



DOWNSIDE UPSIDE CAPTURE RATIO OF CANADIAN FARMLAND

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ABSTRACT:

Canadian farmland has provided robust returns in S&P down and up markets over the past 30 years giving it a unique downside/upside capture ratio. Farmland also outperforms many other more conventional asset classes in defensive performance.

KEY WORDS:

Canadian farmland, Alberta farmland, Saskatchewan farmland, down market capture, downside returns, up market capture, upside returns

INTRODUCTION:

The downside capture ratio is an indicator of how well an asset performs during periods where the reference index (S&P 500 – public equities) is experiencing negative returns. The ratio is typically calculated over a twenty-year or greater period to pick up sufficient periods where the index returns are negative:

$$\text{Down Market Capture Ratio} = \frac{\text{Manager's return in a down market}}{\text{Index returns}}$$

This ratio is used to compare asset classes or investment managers to establish which has the best defensive properties. In the case of portfolio construction, having an asset with a downside capture ratio of under 100 would imply that the asset declined less than the index during the down period. For a negatively correlated asset, the downside capture ratio would be negative.

Analysts will often combine the downside capture ratio with the same ratio for upside, together these metrics show whether the asset out-performs the index overall and whether the out-performance comes during up or down markets.

$$\text{Up Market Capture Ratio} = \frac{\text{Manager's return in an up market}}{\text{Index returns}}$$

DISCUSSION OF RESULTS:

Down-Market Capture: Examining the 30-year period from 1992-2022, there are six years where the S&P had negative returns. In those years, farmland values always had positive growth. Farmland also outperformed other alternatives during these years of negative stock market returns, making it, we believe, a superior defensive asset.

Year	S&P 500	Canada	Alberta	Saskatchewan	3-month US T-bill	10-year US T-bill	BAA Corporate Bond	Real Estate	Gold
Down Market Average Return	-16.95%	7.47%	7.39%	6.47%	2.69%	6.60%	1.35%	3.95%	4.14%
Down Market Capture Ratio	100	-44.1	-43.6	-38.2	-15.9	-38.9	-8.0	-23.3	-24.4

The upside capture ratio is an indicator of how well an asset performs during periods where the reference index (S&P 500 – public equities) is experiencing positive returns. Excluding the six down years of the S&P 500 from 1992-2022, it is possible to calculate the up-market capture ratio for the same assets above.



Stephen Johnston
Director – Omnigence

sjohnston@omnigenceam.com



Keenan Viney
Data Scientist

kviney@omnigenceam.com

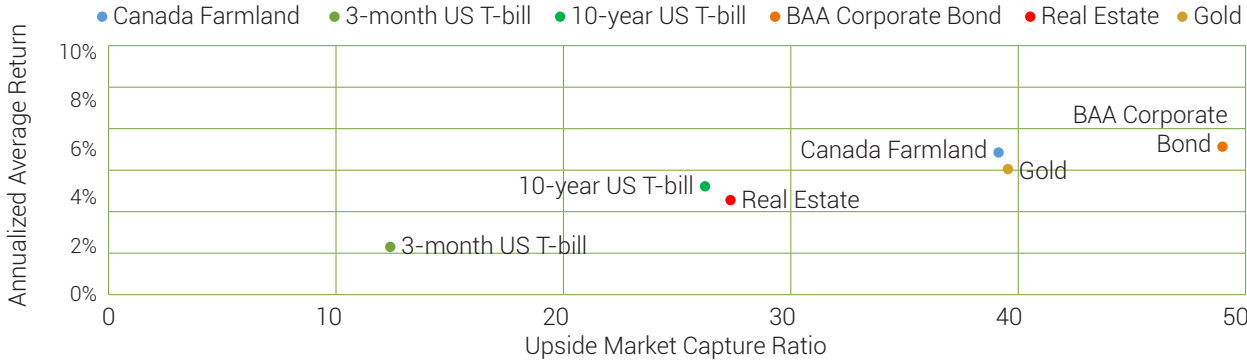


	S&P 500	Canada	Alberta	Saskatchewan	3-month US T-bill	10-year US T-bill	BAA Corporate Bond	Real Estate	Gold
Up Market Average Return	17.72%	6.92%	7.12%	7.09%	2.18%	4.65%	8.67%	4.83%	6.99%
Up Market Capture Ratio	100	39.08	40.19	40.04	12.32	26.25	48.96	27.24	39.48

CONCLUSION:

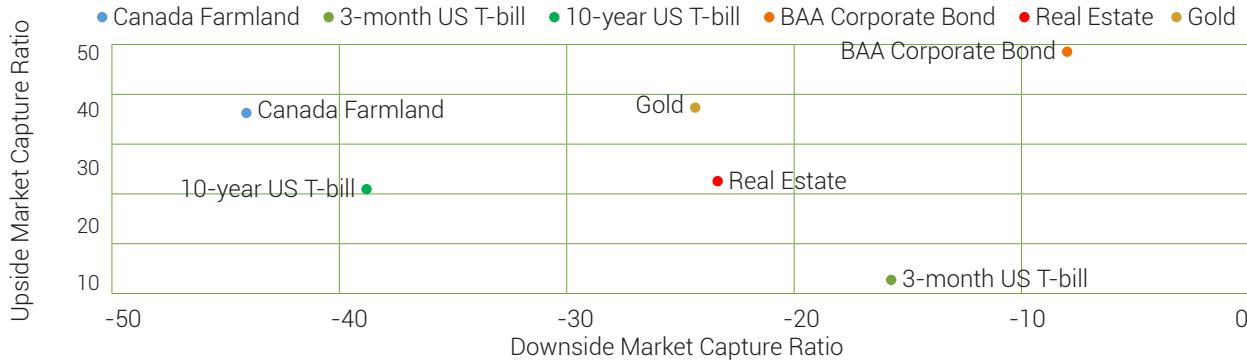
The combined downside/upside data shows that Canadian farmland has provided strong positive returns in both S&P down and up markets over the past 30 years – a useful behavior when considering the addition of an asset to a traditional 60/40 portfolio. In addition, farmland outperforms many other conventional and alternative asset classes in both this defensive and upside performance versus public equities.

Chart 1: Upside Capture Ratio



Source: Historical Returns on Stocks, Bonds and Bills: 1928-2022, Statistics Canada Table 32-10-0047-01

Chart 2: Capture Ratios by Asset Class



Source: Historical Returns on Stocks, Bonds and Bills: 1928-2022, Statistics Canada Table 32-10-0047-01

REFERENCES:

Aswath Damodaran, Historical Returns on Stocks, Bonds and Bills: 1928-2022: https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histretSP.html

Statistics Canada. Table 32-10-0047-01 Value per acre of farm land and buildings at July 1



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.omnigenceam.com

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