023
simon.aboud@macquarie.com
Macquarie Global Investments

Megan Williams
+61-2-8232-8758
megan.williams@macquarie.com
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The global economic environment

Back in the early 1980's, stocks and bonds were mired in a severe bear market for over a decade. The Dow Industrials peaked near 1000 in 1965, and 17 years later in 1982 it remained near 1000. On an inflation adjusted basis stocks had lost over 80% of their value, a loss similar to the bear market during the Great Depression. Treasury bond yields had gone from levels similar to what we are seeing today to over 14% in 1981, representing a huge inflation-adjusted loss. Looking back, 1965-1982 was not a good environment for stocks or bonds and other 'paper' assets.

While paper assets struggled during the 1970's and early 1980's, 'real assets' such as commodities did quite well. To the average consumer, the most visible part of this trend was the price of oil. Less visible but equally significant was the price of precious metals. Gold, for example, went from $US35/oz to a high of over $US800/oz in early 1980. As the Dow languished; investors who had recognized early on the potential of real assets experienced a very good decade.

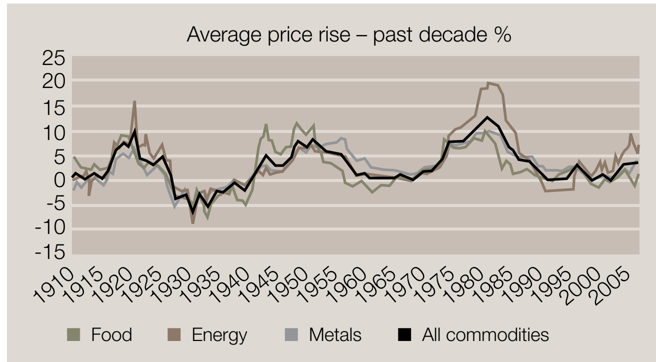
The accumulating global economic headwinds in today's equity and bond markets, highlights the need for further diversification in portfolios. According to Macquarie Securities, 2008 is likely to be another year of meager equity market returns, supporting the need for alternative investments.

Opportune time for agricultural investment

Throughout history, there has not been a jump in energy and metal prices, without a corresponding jump in the price of food. The same theme driving the current "stronger for longer" base metal cycle is also underpinning a long-term bull market for soft commodities. While food has lagged in the current cycle it is anticipated that in the next leg, food will be a major winner.

The soft commodity markets are currently displaying exactly the same characteristics, and demand/supply fundamentals, as the base metals at the beginning of the current bull market in 2001. Historically soft commodities have been driven by the cyclicality of supply shocks, but the current increase in soft commodity prices is primarily the result of a long-term increase in demand.

Chart 1: Commodity prices over the century



Source: NBER Macrochistory Database, IMF and Datastream, May 2007

After comfortably outperforming global equities and bonds in 2007, agricultural commodity prices have enjoyed a remarkable start to 2008. Prices for grains, soybeans, palm oil, rapeseed, sugar and rice all reached record levels in the first weeks of the New Year. This is no mean feat, as it follows an exceptional 2007, with the United Nations Food and Agriculture Organisation's (UN FAO) food price index hitting its highest level on record. Clearly, global agricultural commodity markets are enjoying a price shift.

This is not expected to be just a short-term price spike. The UN FAO/OECD estimates that over the next decade, agricultural commodities will sustain price levels between 20–50% higher than their average over the last decade. Indeed, this protracted rise in the price of food commodities is driving agflation, an important food price phenomenon. As a result of competing for the same land resource, the intertwined nature of agricultural inputs, grain, livestock and dairy prices are rising in unison, among others.

Real assets

Definition of real assets

Real assets are actual, tangible assets (such as commodities, infrastructure, land, valuable antique or art, buildings, coins, machinery and equipment, stamp collection) as opposed to financial assets (such as bonds, debentures, shares). Real assets fall outside of the category of the traditional assets. The returns of real assets are generated through the nature of the underlying asset class.

Commodities can be defined as raw materials used to create products for consumers, used as components in manufacturing goods, and development of physical infrastructure. Within an agricultural context, real assets may include assets such as rural land, livestock, water licences or entitlements and crops.

"As part of a broader opportunity set of investable assets, real assets may be considered a "natural" addition to portfolios, as modern portfolio theory suggests that the addition of various asset types to a portfolio can increase the prospects for enhancing overall return while reducing overall risk."[1]

The portfolio benefits of investing in real assets

"Real assets make intuitive sense as an inflation hedge, as they are tangible assets whose replacement cost increases with inflation."[1]

The inclusion of real assets in an investment portfolio can provide diversification and can help to dampen overall portfolio volatility. This is demonstrated in Table 1 by the relatively strong correlation of real assets such as farmland and timber with CPI, when compared to bonds and equities.

The correlation and Sharpe ratios in Table 1 support the inclusion of real assets in a diversified portfolio in order to smooth investment returns and to reduce volatility. The comparably high Sharpe ratio and the low levels of correlation to traditional assets bring to light the benefits of including this asset class in a strategic asset allocation.

Chart 2: Correlation & Sharpe Ratios – Real assets versus others

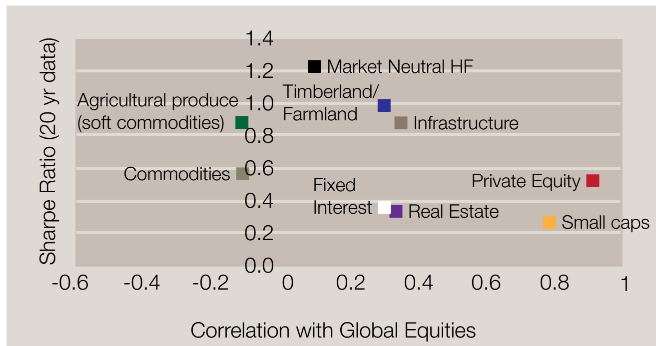


Table 1: Total Returns 1991–2007 (Geometric Mean %)

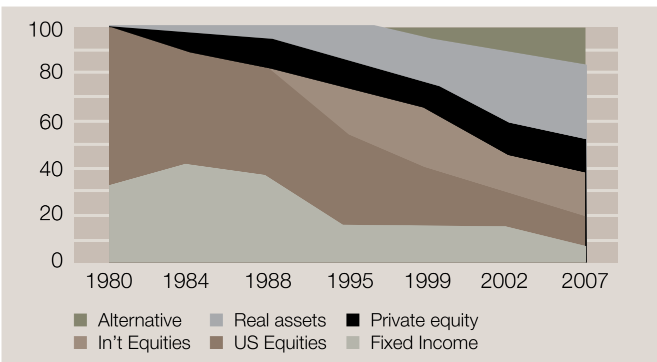
	Mean	Std Dev	Sharp Ratio	Correlations 1991–2007					
	1991–2007	1991–2007		CPI	Bonds	S&P	Timber	Farm	URE
CPI	2.7	0.7		1					
Bonds – Lehman Government	7.2	5.9	0.53	-0.08	1				
S&P500	11.4	17	0.41	-0.19	0.15	1			
Timber	13	9.6	0.93	0.39	0.07	0.31	1		
Farmland	11.1	7.6	0.93	0.49	-0.13	0.02	0.24	1	
Urban Real Estate	9.2	7.1	0.72	0.05	-0.35	0	-0.38	0.57	1

1 Kaplan, H. 1985. Farmland as a portfolio investment. Journal of Portfolio Management, vol 12, pp: 73-79.

Endowment funds have led the way

Institutions such as endowments and foundations can take credit for much of the increased acceptance of real assets as a distinct component of the asset allocation process. Leading investors such as Harvard have been investing in real assets for more than 20 years, as highlighted by Harvard's asset allocation below. Chart 3 shows that Harvard has been steadily increasing their allocation to real assets and alternative investments at the expense of US equities and fixed income.

Chart 3: Harvard Endowment Fund – Asset Allocation since 1980



Agriculture as real assets

Agricultural-related activity, also called agribusiness, falls into the real asset class. Agribusiness can be defined as the sum of all operations in the economy involved in the production, processing and wholesale marketing of agricultural products.

Investing in agriculture can provide the following benefits to the overall portfolio:

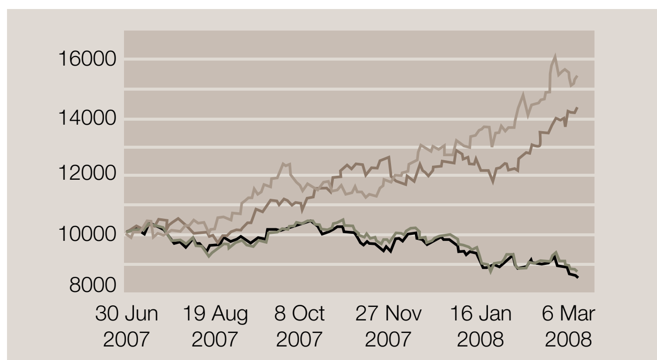
1. It acts as a diversifier due to its low to negative correlations to stocks and bonds.
2. It provides a hedge against inflation in times of rising inflation. As demand of goods and services increases, the price of those goods and services rise as well, as do the price of the commodities used to produce those goods and services.
3. It provides higher risk adjusted returns when added to a diversified portfolio. Agricultural commodities acted as portfolio insurance by providing positive returns with less volatility, when the equity and bond returns are declining.

The correlation data in Table 1 and Chart 2 support the notion that agriculture can increase the efficiency of mixed asset portfolios. Table 1 also demonstrates agriculture's place within a portfolio as an inflation hedge, shown by the positive correlation level between farmland and CPI.

It is not surprising that those assets such as agriculture that exhibit positive correlation to the rate of inflation would also exhibit low to negative correlations with financial assets. Stocks and bonds tend to experience value declines when inflation is on the rise.

It is important to note that soft commodity prices have not been susceptible to the recent volatility in equity markets. As such, despite falling stock prices recently, soft commodity prices have continued to rise, reflecting increasing demand and tight supplies. Fast growing populations and rising incomes in emerging economies such as China and India, growing demand for feedstock for biofuel production and low levels of inventories are continuing to propel soft commodity prices higher; despite the volatility of global share markets.

Chart 4: Rising commodity prices in a falling equity market



Themes driving agriculture as an investment class

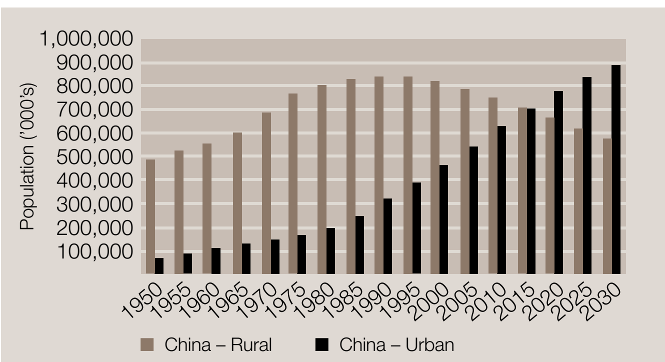
There are a number of global macroeconomic themes currently playing out which are driving the world's economy, and are hard to ignore from an investment perspective.

Urbanisation of developing economies

Urbanisation of developing economies such as India and China, and the global population growth is creating an increase in demand for food to feed these growing population numbers.

Chart 5 highlights the vast population shifts that are currently underway in China. It is forecast that there will be an additional 343 million people living in the cities by 2030.

Chart 5: Actual & Projected Population of China



Source: FAO

The industrialisation and urbanization of the Brazil, Russia, India and China (BRIC) economies is being accompanied by an increase in living standards. As per capita income increases, the population move away from predominantly grain based diets as they increase their consumption of sugar, vegetable oils and meats. People in urban areas have greater access to processed foods, so the proportion of fats and sugars in their diets rise. As wealth increases, refrigeration becomes more affordable, so meat consumption rises very significantly.[2]

An increase in meat consumption in developing countries is accompanied by an increase in grain used as feed for meat production. A shift towards greater meat consumption is multiplied many times over in the grain market. It should be noted that 2007 is the first year in history where urban dwellers exceed those in rural areas.[2]

Agflation

This population growth in turn drives 'agflation' which refers to the increase in the price of food caused by rising demand for human consumption and its use as an alternative energy resource. As a result, on a global scale agriculture is moving from a supply-driven industry to one that is demand-driven. This in turn has led to increased commodity prices for farmers and the tightest inventory of grain supplies in history.

Agflation has seen the Food and Agriculture Organisation's (FAO) global food price index (which summarises agricultural commodity prices) rise 37% year-on-year to September, 2007. In countries such as China, where food consumption accounts for a large portion of disposable income, we have seen interest rates rise substantially over the past 18-months.

Agflation should be concerning for investors as food represents about 25% of the world's CPI. In the developing world, food tends to make up a higher percentage of personal expenditure. While in America food makes up 14% of CPI, 11% in the EU and 18% in Australia, in China it accounts for 33% and in India 46%. If food prices continue to rise we will see continued inflationary pressure. Any increase in the most expensive item in the household budget of workers in the developing world will more than likely lead to a corresponding increase in their wages. This means that wage pressure at the cheapest end of the labour market will be significant.

[2] "Asia Strategy: Potential Unleashed". Macquarie Securities. May, 2007

Event		Impact
Inflationary pressure	→	Higher interest rates, which means weaker equity prices
Higher wages in countries such as China	→	Higher cost manufactured goods for the rest of the world.

Global Impact

Give that the developed world has 'dined out' on deflationary impact of low cost Chinese manufacturing for the past few years, a reversal of this, on top of food price inflation, could lead to severe inflationary pressure. This in turn, will lead to further pressure on equities.

The current increases in food prices are a reversal of decades of falling 'real' prices brought about by the 'green revolution'. The 'green revolution' was a response to food shortages in the developing world that led to massive increases in agricultural productivity and ultimately global overcapacity. As a result, from the 1960's we experienced three decades of rapidly expanding global food supplies and a corresponding fall in the 'real' price of food.

The combination of industrialising BRIC economies causing an increased demand for food, coupled with supply constraints caused by agricultural land becoming scarce and crops being diverted into bio-fuel production means that farmers will struggle to meet this increased global demand. For the first time in decades higher raw material costs for food manufacturers are being passed on as 'real' price increases to consumers.

In this way, factors causing agflationary pressure are leading to structural changes in the demand and supply fundamentals for agriculture. Like the impact of China and India in hard commodity markets during the past few years, the factors driving agflation will continue to impact global food prices. The difference is that agflation is currently in its early stages and the world has a much greater need for food than it does hard commodities.

Due to its expected impact, agflation is an issue that anyone involved in financial markets will find difficult to miss, not just the central bankers who are becoming increasingly concerned about the potential effects.

The benefits to a portfolio of investing in agriculture

As the data in Table 1 and Chart 1 demonstrates, agriculture is an excellent inflation hedge. In line with Harvard's transfer of assets from US equities and fixed income into real assets, William Howard from Callan Associates commented that "farmland may be attractive to large, inflation-sensitive institutions seeking solid current income and alternatives to bonds".[3]

Various academic studies[4] on the addition of farmland to an investor's portfolio have concluded that investing in agriculture provides the following benefits;

1. real returns
2. diversifications
3. inflation hedge

Studies have shown that farmland as an aggregate asset class has the favourable characteristics of a positive correlation with inflation and low or even negative correlation with many other equity classes and corporate debt. In addition farmland tended to have stable returns for the level of expected total return.

Eves investigated the role of rural land in mixed asset portfolios. This research was based upon the performance of rural property in south eastern Australia and compared rural land to other property assets (office, retail and industrial) as well as Australian equities and bonds using portfolio optimization techniques.[5] This analysis addressed both the capital returns as well as the total returns (capital returns and income) associated with each asset class. The study concluded that rural land can provide significant portfolio diversification benefits in both mixed asset and mixed property portfolios.

Specifically, investors should be looking to invest via broad themes that can benefit from changing global markets and growing global trends. This relies on a blend of macro-economic and traditional fundamental analysis to target sectors and investments that will benefit most from the technological, structural and regulatory changes reshaping the world economy.

Given that agricultural themes driven by opportunities such as urbanisation of developing economies and global population growth are long term themes, an investment horizon of around five to eight years is recommended to take full advantage of the returns offered by agriculture.

[3] Wright, Christopher. 'Money Crop: Is farmland the answer for institutional investors?' CFA Magazine Jan-Feb, 2007.

[4] Hardin, W. & Cheng, P. 2002, Farmland Investment Under Conditions of Certainty and Uncertainty, Journal of Reals Estate Finance and Economics, vol 25:1, pp:81-98; Ibbotson, R. & Siegal, L. 1984. Real estate returns: a comparison with other investments. Journal of the American Real Estate and Urban Economics Association, vol 12, pp: 219; Lins, D., Sherrick, B., Venigalla, A. 1992. Institutional portfolios: diversification through farmland investment. Journal of the American Real Estate and Urban Economics Association, vol 20, pp: 549-571; Moss, C., Featherstone, A. & Baker T. 1988, Agricultural assets in an efficient multi-period investment portfolio. Agricultural Financial Review. vol 47, pp. 82–94; Webb. J. & Rubens, J. 1988. The effect of alternative return measures on restricted mixed-asset portfolios. Journal of the American Real Estate and Urban Economics Association, Vol 16, pp: 123-137.

[5] Eves, C. 2001. The role of rural land in Mixed Asset Investment Portfolios. Pacific Rim Real Estate Society Conference. Lincoln University, New Zealand, unpub.

Demand and supply

Demand drivers

As noted by Goldman Sachs; "commodities can be distinguished from other financial assets as driven less by expectations and more by physical scarcity. In the near term, an excess of demand over supply can be satisfied by drawing from inventories. In the long term, excess demand can be satisfied by increasing productive capacity. We believe that these two characteristics – inventories and production costs – determine the price patterns displayed by all commodities."[6]

Population growth

Development economists have identified that the world will need at least 250% more farm output by 2050, perhaps even as much as three times.[7] Worldwide population growth means that there are 80 million additional people to feed each year.[7] From the current population base of 6.1 billion people, it is projected to rise to 8.3 billion by 2030, and 9.3 billion by 2050. As a result, it is expected that some countries that have previously been self-sufficient will need to start importing foods.

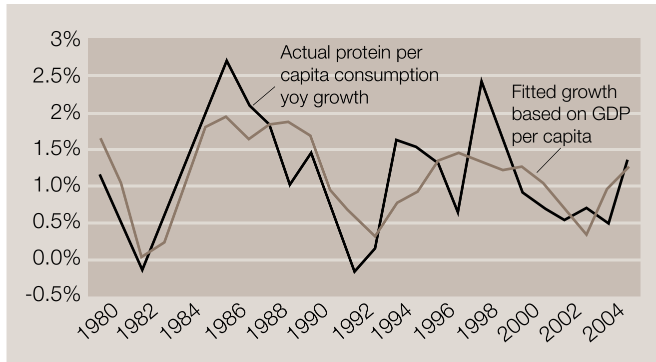
In China alone estimates indicate that there will be an additional 154 million people relocating from rural areas to the city between 1995 and 2010, and up to 343 million more people by 2030. It is clear that rising urbanisation has implications for global food consumption patterns.[7]

Urbanisation

Global trends in urbanisation, and the accompanying increase in disposable incomes, create potential for increased demand for protein. Studies have shown there are strong positive correlations between the increase in income and increase in beef consumption.

Looking forward, strong expected growth in the BRICs will likely underpin growth in per capita protein consumption as economist's project that the BRICs will collectively account for 40% of global GDP by 2025.[7] This may be particularly true for India, where current protein consumption levels are relatively low, leaving the country well positioned for further acceleration in consumption growth in the coming years.

Chart 6: Per capita meat consumption growth is positively correlated with GDP growth



Source: USDA and Goldman Sachs Commodities Research

Increased protein demand

Historically, as economies develop and populations shift away from subsistence farming, diets change significantly, in particular rice consumption per capita collapses to be replaced by surging consumption of sugar, vegetable oils and meat.

As protein products are more expensive than grains, growth in demand for protein is closely related to income expansion. This relationship is reflected in the tight correlation between per capita GDP growth and per capita meat consumption growth, a key source of protein in the human diet.[6]

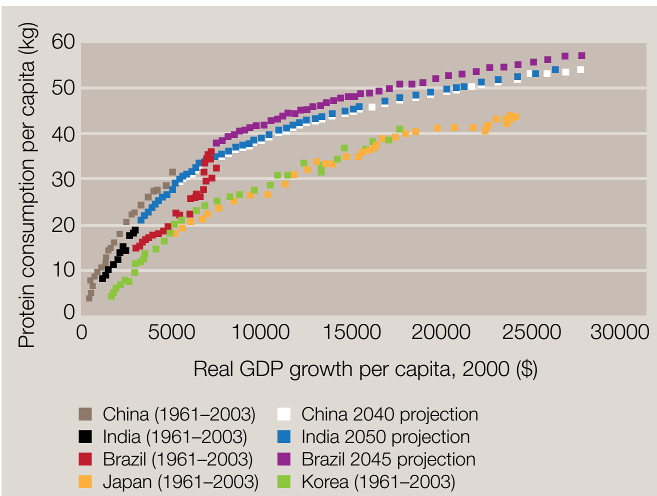
Demographic studies show that a rise in per capita incomes to the $US2,000 to $US5,000 range is consistent with a huge increase in energy/commodity consumption, consumer demand for luxury goods and a change in dietary habits. The average income in China has now just reached $US2,000 per capita. Beijing aims to drive per capita average income to US$10,000 over the next decade.

6 "Food, Feed and Fuel: An agriculture, livestock and biofuel primer'. Goldman Sachs. March, 2007.

7 FOA database - http://www.fao.org/statistics/

Chart 7 highlights this point by showing that as incomes per capita rise, the consumption of protein also begins to rise at an equal or faster pace.

Chart 7: Protein consumption growth of China, India and Brazil



Source: FAO and Goldman Sachs Commodities Research

Supply Constraints

The deterioration in the supply fundamentals is being exacerbated by a decline in global food production subsidies, a decrease in arable land, water scarcity issues, and climate change. However, more important is the significant diversion of agricultural production into the rapidly increasing biofuels industry in Europe, South and North America.

Land scarcity

While new supply will ultimately come from improving agricultural productivity, this effect will take some time. Some of the factors that are preventing a fast supply response include land being lost to urbanisation in emerging economies, with limited new land available for use. In order to meet supply, arable acreage will need to grow significantly faster than it has historically, which will be increasingly costly to cultivate, putting upward pressure on long-dated agriculture prices.

Developing economies such as Indonesia and Brazil, and developed economies such as Australia do have the potential to increase planted areas. Despite having 20% of the global population, China only has 7% of the arable land. Therefore, China is not in a position to meet the growing demand coming from the Chinese population[8] via internal agricultural production.[8] In the US and Europe, more than 30 million hectares of land has been set aside for conservation.[8]

Over the past several decades, demand growth has been met more by increases in yield rather than expansion in acreage. The strong growth in demand projected for the next ten years will likely exceed the rate that yield growth can accommodate, resulting in a need for significant expansion in acreage.[6]

[8] Rabobank, Food & Agribusiness Research & Advisory.

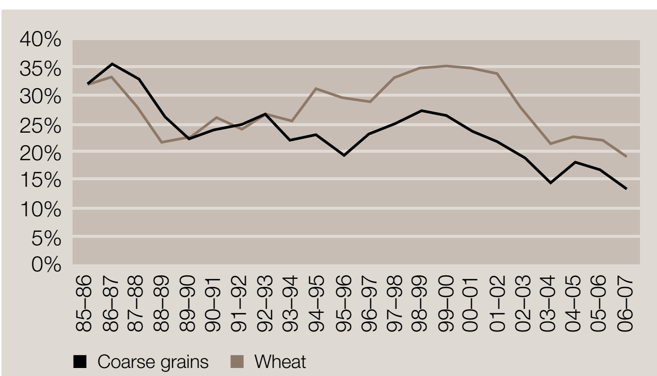
Grain production levels

Global stocks of most soft commodities, particularly grains, remain at multi-decade lows. In the last 5 years world wheat stocks have declined from just under 19 weeks of consumption to just over 10 weeks at June last year.[9] However, considering lower global wheat production forecasts for the 2007/08 season, the stocks-to-consumption ratio is expected to fall to just 9.5 weeks which represents the lowest figure in 47 years.[9]

The inventory levels are worse for corn with the significant increase in biofuel production. In 2003, the stocks-to-consumption ratio for corn was 8.5 weeks. Despite a significant increase in production, corn consumption has risen 17% over the last 4 years. Consequently the stocks-to-consumption ratio is expected to fall to just 7.5 weeks for the 2007/08 year.

For 2008, the US Department of Agriculture has forecast that global coarse grain stocks are expected to fall to their lowest level since 1976/77.[9]

Chart 8: World global stocks to use ratios for wheat and coarse grains (1985/06 – 2006/07)



Source: ABARE

The multi-decade lows for soft commodity stocks-to-consumption ratios are very similar to the low inventory levels for base metals a few years ago. Considering a significant rise in global food consumption from the BRIC economies, combined with the increasing competition from the biofuel industry, the supply response from primary producers remains very constrained.

Environmental challenges

Environmental damage from deterioration in water and soil quality (as a result of land degradation from salinity, over use, etc) is creating an additional supply issue which adds to the positive story for soft commodities. Climate change is causing increased crop spoilage through greater incidence of droughts and hurricanes, which is particularly affecting crops that need a lot of water such as rice and cotton. About 5 million to 8 million hectares of the world's total of 1.5 billion hectares (3.7 billion acres) of farmland goes fallow each year because of deteriorating quality.[10]

[9] 'Australian Commodity Statistics 2007.' ABARE - http://www.abareconomics.com/interactive/acs_dec07/.

[10] Worldwatch Institute. http://worldwatch.org

Gaining exposure

There are a number of different investment options available to investors looking to gain exposure to the agriculture sector. Each of these options will provide varying levels of return and exposure, ranging from passive to direct which will in turn influence the returns.

Equities

There are a number of listed equities available in the market, which attempt to exploit the agribusiness theme. Liquidity is one of the major attractions of gaining exposure to agriculture via listed equities.

Agricultural linked equities may not offer the desired diversification benefits due to their exposure to market risk and resultant higher correlation to the general equity indices. This market risk in turn leads to confusion regarding the return drivers of the underlying stock. Agriculture is a long-term investment, whereas shares prices are often driven by short-term factors.

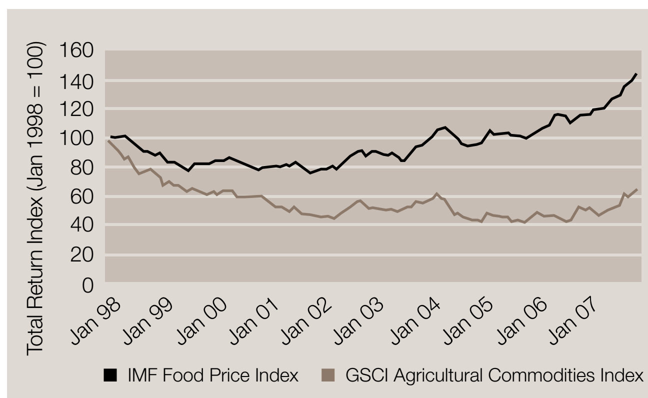
Product manufacturers looking to take advantage of investment opportunities in the agricultural sector have brought a number of fund offerings to the market. In general terms these products attempt to tap into the agricultural story by investing in listed companies aligned with the agricultural sector. One of the drawbacks with this type of investing is the definition and mandate of the fund may be very broad which results in dilution of the levels of exposure to agriculture.

Futures

Similarly, commodity futures are an alternative way to gain exposure to individual soft commodities; however this strategy is more useful for gaining short term exposure to the spot prices with the intention of making profit through speculation. Due to the short timeframe and the intention to predict the trends over this period, this strategy may limit true exposure to the agriculture theme, and therefore miss out on the underlying growth and diversification benefits gained from a more pure play strategy.

Chart 9 shows one aspect of this weak relationship between market accessed exposure to agriculture and one of the main drivers of this theme, food prices. The lag and disparity in returns is evident over the eleven year time horizon depicted below.

Chart 9: Commodity futures provide a weak link to agflation trend



Source: Macquarie analysis from Bloomberg and IMF data

Direct investment

The most direct and pure exposure to agriculture currently available is via exposure to real assets; being the land, livestock assets or crops. Returns are in the form of any increase in the value of property; livestock increase in value driven by rising meat prices based on the quality of the meat, herd size growth through natural increase and expansion of breeding the livestock; and the returns from harvesting crops. Income results from sales of the commodity produced on the land.

One way to tap into this direct exposure is via the owner/operator model. The benefit with this model is the level of control over key decisions relating to the running of the property such as timing around harvesting, sewing crops, which crops to plant, and the sale of livestock to name a few. However, given the level of responsibility which rests with these property managers, it is important to undertake a substantial level of due diligence into the manager of the property. Ensuring the manager has the relevant experience and knowledge is clearly going to be important in terms of the overall return delivered from the property.

A slight variation to the owner/operator model is the leasing of the property or livestock. While there may be advantages to this method, such as tax benefits, there are also a number of risks such as contractual risk, should one of the parties involved not meet their obligations.

Farmland ownership and farming are two very different things. By owning the land, an owner will realise the increase in the value of land and, if renting the property out will also receive this income. Farming on the other hand, is the operation of growing crops or raising livestock on the land without the benefit of capital growth on the land. In addition renters of the land are not incentivised to adequately maintain the land; rather they may engage in over-intensive farming practices which benefit them in the short term at the expense of the long term quality of the land. Inherent within this model is the tension between maximising short-term income returns versus maintaining the productivity of the land over the long-term.

Gaining exposure via the owner/operator model allows investors to benefit from a diversified combination of commodity prices, land values, and operating efficiencies & profits. Less liquidity is outweighed by diversified return sources.

Risks

Like any investment, an agri-business investment comes with a number of associated risks; drought, disease, commodity price volatility, rising interest rate movements for the leveraged investor, political risks, etc. However a majority of these may be mitigated upfront by first having a thorough understanding of what it is you are investing into, and conducting sufficient due diligence. Some key risks associated with an agri-business investment include:

Land valuations

As with any investment, the price at which an asset is purchased has a major impact on the overall outcome.

Diversification across geographic areas should assist in reducing the impact of changing land values in a particular region.

Purchasing properties that have been identified as having recognisable performance history in relation to primary production is a way to reduce acquisition risk.

Seasonal conditions

A single property is far riskier than a portfolio of properties, particularly if the portfolio of properties is diversified across enterprise and climatic zone. Adequate diversification in the underlying portfolio will help protect agricultural investments against the full impact of inevitable environmental factors which are impossible to control such as drought or flooding. For example, putting together a portfolio of properties located in different climatic regions may reduce the risk that all farming operations will be affected by adverse weather conditions at the same time.

Prices

Traditionally agricultural producers have been price takers, and income returns are heavily influenced by commodity prices which are set on the world market, broadly on the basis of supply and demand factors, but which are also impacted by quotas, import controls and other trade distortions. Historically, producers have often been in a weak position relative to the purchasers of their output, which are usually large corporations and there is often a lack of competition amongst purchasers within geographic regions.

Globally, many soft commodity prices are up over 100% in the last 2 years. This is translating to a global trend of food inflation. China saw inflation rise 7.1% in the 12 months to January 31, 2008; with food prices accounting for about 90% of inflation.

It is clear that for the first time in decades primary producers are regaining pricing power, and food manufacturers are passing on higher raw materials costs to consumers.

Productivity growth

The competitive position of either an agricultural industry, or the broader agricultural sector, depends not only on relative productivity growth with other countries, but also on how it performs relative to other activities competing for those same resources domestically. Unfortunately, international comparisons of productivity growth are difficult to make and interpret because of differences in methods, data and observation periods.

Over the period 1980–2000, Australia and the US have had similar rates of productivity growth and this has been well above average for agriculture in Organisation for Economic Co-operation and Development (OECD) countries. Productivity growth in Australian agriculture has been up to four times higher than the average productivity growth for the economy as a whole. For a selection of OECD countries, productivity growth in agriculture has averaged twice that in other sectors. Hence, the comparative advantage of Australian agriculture has improved.[11]

[11] 'Productivity Growth in Australian Agriculture: Trends, Sources, Performance'. Australian Farm Institute. March, 2007.

Volatility

As a result of the impact of seasonal conditions and world commodity prices, returns are largely beyond the control of operators and investors.

Diversification across enterprises allows portfolio adjustment to meet key market demands and changes in price parameters.

The risk of adverse weather conditions can be reduced by having geographically diversified properties across different climatic zones.

A geographic spread of properties can also mean that sales of product occur throughout the year, so that income flow is more regular and cash flow requirements and variability is minimised.

Operational Scale

The prevalence within the agriculture sector of small owner-operators who are driven by social, family, lifestyle and historical factors as much, or more than financial drivers, often means these operators do not have access to scale and cost efficiencies.

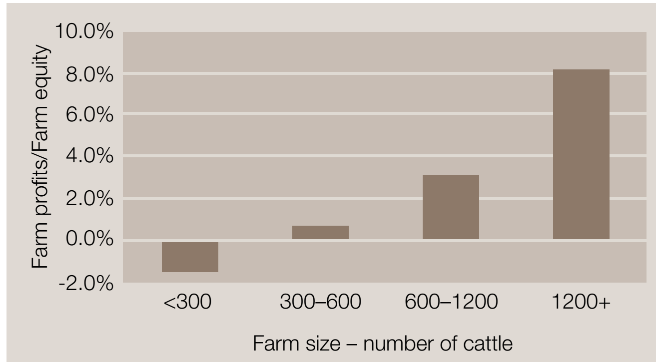
Operating profits can be increased through building scale and leveraging the accompanying benefits:

- reduced per unit costs of production;
- investment in technology and genetics to enhance on-farm efficiencies;
- multiple property ownership, with geographic diversification providing flexibility to manage drought conditions and take advantage of stock trading opportunities as they arise;
- investment in a highly experienced management team; and
- access to capital for continued growth.

The structure of the investment plays a large role in how the returns will be derived. In order to maximise return and mitigate risk, investors should seek out investments which are adequately diversified. For example, Kaplan studied the diversification potential on farmland ownership and found that in order to reduce the volatility of farming, large enough scale was required in order to have land across several regions, and capable of producing many varied crops.

Chart 10 demonstrates the relationship between scale and profitability by showing that as cattle herd size increases, profit also increases as a percentage of farm equity.

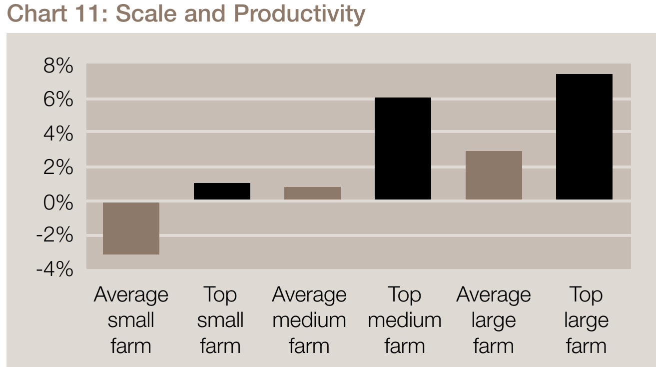
Chart 10: Specialist Beef Producer Performance: Farm Profits as a Percent of Farm Equity Average 1979–2005



Source: ABARE Farm Survey

Chart 11 demonstrates that the relationship between productivity and scale. The better-run (i.e. more productive) mid sized farms generate greater returns in percentage terms than the average of their larger peers. Ultimately, large scale productive properties generate greater returns than their smaller counterparts.

Chart 11: Scale and Productivity



Source: ABARE Farm Surveys

Summary

Real assets are fast being considered a “natural” addition to portfolios due to their diversification benefits in terms of both smoothing returns and reducing volatility. US endowment funds have led the way and have long been aware of the benefits associated with agribusiness in portfolios.

Real assets typically have a low correlation to traditional asset classes such as equities and bonds. Agriculture falls into this category and offers benefits in terms of the direct exposure available, through ownership of land, livestock or crops, and the level of diversification which may be achieved across both geographic and climatic locations.

The urbanisation of developing economies such as India and China, and the global population growth is creating an increasing demand for food to feed these growing population numbers. According to the World Bank, most agriculture-based countries are small, making it difficult for them to achieve economies of scale in research and training. Additionally, being in landlocked countries such as within Africa, translates to transport costs that, on average, are 50 percent higher than in a typical coastal country.[12]

The secular soft commodity cycle is only in its infancy, and currently representative of base metal prices in 2003/04. The industrialization of the BRIC economies, which is driving the current hard commodity cycle, is supporting similar positive fundamentals for global food consumption. In addition, soft commodities are facing similar supply constraints as primary producers struggle to meet the massive increase in food demand. Consequently global food prices are beginning to accelerate significantly.

The current bull market for hard commodities began in 2001 but agflation is currently in its early stages; and the world has a much greater need for food than it does hard commodities. While we are just starting to see the effects of agflation, the opportunities are long-term. Despite recent soft commodity price increases, the drivers of agricultural returns such as population and income growth in developing countries are still in their infancy.

These pressures are having a profound effect on food prices. Many foodstuffs have reached record high prices this year, with the UN FAO’s food price index rising to its highest level since it began in 1990. This is not expected to be just a short-term price spike. The FAO estimates that the discussed structural trends will push up the cost of agricultural commodities over the next decade by between 20–50% of their average over the last decade.

For investors, these findings suggest that including agricultural assets in their portfolios may provide significant benefits by increasing portfolio return and/or decreasing portfolio risk. Gaining direct exposure to agriculture via the owner/operator model allows investors to benefit from a diversified combination of return sources via commodity prices, land values, and operating efficiencies & profits while reducing the overall risks within their portfolio.

[12] Worldbank. http://econ.worldbank.org

Additional Reference Material

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