



# OMEGA RATIOS

of Canadian Farmland

Investments in farmland.



## ABSTRACT:

A review of the Canadian farmland investment market over the last 10 and 20 years reveals: a farmland holding would have generated omega ratios substantially above one for return thresholds of 0% and 5%. As for a return threshold of 10% omega ratios were substantially above one in the 10-year period while ranging between 0.3 and 0.55 for the 20-year period. Even with relatively high nominal return thresholds Canadian farmland can be reasonably expected to meet or exceed return expectations.

## KEYWORDS:

Canadian farmland, Alberta farmland, Saskatchewan farmland, omega ratio.

## INTRODUCTION:

How certain can you be that Canadian farmland will hit your return targets? A review of the market over the last 10 and 20 years reveals that a farmland holding would have generated Omega ratios substantially above one for a return threshold of 5%. At a return threshold of 10% Omega ratios were substantially above one in the 10-year period while ranging between 0.3 and 0.55 for the 20-year period. We used three farmland portfolio configurations, average Canadian farmland, average Saskatchewan farmland and average Alberta farmland.

## DISCUSSION OF RESULTS:

Before explaining the consequence of these results let's start with an overview of the principle of the Omega ratio as different from its more well-known sibling the Sharpe ratio. Mean and variance cannot completely represent the risk and reward in a return distribution, except in the case where those returns are normally distributed. By comparison, all known information about the risk and return of an investment is contained within the Omega ratio as it is the probability weighted ratio of gains over losses for any expected level of return. As such, Omega quantifies the "quality" of the investment relative to the return threshold.

*"The Omega ratio is a risk-return performance measure of an investment asset, portfolio, or strategy. It was devised by Keating & Shadwick in 2002 and is defined as the probability weighted ratio of gains versus losses for some threshold return target. The ratio is an alternative for the widely used Sharpe ratio and is based on information the Sharpe ratio discards. Omega is calculated by creating a partition in the cumulative return distribution in order to create an area of losses and an area for gains relative to this threshold. The ratio is calculated as:*

$$\Omega(r) = \frac{\int_r^\infty (1 - F(x)) dx}{\int_{-\infty}^r F(x) dx},$$

*where  $F$  is the cumulative distribution function of the returns and  $r$  is the target return threshold defining what is considered a gain versus a loss. A larger ratio indicates that the asset provides more gains relative to losses for some threshold  $r$  and so would be preferred by an investor. When  $r$  is set to zero the Gain-Loss-Ratio by Bernardo and Ledoit arises as a special case. Comparisons can be made with the commonly used Sharpe ratio which considers the ratio of return versus volatility. The Sharpe ratio considers only the first two moments of the return distribution whereas the Omega ratio, by construction, considers all moments." Source Wikipedia*

Our data shows that even with relatively high nominal return requirements farmland in Alberta, Saskatchewan and Canada (based on the last 10 and 20 years) can be reasonably expected to meet or exceed portfolio expectations – i.e. it is a



**Stephen Johnston**  
Director – Veripath

sjohnston@omnigenceam.com



**Barclay Laughland**  
Director – Veripath

blaughland@omnigenceam.com



**Carmon Blacklock**  
Director – Veripath

cblacklock@omnigenceam.com



**Keenan Viney**  
Data Researcher

kviney@omnigenceam.com



high-quality investment. Why do you care? You can put farmland into a portfolio and have a high likelihood of achieving portfolio targets and a low likelihood of underperformance.

### CONCLUSION:

Even with relatively high nominal return thresholds, farmland in Alberta, Saskatchewan and Canada (based on the last 10 and 20 years) can be reasonably expected to meet or exceed portfolio expectations.

### SOURCE DATA AND ANALYSIS:

Year	Canada	SK	AB	S&P
1991	0.9%	-6.7%	-4.2%	30.2%
1992	-2.3%	-3.8%	-2.2%	7.5%
1993	1.5%	-0.8%	2.0%	10.0%
1994	5.2%	7.1%	9.0%	1.3%
1995	8.6%	10.3%	14.4%	37.2%
1996	8.7%	5.0%	7.4%	22.7%
1997	10.0%	4.8%	10.5%	33.1%
1998	5.0%	1.2%	7.7%	28.3%
1999	3.3%	0.3%	4.9%	20.9%
2000	2.7%	0.6%	4.5%	-9.0%
2001	2.1%	0.3%	3.6%	-11.9%
2002	6.5%	2.4%	7.9%	-22.0%
2003	6.3%	4.3%	7.1%	28.4%
2004	6.4%	3.1%	7.9%	10.7%
2005	6.6%	2.7%	8.7%	4.8%
2006	7.0%	2.6%	8.2%	15.6%
2007	7.3%	5.1%	9.9%	5.5%
2008	11.8%	12.7%	14.8%	-36.6%
2009	6.4%	11.7%	3.3%	25.9%
2010	6.3%	6.6%	6.2%	14.8%
2011	7.2%	13.2%	5.2%	2.1%
2012	10.2%	15.4%	7.2%	15.9%
2013	14.3%	21.1%	11.0%	32.2%
2014	9.1%	17.7%	7.0%	13.5%
2015	7.7%	10.5%	7.9%	1.4%
2016	5.7%	6.7%	7.7%	11.8%
2017	7.7%	8.9%	8.2%	21.6%
2018	5.8%	7.1%	6.2%	-4.2%
2019	5.7%	6.9%	4.9%	31.2%
2020	5.1%	6.2%	6.1%	18.0%
2021	9.6%	3.4%	5.2%	28.5%

	Canada	SK	AB
<b>20-yr (2001-2021)</b>			
Mean	7%	8%	7%
St. Dev	3%	6%	3%
Sharpe	1.72	0.91	1.70

<b>10-yr (2011-2021)</b>			
Mean	8.0%	10.6%	6.9%
St. Dev	2.7%	5.5%	1.8%
Sharpe	1.87	1.38	2.23

<b>20-yr (2001-2021)</b>			
Omega (L = 0%)	#NUM!	#NUM!	#NUM!
Omega (L = 5%)	1841%	493%	1618%
Omega (L = 10%)	10%	44%	9%

<b>10-yr (2011-2021)</b>			
Omega (L = 0%)	#NUM!	#NUM!	#NUM!
Omega (L = 5%)	#NUM!	4068%	26376%
Omega (L = 10%)	17%	134%	3%

Applying a minimum limit of 5% for  $\int_r^\infty (1 - F(x)) dx$

### NOTES:

The data used to derive the data series in this paper come from the Historic Farmland Values Report published by Farm Credit Canada.





Toronto Office:  
TD Canada Trust Tower, 161 Bay St.  
27th Floor, P.O. Box 508  
Toronto, ON, M5J 2S1

Calgary Office:  
Suite 300, 4954 Richard Road SW  
Calgary, AB, T3E 6L1

[www.veripathpartners.com](http://www.veripathpartners.com)

## DISCLAIMER

Our reports, including this paper, express our opinions which have been based, in part, upon generally available public information and research as well as upon inferences and deductions made through our due diligence, research and analytical process. The information contained in this paper includes information from, or data derived from, public third-party sources including industry publications, reports and research papers. Although this third-party information and data is believed to be reliable, neither Veripath Partners or Omnigence Asset Management nor their agents (collectively "Veripath") have independently verified the accuracy, currency or completeness of any of the information and data contained in this paper which is derived from such third party sources and, therefore, there is no assurance or guarantee as to the accuracy or completeness of such included information and data. Veripath and its agents hereby disclaim any liability whatsoever in respect of any third-party information or data, and the results derived from our utilization of that data in our analysis. While we have a good-faith belief in the accuracy of what we write, all such information is presented "as is," without warranty of any kind, whether express or implied. The use made of the information and conclusions set forth in this paper is solely at the risk of the user of this information. This paper is intended only as general information presented for the convenience of the reader and should not in any way be construed as investment or other advice whatsoever. Veripath is not registered as an investment dealer or advisor in any jurisdiction and this report does not represent investment advice of any kind. The reader should seek the advice of relevant professionals (including a registered investment professional) before making any investment decisions. The opinions and views expressed in this paper are subject to change or modification without notice, and Veripath does not undertake to update or supplement this or any other of its reports or papers as a result of a change in opinion stated herein or otherwise.