

The background features abstract, overlapping green geometric shapes in various shades of green, creating a modern and dynamic look. The shapes are primarily located on the left and right sides of the slide, framing the central text.

Investment Fund #3

5 Year Review Jan 2015 to Dec 2019

Just Analytics

Spend Wisely

www.justanalytics.ca

Principles of Investment Management

1. Active Managers get higher fees than a 'pure' track the Index ETF because they are supposed to provide higher net returns.
2. These higher returns should not be purely a result of your Investment Fund (IF) taking on more risk.
3. These higher returns should not be purely a result of 'luck' (random) as this is not sustainable for your Investment Fund.

Our Approach

1. We utilize the science of Analytics.
2. This will tell you if it is 'just luck' or 'skill' (i.e., a better methodology) when your Investment Fund (IF) outperforms the market.
3. I want your pension plan funds to out perform the market!
4. Hire Investment Funds that are most likely to outperform the market & have reasonable fees - Spend Wisely!

The Index

1. The first step in the analytics is to determine the appropriate Index against which to compare your Investment Fund.
2. The Russell 3000 is an excellent broad base index for US and Canadian Equities - it includes 98% of the total market cap; it had a annual return of 31.02% for 2019.
3. We can compare to any (sub) Index that you prefer.

Which Analytics?

Excess Return

- ▶ Are you receiving enough return for increased risk in the portfolio?

Value at Risk

- ▶ How is your Fund performing when the Index is struggling?

Underperformance Ratio

- ▶ How often does your IF underperform the Index in a 5 year period?

Likelihood to Outperform - the most critical in my opinion

- ▶ Is it random (50% ish) or 'almost science' (90% ish over 3 years)?

Excess Return

- ▶ This Investment Fund has generated an average excess return (risk adjusted) of 256 basis points over the past 5 years as of 31 Dec 2019.
- ▶ This Investment Fund assumed 5.5% more risk & generated 19.5% more return than the Index.

	IF 3	Russell 3000	T.E. Data	Difference	Comments
Avg. Monthly Returns	1.18	0.98			
Avg. Monthly Std. Dev'n.	3.68	3.48			
Avg. Annual Return	14.13	11.82		19.53%	not CAGR
Avg. Annual Std. Dev'n.	12.73	12.07		5.50%	
Intercept	0.22				
Slope (Beta)	0.97				
Expected Return	11.57				
Excess Return (Alpha)	2.56				
Tracking Error	4.97		1.44		
Information Ratio	0.51				

Value at Risk

- ▶ Stress test - how did the Investment Fund perform when the Index had its worst months (i.e., months in which the Index lost at least 2%).
- ▶ The Investment Fund was better than the Index on 7 of 12 occasions, and is 913 basis points ahead of the R3000 (cumulative).

Monthly Returns			
Date	IF 3	R3000	Difference
Dec-18	-7.96	-9.31	1.35
Oct-18	-8.89	-7.36	-1.53
May-19	-4.09	-6.47	2.38
Aug-15	-6.20	-6.04	-0.16
Jan-16	-6.55	-5.64	-0.91
Feb-18	-1.44	-3.69	2.25
Sep-15	-2.42	-2.91	0.49
Jan-15	0.60	-2.78	3.38
Oct-16	-2.61	-2.16	-0.45
Dec-15	-1.55	-2.05	0.50
Aug-19	0.32	-2.04	2.36
Mar-18	-2.54	-2.01	-0.53
VAR 5 yrs	-43.33	-52.46	9.13

Underperformance Ratio (5 years)

- ▶ Even the best performing funds will regularly under perform the Index; a Quartile 1 fund will typically underperform the Index in 2 of 5 years (Mercer).

Annual return	IF 3	R1000	Difference	R3000	Difference
2015	6.76	5.67	1.09	0.48	6.28
2016	1.17	7.08	-5.91	12.74	-11.57
2017	29.04	30.21	-1.17	21.13	7.91
2018	2.06	-1.51	3.57	-5.24	7.30
2019	36.44	36.39	0.05	31.02	5.42
Performance			-2.37		15.34
Annual Fees			5.62		5.62
Front Load / 5 years			5.75		5.75
Net Performance			-13.74		3.97

- ▶ IF 3 has underperformed the R 1000G twice and the R 3000 once in 5 years.
- ▶ IF 3 has significantly outperformed the R3000 (gross of fees) but the fees consume 74% of the excess return.

Performance - is it 'Random' or 'Skill'?

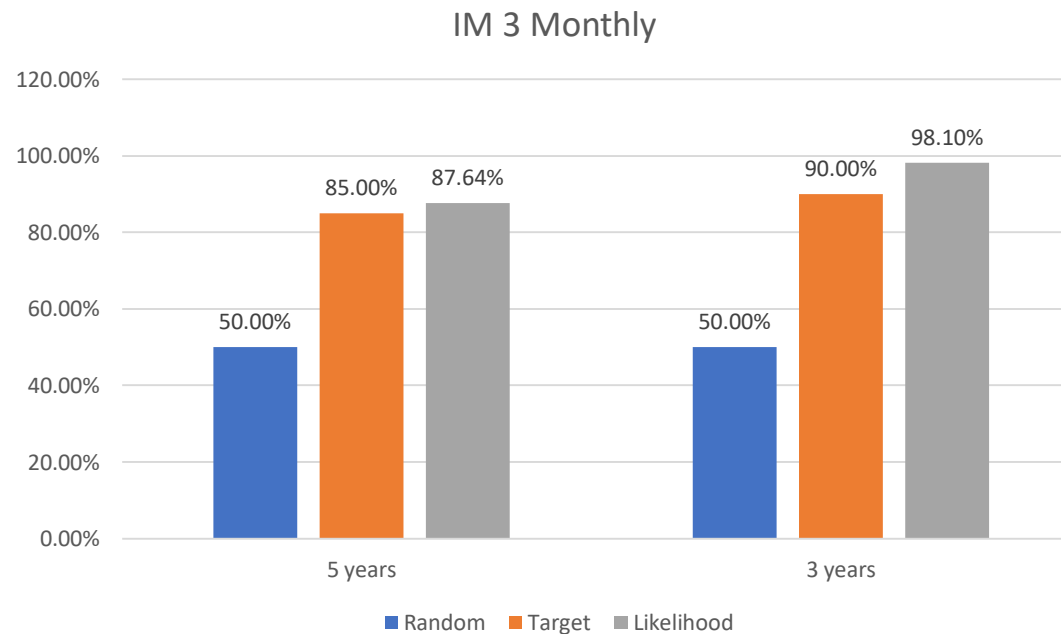
1. If your Fund out performs the market, they will tell you it is 'skill'.
2. If your Fund under performs the market, they will tell you it is 'bad luck'.
3. The reality is that either statement could be true or false.
4. How do you know?
5. The 'science of Analytics' can determine if out performance (or under performance) is random (luck) or skill (better process / meaningful).
6. The Analytics looks at the returns, the various risk profiles, the correlation, and then runs a regression analysis to determine the probability of the results being more than just luck.

‘Random’ or ‘Skill’ - What is the Threshold?

1. Scientists expect a 95% confidence level, it is a very rigorous standard.
2. We look for a 90% confidence level over 3 years, 85% over 5 years, and 80% over 10 years.
3. We believe it is worth reviewing if the results are within 5% of target (e.g., 76% confidence level over 10 years).
4. We know that Investment Fund 3 outperformed the market over the past 5 years based on having generated excess return. Was it luck or skill? That is the critical question...

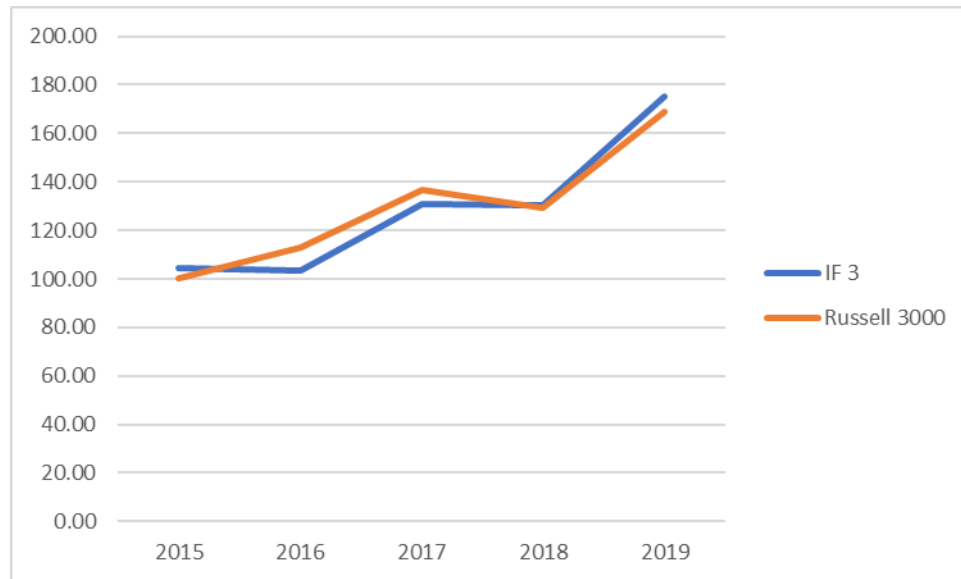
Analytics Results - 3 and 5 years

- We are very confident (98% for 3 years and 87% for 5 years) that IF 3 results are statistically significant - likelihood to outperform.



Value of \$100 (net of fees) - 5 years

- The Russell 3000 grew to \$169, the Investment Fund grew to \$175.



- The IF's results are better but the very high fees (>2% per annum) substantially reduce the net results.

Exec Summary

1. IF 3 outperformed the market as they generated an average excess return (risk adjusted) of 256 basis points per annum.
2. The Value at Risk results were positive - 913 basis points ahead of the Index in the worst 12 months with losses greater than 2%.
3. IF 3 underperformed the Index (R 3000) once in 5 years (good).
4. There is between a 87% (5 year) and 98% (3 year) likelihood that the outperformance is not random (i.e., a better methodology).
5. The fee structure is excessive and significantly reduced the Fund's return - the IF gets 11+% and you get < 4% of the excess return.
6. A very good fund (Tier 2) but the fees are simply too high and prevent it from being a Tier 1 fund. Eliminate the front load fees (5.75%) = Tier 1

Review Meeting

- ▶ Please call me at 403 818 0671 or email me at greg@justanalytics.ca to book our 90 minute review meeting.
- ▶ Please let me know if you have any questions.
- ▶ Thank you for choosing Just Analytics.ca!

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