Strong Income Drives Farmland Performance in 2011

Record demand for U.S. farm products drove net farm income to nearly $100 billion and agricultural exports to $137 billion in 2011. Exports to China, the largest foreign purchaser of U.S. farm products, grew 30 percent. The value of U.S. corn and soybean exports grew 42% and 20%, respectively. Farmers are using the additional income to pay off debt: in 2011, the debt-to-equity ratio of the farm sector fell to 11.6%, the lowest level since the USDA began tracking the statistic in 1960. Farmland prices, particularly in the Corn Belt and Delta regions, continued to appreciate in 2011. Driven by strong income and appreciation, the performance of the Hancock Agricultural Investment Group (HAIG) farmland portfolio1 improved relative to 2010. Both income and appreciation returns rose year-on-year for row crop and permanent crop investments. This newsletter evaluates HAIG’s 2011 performance and highlights the strong income-producing ability of farmland investments. The newsletter also discusses our expectations for farmland performance in the context of the global macroeconomic environment.

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Another Good Year for HAIG Farmland

HAIG farmland investments posted a total return of 13.3% for 2011, composed of 7.4% income and 5.6% appreciation. These results mark a 3.9% improvement over 2010 and trend toward the portfolio’s 10-year annualized total return of 16.2%. All performance numbers are presented after deducting investment management fees of 1.0% from income and total return. Indices used for comparison are before fees.2

HAIG Farmland Outperforms Other Asset Class Indices

HAIG farmland returns compare favorably to traditional asset class indices. Figure 1 shows that over the one-year period ended December 31, 2011, HAIG outperformed the S&P 500 by 11.2%, Barclay’s U.S. Aggregate Bond Index by 5.5%, the S&P GSCI Index by 14.5%, and the S&P GSCI Agriculture Index by 29.2%. Global economic uncertainty muted equity returns but lifted overall bond performance in 2011. Despite the strength of energy and precious metal prices, non-energy components such as industrial metals and agriculture had a negative impact on aggregate commodity performance as measured by the S&P GSCI. Wheat was the worst performing commodity in 2011, falling 34% due to stock rebuilding spurred by 2010’s record prices. Wheat comprises approximately 25% of the agriculture sub-index and was the primary driver of this index’s poor results in 2011. Other component agricultural commodity prices were flat or slightly down. Positive performance came from corn, which ended the year up 1.1% after falling from mid-year peaks. Farmland investments, which often earn income through multi-year lease contracts, adjust slowly to price changes and thus exhibit lower correlation with soft commodity indices. Over longer periods, HAIG farmland investments continue to perform well against traditional asset classes.

HAIG vs. NCREIF

Institutional farmland investments, as measured by the NCREIF Farmland Index, produced a total return of 15.2% in 2011. HAIG underperformed the index in terms of total returns, delivering superior income performance but less appreciation over the most recent one-year period due to weighting in regions with less appreciation. Over longer periods, HAIG outperforms the NCREIF index in terms of total return. As illustrated in Figure 2, HAIG outperforms the NCREIF over 10-, 15- and 20-year periods. The NCREIF farmland index is a property-level index calculated before investment management fees.

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2 For more fee information, please see the Fee and Performance Addendum at the end of this newsletter.
HAIG farmland once again outperformed NCREIF farmland in terms of income returns in 2011, with HAIG posting 7.4% versus the index’s 7.0% income return. Income compared favorably to the benchmark for both row crops and permanent crops. HAIG has outperformed NCREIF income over the most recent 1-, 3-, 5-, 10-, 15- and 20-year periods as illustrated in Figure 4.

**HAIG Returns Increase in 2011**

The HAIG farmland portfolio posted a total return of 13.3% in 2011, outpacing 2010 by 3.9%. Income returns account for 7.4% and appreciation totaled 5.6%. Gains were seen in both income and appreciation returns for row and permanent crops as compared to 2010. Row crops posted a total return of 11.2%, comprised of 3.7% income and 7.2% appreciation. Compared to 2010, row crop income returns rose 0.4% and appreciation increased 3.0% (Figure 5). Permanent crops posted a total return of 17.4%, comprised of 13.3% income and 3.8% appreciation. Compared to 2010, permanent crop income returns rose 0.5% and appreciation increased 4.8% (Figure 6). Strong income returns continue to translate into rising farmland values. Despite the appreciation, income yields have grown year-on-year.

While HAIG income for permanent and row crop investments rose in 2011, and total portfolio income fell slightly from 7.8% in 2010 to 7.4% in 2011 as the weighting of traditionally higher income producing permanent crops decreased. Permanent crops as a percent of total HAIG portfolio market value fell from 47% at year-end 2010 to 40% at year-end 2011, reflecting the addition of new capital allocations favoring row crops.

**Rising Income Yields plus Strong Appreciation for Row Crops**

Though soft commodity prices did not exhibit 2010’s surging growth, they remained close to the previous year’s record level in 2011 and row crop rents that reset in 2011 benefited from continued strong revenue. While 10-year U.S. Treasury note yields sunk below 2%, HAIG row crop income rose to 3.7% for the year. Row crop income returns grew 40 basis points above 2010 returns. Values jumped 7.2% across the HAIG portfolio. Appreciation in 2011 was 3.0% higher than in 2010, but less than market value gains experienced earlier in the decade.

*For periods ended December 31, 2011. All HAIG performance numbers are presented after deducting investment management fees of 1.0% from income and total return.*
Appreciation varied by region, with the strongest gains occurring in the Corn Belt and Delta states. Farmland price appreciation has garnered much attention; however, the strength of income and the current low interest rate environment suggest farmland is rationally valued at this time.

**Nuts Drive Permanent Crop Returns**

A weak U.S. dollar and ongoing growth in Asian market demand continued to drive nut revenues and, in turn, HAIG permanent crop performance in 2011. After jumping from 7.3% in 2009 to 12.9% in 2010, permanent crop income returns rose again in 2011 to 13.4% (Figure 6). China is now the top buyer of U.S. almonds, pistachios, and walnuts. HAIG’s combined nut portfolio returned 24.0% in 2011, of which 13.8% was income and 9.6% appreciation.

A cool spring and inclement weather delayed the almond harvest but had relatively little impact on total almond production, which the USDA estimates to be 1.95 billion pounds in 2011. This will be the fourth consecutive year of record almond production, and increasing global demand has kept pace with supply growth. The U.S. is the world’s largest producer of almonds, and exports constitute over 70% of U.S. production. Shipments to China, the top buyer of U.S. almonds, grew 26% in 2011. HAIG almond investments posted 18.8% total return for the year, comprised of 11.8% income and 6.8% appreciation.

Following a record-setting harvest in 2010, 2011 was an “off year” for pistachio production. Pistachios exhibit an alternate bearing production cycle, with large crop years followed by lighter production. The USDA estimates pistachio production will be 203,000 metric tons in 2011. The estimate is 15% less than 2010 production but remains above the 5-year average. USDA forecasts indicate Iranian production will decline 25% in 2011. This reduction can have a significant impact on world markets because Iran is the world’s second largest producer of pistachios. The 2010 record harvest rebuilt stocks that are anticipated to be drawn down in the coming year as the U.S. fills Iran’s production shortfall in world export markets. HAIG pistachios produced a total return of 28.2% for the year, comprised of 14.3% income and 13.0% appreciation.

Walnuts were another top performing commodity in 2011, producing income returns of 16.7% and appreciation of 10.3% for a total return of 28.6%. The 2010 crop, which was sold throughout 2011, totaled a record 503,000 tons, yet prices rose on the back of strong export demand. Low carry-in inventories and a smaller 2011 harvest appear to be supporting prices for the most recent crop.
Solid Income from Apple and Cranberry Investments
Among permanent crops, apples also produced strong returns in 2011. HAIG’s Washington apple portfolio posted a total return of 30.8%. Income and capital returns were 30.5% and 0.4% respectively. Apple processors entered the 2011 season with lean beginning stocks and strong demand. The 2011 Washington apple harvest was in line with previous years, while record shipments late in the year lifted prices and bode well for the upcoming marketing season.

After a string of weak years following an industry supply imbalance, cranberry juice concentrate prices appear to be lifting off past lows. HAIG cranberry investments posted an income return of 15.3% in 2011. Values have yet to reflect expectations of an industry recovery. Capitol depreciation offset income for a total return of 2.8%.

HAIG wine grapes posted income returns of 6.7% in 2011 and appreciation of -8.6% for a total return of -2.3%. Inclement weather negatively affected grapes and reduced expected output by over 30% on some properties. The 2011 California grape crush totaled 3.3 million tons, down from 3.6 million tons in 2010. Prices appear to be strengthening and wineries’ demand outlook is optimistic for the coming years.

HAIG Permanent Crops Produce Consistent Income
The aggregate HAIG permanent crop portfolio generated an income return of 13.4% in 2011. HAIG permanent crops outperformed the NCREIF permanent cropland index by 1.4% in 2011. As illustrated in Figure 7, HAIG outperforms the NCREIF permanent cropland index by an even greater margin over the most recent 5-, 10-, 15- and 20-year periods.

Outlook Remains Positive for 2012
Acting together on our proven platform of operational and management expertise, HAIG and our partners are proud to deliver our clients an income return of 7.4% and a total return of 13.4% in 2011, net of fees. As we look to 2012, expectations for continued growth in global consumption and relatively weak U.S. dollar should support demand for U.S. farm products. Production expenses appear to be rising, particularly fuel and fertilizer costs, but operator margins remain strong. Rising interest rates and a strengthening U.S. dollar continue to pose downside risk for the sector. However, expectations of a continued low interest rate environment should support values and farmland is expected to continue to deliver solid income returns in the coming years.

Sources: HAIG, USDA, NCREIF, Morningstar, S&P Indices

FEES AND PERFORMANCE ADDENDUM
Performance figures are net of fees charged to customers. For each strategy shown, the performance has been reduced by the amount of the highest fee charged to any HAIG customer employing that particular strategy during the period under consideration. Actual fees may vary depending upon, among other things, the applicable fee schedule and portfolio size. HAIG’s fees are available upon request and also may be found in Part II of the Hancock Natural Resource Group Form ADV.
HAIG International Investments

**What’s Up Down Under?**
As North America emerges from winter, April and May mark the beginning of HAIG’s Australian macadamia nut and wine grape harvest season. HAIG operates 2,400 hectares of farmland in Queensland and New South Wales. After severe flooding reduced nut production throughout the region in 2011, the current year looks set to produce a satisfactory crop. Macadamia nut prices are firm near the historical average, while wine grape prices in Australian dollars remain depressed. The Australian wine grape industry continues to struggle against the headwinds of a strong Australian dollar and recent flooding in the Griffith region, but any currency weakening should lift export demand.

**Canadian Cranberries Produce Strong Income**
HAIG’s Canadian cranberry bogs had a good year in 2011, producing solid income in Canadian dollar terms. As with U.S. cranberries, prices appear to be rising from recent low levels. Production on mature bogs is above projections while development of recently planted acres remains on track. Operating under the attention and expertise of HAIG’s Canadian partner, the bogs are among the highest-yielding in the region.
The future profitability of the U.S. agricultural sector likely depends on the future demand of foreign consumers. Historically, a strong positive relationship exists between the value of U.S. agricultural exports and the price of U.S. farmland. The relationship exists because farm income is often an increasing function of the value of agricultural exports, and farmland price is an increasing function of farmland income. Understanding how global events affect the flow of U.S. agricultural goods helps asset managers gauge the future profitability of the U.S. agriculture sector.

**Short-term Outlook**

The Federal Reserve Bank plans to hold its policy rate at current levels until 2014. Expansionary monetary policy largely supports U.S. farmland investments. A low interest rate environment directly supports farmland prices by preserving the present value of expected farm income. Indirectly, a low interest rate in the U.S. relative to the rest of the world tends to suppress the value of the U.S. dollar. A relatively weak dollar encourages foreign consumers to purchase U.S. goods. Thus, a relatively low interest rate supports U.S. farm income by encouraging foreign consumers to purchase U.S. agricultural goods.

Sovereign debt problems in Europe somewhat counter the benefits of a low interest rate because risk-averse investors, who view the U.S. as a safe haven, accumulate U.S. denominated assets during risky periods. An increase in the demand for U.S. assets raises the demand for U.S. dollars and strengthens the relative position of the U.S. currency. Thus, the relative strength of the dollar may weaken if global risk subsides. A weaker dollar supports demand for U.S. farm products from abroad.

An intact Eurozone also helps the prospect of economic growth in China because Europe is the destination for over 20 percent of Chinese exports. In 2011, China surpassed Canada to become the largest destination for U.S. agricultural exports. Continual economic growth in China will further help increase the Chinese middle class. An expanding Chinese middle class enhances the outlook for U.S. agricultural exports and supports the price of U.S. farmland.

Slower economic growth in China and other emerging markets could weaken the demand for U.S. exports. However, the demand for food is income inelastic. Thus, slower economic growth in China would affect the demand for agricultural products less than other sectors. If the Chinese economy enters a recession, then the demand for food in China may fall proportionately less than the reduction in income.

**Medium-term Outlook**

Given long-term austerity measures underway in the Eurozone and the status of the U.S. economy, many investors find the growth prospects of emerging markets compelling. In the absence of changes in real exchange rates, the demand for U.S. agricultural exports will rise as emerging markets grow. Emerging market growth supports the development of a middle class, which should consume more agricultural products.

The medium-term outlook appears especially promising for U.S. agriculture because a further weakening of the dollar, as a result of a global reduction in risk, should increase the relative purchasing power of foreign currency, particularly the Chinese Yuan.

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Continuing problems in Europe could also alter the medium-term outlook. A breakup of the Eurozone or further large-scale austerity measures should only have a slight direct effect on the U.S. agricultural sector because the Eurozone members import a small portion of U.S. agricultural exports. Nevertheless, the potential indirect effects could hinder the U.S. farm economy because over 28 percent of the value of E.U. imports comes from emerging markets. If the E.U. imports less from emerging markets, then emerging markets will import less from the U.S.

Additional risks in the medium term include a bout of inflation in the U.S. Inflation reduces the real interest rate, which lowers the rate at which landowners discount future farm income. A lower discount rate effectively increases the present value of farmland. Inflation, however, could erode net farm income if the cost of production increases relative to cash receipts from production. Historically, however, farmland has provided a good hedge against inflation.

If the Federal Reserve decides to combat inflation by reducing the money supply, then the resultant higher real interest rate would put downward pressure on the value of all capital assets including farmland. A higher real interest rate would also increase the demand for U.S. capital assets, strengthen the U.S. dollar, and reduce the demand for U.S. agricultural exports.

**Long-term Outlook**

Persistent deficit spending and mounting government debt put downward pressure on the value of the dollar and reduce the cost of U.S. agricultural exports for foreign consumers. The association between government debt and the strength of the U.S. dollar, however, is not a significant factor determining the competitiveness of the U.S. agricultural sector in the long-term. Instead, the long-term outlook largely depends on the wealth of low- and middle-income nations, and on the productivity of foreign agriculture producers.

**Long-term Demand Considerations**

Seven billion people currently inhabit the earth and the World Bank estimates the number will rise to 9.2 billion by 2050. The Food and Agriculture Organization of the United Nations recently undertook a global assessment of land and water resources to analyze threats to food security and sustainable development.

The results suggest agricultural producers must increase global food production 70 percent to meet the future demand for food.

Specifically, producers must generate an additional 1.1 billion tons of cereals and 221 million tons of livestock products. The world will require approximately 4.78 billion tons of cereals and 1.13 billion tons of livestock products in 2050.

The trajectory of the demand for food largely depends on the wealth and number of consumers in developing countries. Consumers in low- and middle-income countries spend a higher proportion of their income on food relative to consumers in high-income countries. An increase in income will cause all consumers to spend more money on food regardless of their income. The share of income spent on food falls, however, as people become wealthier.

Consumers in low and middle-income countries will also change the composition of their diet as their incomes rise. For example, Muhammad et al. (2011) found that if food expenditures increase by a dollar then meat consumption in low-, middle-, and high-income countries will increase 0.77, 0.64, and 0.02 percent respectively. Cereal consumption, however, only increases 0.51, 0.25, and 0.02 percent respectively. The results from the study emphasize how growth in lower- and middle-income countries greatly increases the demand for food.

**Long-term Supply Considerations**

Developing legal, political, and economic institutions in emerging markets and developing economies can limit, among other things, the direct transfer of U.S. technologies and production practices. In addition, the riskier environment increases the cost of capital. The high cost of capital and the inability to replicate U.S. crop yields and output can reduce the profitability of foreign farmland investments. The inability to replicate profitability reduces the incentive to bring new farmland into production.
Risk prevents many people from bringing new farmland outside of developed countries into production. Investors require a higher rate of return for operating in environments with developing political, legal, and economic institutions. In some environments, the return an investor expects to earn from a farmland investment simply does not exceed the required risk premium.

In other environments, institutions do not enable markets to determine the efficient allocation of productive resources. For example, the Chinese government prevents private ownership of farmland. Among other factors, limited property rights and poor access to rural credit discourage investment, prevent farm consolidation, and inhibit the expansion of farmland supply in many foreign countries.

The strength of the U.S. legal system, the historical performance of the U.S. economy, the stability of the U.S. political environment, and the infrastructure supporting the marketing and transporting of U.S. agriculture goods reduce the cost of transacting in the U.S. relative to other countries.

While emerging market institutions should progress over time, the strength of U.S. institutions will continue to provide a competitive advantage to U.S. producers throughout the long-term.

**Conclusion**

The current success of U.S. farmland investments in the wake of an extraordinarily weak global outlook underscores the difference between the agricultural and non-agricultural sectors of the U.S. economy. The future performance of farmland investments depends on many interrelated factors. Of the many factors upon which the price of farmland depends, the growing demand for food by consumers in emerging market economies provides the most stabilizing long-term effect. The strength of institutions in the U.S. should continue to provide U.S. farmland investors with appealing risk-adjusted returns.

**REFERENCES**


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### Factors Affecting the Short-term Outlook of U.S. Farmland Prices (1-2 Years)

- Eurozone breakup
- Additional large-scale austerity measures in the Eurozone
- Economic slowdown in China

**Factors Affecting the Medium-term Outlook of U.S. Farmland Prices (3-5 Years)**

- The Federal Reserve Bank raises the real interest rate to combat inflation
- Eurozone breakup

**Factors Affecting the Long-term Outlook of U.S. Farmland Prices (Beyond 6 Years)**

- Foreign institutions facilitate productivity and expand the area under production
- Economic growth in emerging markets and developing countries increases demand

+ Monetary policy maintains a near zero federal funds rate
+ Further monetary policy suppresses the relative value of the dollar
+ Inflation reduces the real interest rate
+ Global risk subsides
+ Economic growth in emerging markets and lessor developing countries increases demand
Two New Associates Join HAIG

Cody Dahl, Ph.D., joins HAIG as a senior agricultural economist to further develop the economic research function. Dr. Dahl specializes in farmland valuation and agricultural commodity market research. His objectives include identifying investment opportunities and developing risk-mitigating strategies for institutional investors in the farmland market. Dr. Dahl earned a B.S. in Agribusiness, Farm, and Financial Management from the University of Illinois. He went on to receive an M.S. and Ph.D. in Food and Resource Economics from the University of Florida. Cody grew up on a farm in central Illinois.

Jeffrey Fritz joins the Asset Management group as an investment analyst, where he assists with asset management, investment analysis and portfolio management. Prior to joining HAIG, Mr. Fritz was a treasury analyst at Accenture in Chicago where he was responsible for managing a daily cash portfolio and performing credit analysis for various operating groups. He holds a BA in Finance from the University of Nebraska – Lincoln and an MBA from Babson College in Wellesley, Massachusetts. Mr. Fritz grew up on a corn and soybean farm and a hydroponic tomato operation in central Nebraska.