



Global Real Estate – Farmland

Arizona Chapter of American Society of Farm
Managers and Rural Appraisers
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US farmland *investment universe*

- The investment universe of US farmland is significant at almost USD1.3 trillion in value
- A diversity of crops are grown across the US
- A significant proportion of commodity crops are grown in the Corn Belt, Delta States and Southern Plains
- The Pacific West is an important and diverse agricultural region with both annual and permanent cropland



Photo of rice courtesy of USDA NRCS.

Source: USDA as of August 2011

Photo of rice courtesy of USDA NRCS.
Updated September 2, 2011

Competitive advantages of US agriculture

- **Geography:**
 - Largest cropland mass in the world located in latitudes favorable to crop production
 - Midway between major export markets of Europe, Asia, Mexico and Canada
- **Infrastructure:**
 - Mississippi, Ohio, Columbia Rivers
 - Rails, highways
 - Port facilities - New Orleans, Portland, Houston, Los Angeles, Baltimore
- **Technology & capital:**
 - Biotechnology, mechanical, conservation
 - Land grant colleges, agricultural extension programs
 - Innovative farmers with strong management skills
 - Well-capitalized farm economy
- **Dominant global export market share:**
 - Increasing global demand from improving income in developing countries and alternative fuels (ethanol and biodiesel)
 - US is most efficient and reliable producer



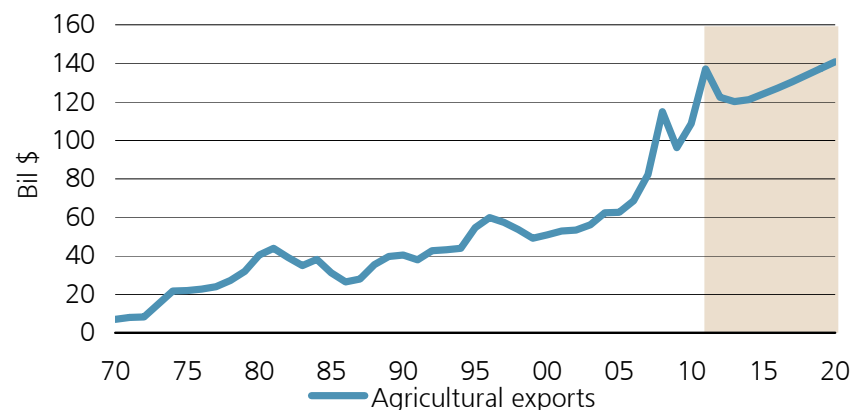
Source: ESRI

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Expanding global demand for farm commodities

- GDP growth around the globe is creating additional demand for commodities in general
- Improving incomes in developing countries are having a major impact on the demand for farm commodities
- The US is the most dependable exporter of farm commodities in the global market

US agricultural exports



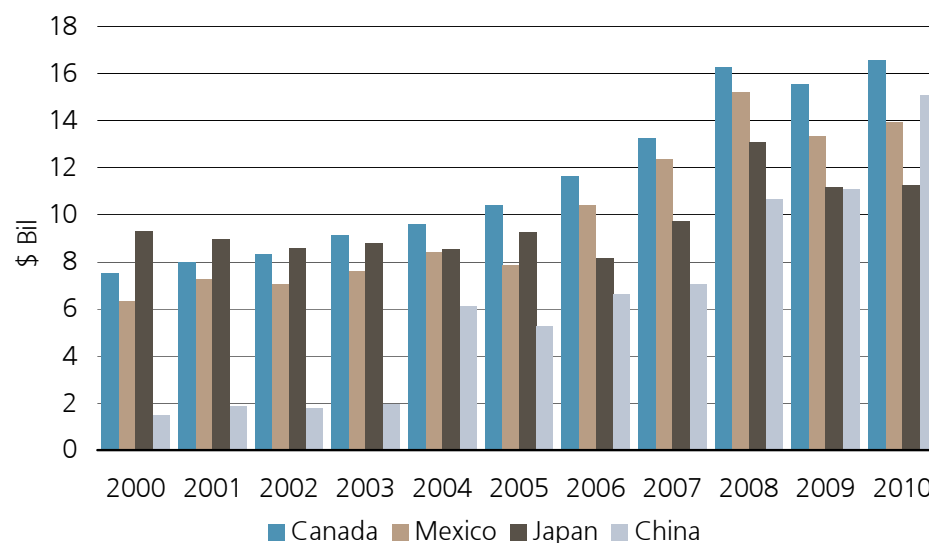
Source: USDA as of November 2011. 2011 through 2020 are forecasted by the USDA. Data is based on fiscal year

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US Agricultural *exports*

- Emerging and developing economies are a source of rising demand for US agricultural products
- As incomes rise, diets change. More meat requires more livestock feed
- China is a prime example. Ten years ago they were a small buyer. Today China is the second largest buyer

US agricultural exports, four largest buyers
2000-2010



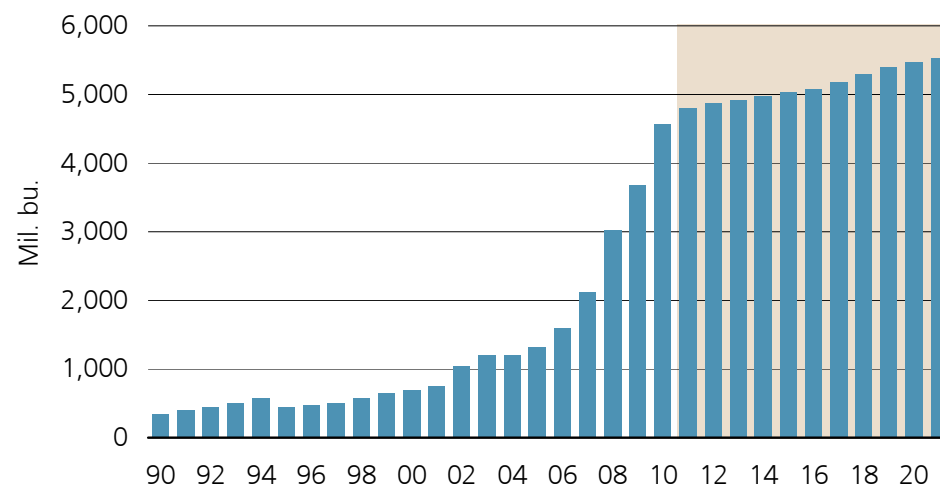
Source: USDA, Economic Research Service as of November 10, 2010.

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Additional demand from alternative fuels

- The recent push for alternative fuels in the US has accelerated the demand for corn
- Increasing acreage of corn production has resulted in improved supply/demand fundamentals for other crops as well

US corn used for ethanol



Source: USDA as of February 2011. 2011 through 2021 are forecasted by the USDA.

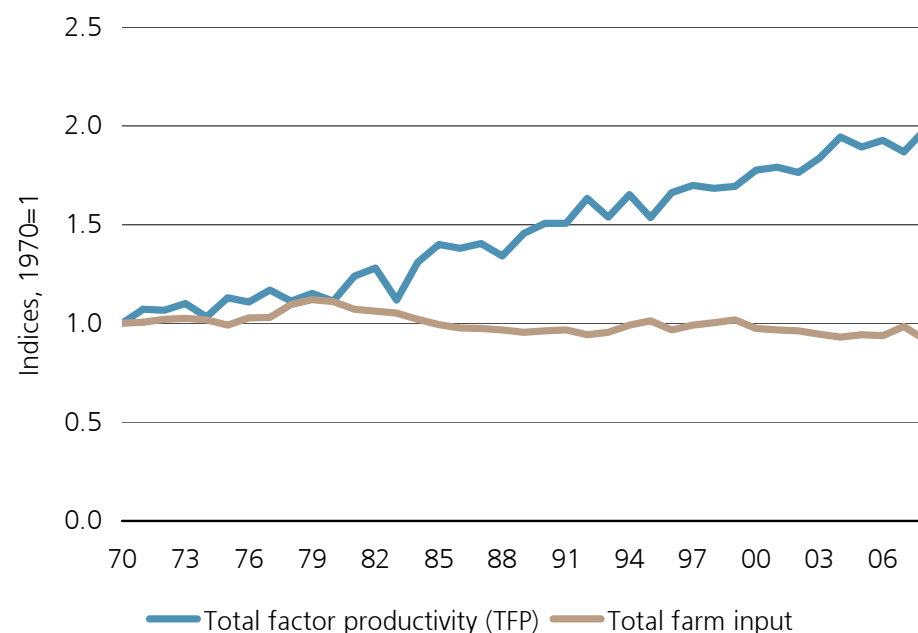
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Productivity of US agriculture

- Increased productivity is one of the main contributors to economic growth in US agriculture
- Productivity has doubled since 1970 while inputs have remained constant
- Increased productivity contributed to, and supports, higher farmland values

US agriculture total factor productivity

1970 - 2008



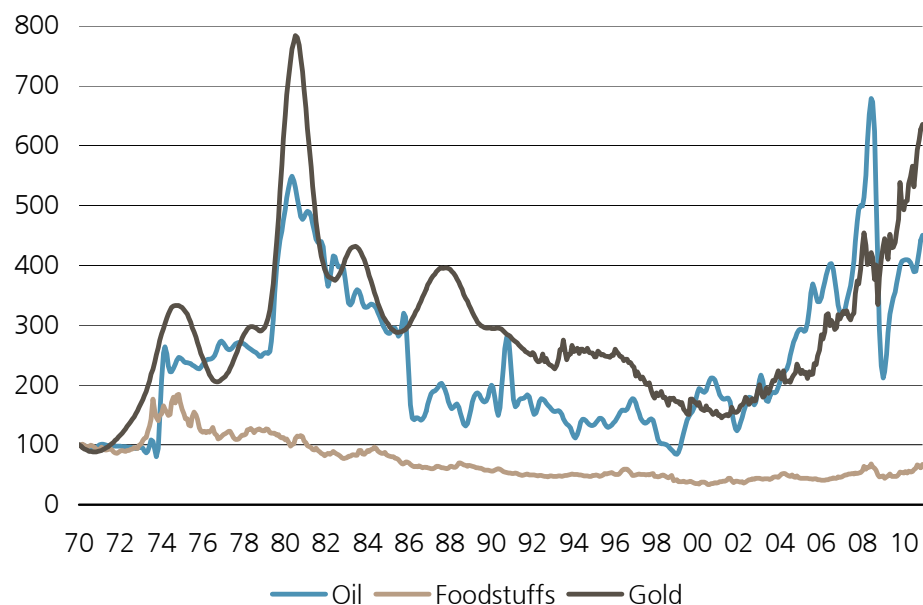
Source: USDA, Economic Research Service, Agricultural Productivity in the United States as of May 2010. USDA, Economic Research Service uses Total Factor Productivity (TFP) which measures changes in the efficiency with which all inputs are transformed into outputs.

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Farm commodity prices remain low in real terms

- Farm commodities have been making headlines with their recent changes in prices
- Farm commodity prices have been drifting down in real terms for years, and even with recent increases are only 54% of where they were in 1970
- Energy and metals have made far more dramatic moves during this latest bull market in overall commodity prices

Commodity price indexes*



*adjusted for inflation

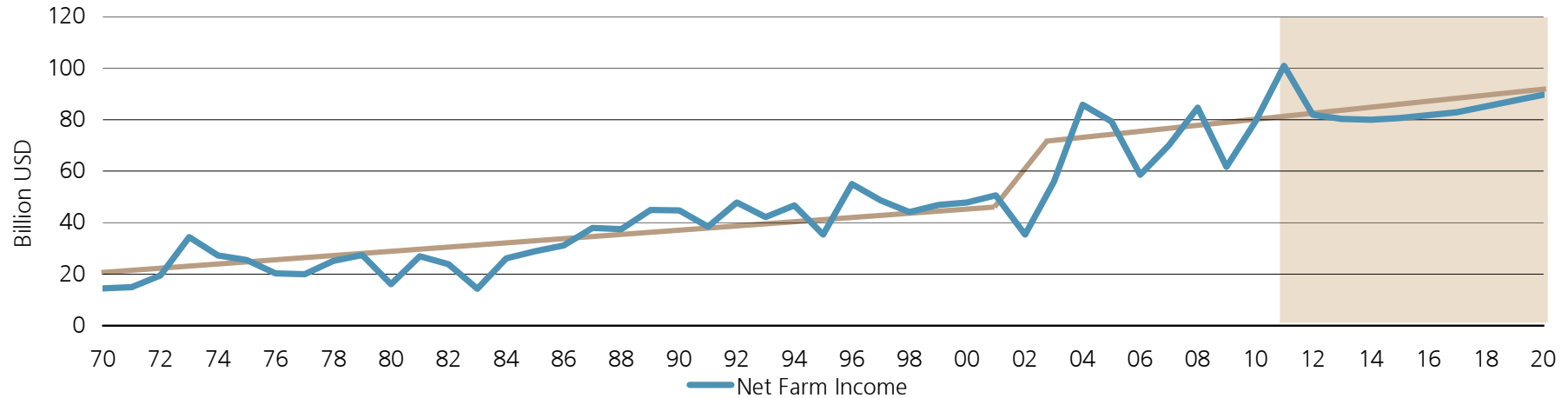
Source: Moody's Economy.com as of December 31, 2010.

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US farm *income*

Net Farm Income

1970 - 2020



Source: USDA as of November 2011. 2011 through 2020 are forecasted by the USDA.

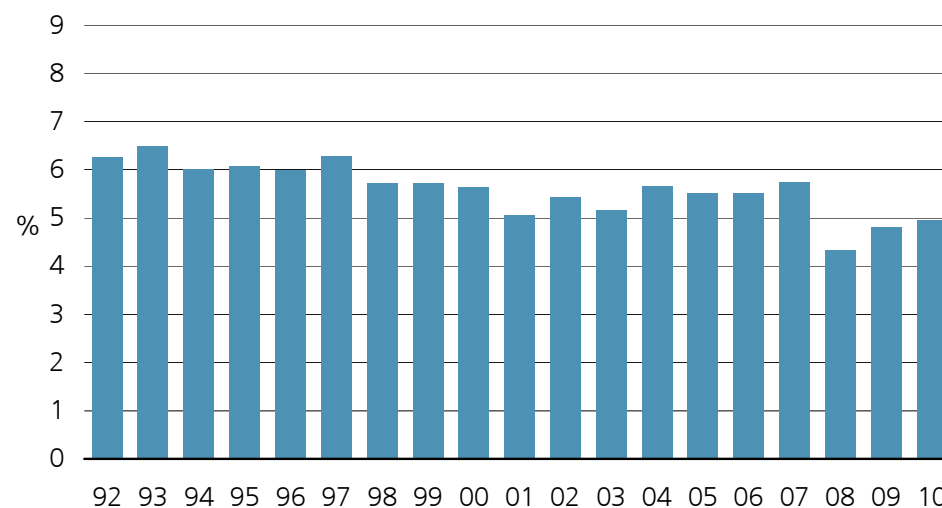
- A structural change in commodity prices from the persistent increase in global demand has been occurring in recent years
- The trend line in US farm income has jumped to a higher level
- Farmland rents and values are in the process of shifting to higher levels
- Current rents and values are supported by what we believe are sustainable net farm income levels

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US farmland *income returns*

- Farmland investments that are leased to local operators provide a steady flow of income
- Core farmland income returns have averaged 5.6% over the past 19 years
- Capital expenses have averaged 0.6%

Core farmland income returns



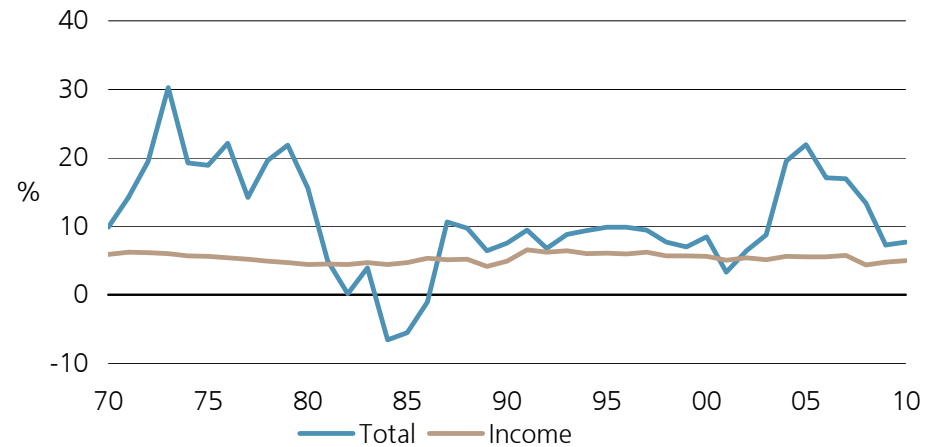
Source: NCREIF as of December 31, 2010. Past performance is not an indication of future results and the possibility of loss does exist.

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US farmland *returns*

- Farmland has provided positive returns in 36 out of 39 years:
 - Consistent 5%-7% income returns
 - 10.6% annual total return over the 1970-2010 time period
- A period of high inflation and low (even negative) real interest rates encouraged leveraged acquisition of farmland in the late 1970s
- Sustainable increases in the demand for farm commodities are pushing farm income, rents and land values to higher levels in recent years

US farmland returns



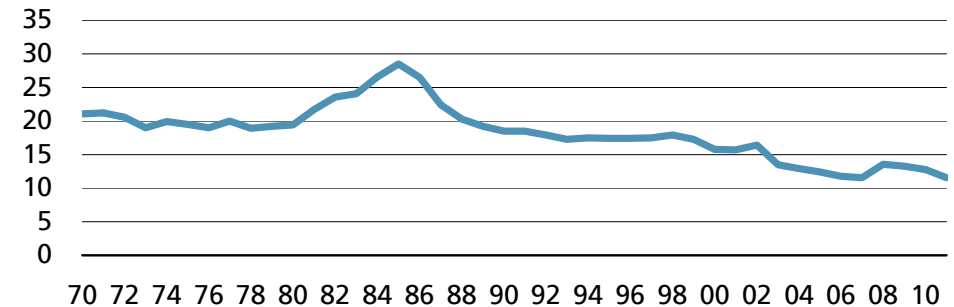
Source: Ibbotson Associates (1970-1990) and the Core Farmland Index (1991-2010) as of December 31, 2010. Past performance is not an indication of future results and the possibility of loss does exist.

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US farm sector financial indicators

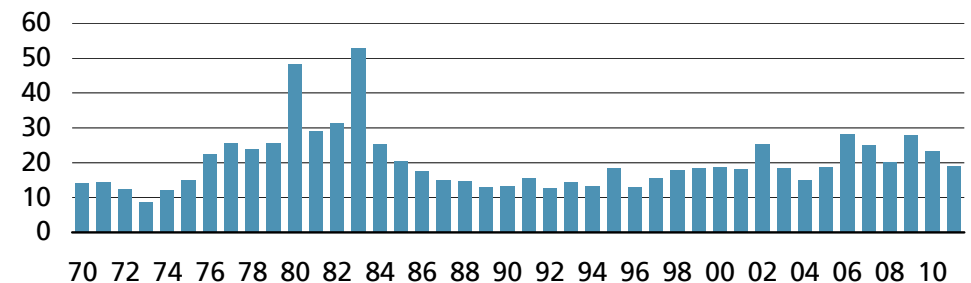
- Farm debt/equity ratios have continued to drift lower during this latest period of above inflationary appreciation, leaving farmland largely unaffected by the subprime mortgage meltdown
- Farm price/earnings ratios should remain close to historic average levels as rents begin to catch up with recent price appreciation
- Low debt/equity and average price/earnings ratios suggest that solid farm sector fundamentals are in place today

Farm debt/equity ratio



Source: USDA/Economic Research Service as of August 2011. 2011 is forecast. Ratio represents total farm debt divided by equity in land, buildings, equipment, crops and livestock.

Price/earnings ratio



Source: USDA/Economic Research Service as of August 2011. 2011 is forecast. Ratio represents land and building value divided by net farm income.

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US farmland returns in perspective

Annual returns 1970-2010

	Mean		Standard deviation	Sharpe Ratio	Correlations				
	Nominal (%)	Real (%)	Nominal (%)		CPI	Bonds	Stocks	Commercial real estate	Farmland (CFI)
CPI	4.4	-	3.1	N/A	1.00				
Bonds	8.2	3.8	6.8	0.39	(0.26)	1.00			
Stocks	10.0	5.6	17.9	0.25	(0.10)	0.32	1.00		
Commercial real estate	8.8	4.4	7.4	0.44	0.32	(0.13)	0.09	1.00	
Farmland (CFI)	10.6	6.2	7.7	0.66	0.45	(0.53)	(0.16)	0.18	1.00

Source: Bureau of Labor Statistics, Ibbotson Associates, the Bar-Cap Aggregate Bond Index, S&P 500 Stock Index, Morningstar, NCREIF Property Index and Core Farmland Index as of December 31, 2010. Source of CPI: Bureau of Labor Statistics. CPI is the Consumer Price Index, an inflationary indicator of the standard of living in the US. It is also referred to as the "cost of living" index. Means are annualized returns consistent with methodology used by NCREIF and are as of December 31, 2010. Standard Deviation and Correlations are based on December ending annual returns. Past performance is not an indication of future results and the possibility of loss does exist.

- Strong total returns over this 40-year period
- Low total return variability with stable income component
- Historically strong hedge against inflation
- Diversification benefits for a traditional stock and bond portfolio

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US farmland in a real estate portfolio

Annual returns 1991-2010

	Mean		Standard deviation	Sharpe Ratio	Correlations					
	Nominal (%)	Real (%)	Nominal (%)		CPI	Apartment	Office	Industrial	Retail	Farmland (CFI)
CPI	2.5	-	0.9	N/A	1.00					
Apartment	8.5	6.0	8.9	0.57	0.21	1.00				
Office	6.2	3.7	11.5	0.24	0.18	0.87	1.00			
Industrial	7.4	4.9	9.6	0.41	0.21	0.92	0.97	1.00		
Retail	7.6	5.1	8.4	0.50	0.19	0.83	0.79	0.81	1.00	
Farmland (CFI)	10.4	7.9	4.8	1.44	0.35	0.29	0.40	0.37	0.48	1.00

Source: Bureau of Labor Statistics, Ibbotson Associates, the Bar-Cap Aggregate Bond Index, S&P 500 Stock Index, Morningstar, NCREIF Property Index and Core Farmland Index as of December 31, 2010. Source of CPI: Bureau of Labor Statistics. CPI is the Consumer Price Index, an inflationary indicator of the standard of living in the US. It is also referred to as the "cost of living" index. Means are annualized returns consistent with methodology used by NCREIF and are as of December 31, 2010. Standard Deviation and Correlations are based on December ending annual returns. Past performance is not an indication of future results and the possibility of loss does exist.

- Strong total return with lower volatility
- High Sharpe ratio
- Relatively low correlations with core property types (no construction cycle with farmland)

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Farmland return composition *by crop type*

- Permanent cropland provides higher income returns but with greater capital expenses
- The market value of annual cropland has increased at a much greater rate:
 - No depreciating trees or vines
 - Limited varietal obsolescence
- The volatility of annual cropland returns has been approximately half the volatility of permanent cropland returns over the 1991-2010 time period

	NCREIF 1991-2010 (%)		Core Farmland Index
	Leased annual	Leased permanent	
Income return	5.2	7.3	5.6
Change in market value	5.8	3.0	5.6
Capital expenses	-0.6	-1.2	-0.6
Total return	10.6	9.1	10.4
Standard deviation of total return	4.6	8.1	4.8
CPI	2.5	2.5	2.5
Real return	8.1	6.6	7.9

Source: NCREIF as of December 31, 2010. Components may not simply add to total return due to compounding. Source of CPI: Bureau of Labor Statistics. CPI is the Consumer Price Index, an inflationary indicator of the standard of living in the US. It is also referred to as the "cost of living" index. Past performance is not an indication of future results and the possibility of loss does exist.

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Potential risks of US farmland investments

- **Changes in economic conditions** - Foreign production and delivery systems improve at a faster rate than global demand; Government farm programs are significantly reduced in the United States and not in other countries
- **General risks** - Persistent changes in weather that are widespread and not conducive to agricultural production in the US; changes in consumer preferences
- **Environmental issues** – whether or not the owner knew of or caused the presence of certain hazardous substances, the cost of investigation, remediation or removal of such substances may be substantial and the failure to properly remediate the contamination may adversely affect the owner’s ability to sell or rent such property
- **Risk of illiquidity** - farmland is an illiquid investment. There can be no assurance that there will be a ready market for each property at the time it may be necessary to dispose of the same. For investment in private commingled funds, there is no public market for shares and no such market is expected to develop in the future

A detailed description of these and other risks is provided in the Fund’s Confidential Private Offering Memorandum

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Conclusion

- Farmland has historically provided very attractive risk-adjusted returns, inflation protection and good diversification for stock, bond and real estate portfolios
- Increasing global demand for farm commodities over the past few years has supported higher commodity prices, farm income, farmland rents and farmland values
- This dynamic has generated a period of excess returns on farmland
- Global demand for farm commodities and the resulting excess returns farmland has been providing to investors have been slowed by the global recession
- The rents and values in our portfolios today are supported by commodity prices in place today and never reflected the peak commodity prices observed in mid-year 2008
- Farmland returns are expected to remain around long-term averages in the near-term and further benefit from increasing global demand in the future

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