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Issue 10

ETF & MUTUAL FUND UPDATE

In This Issue:

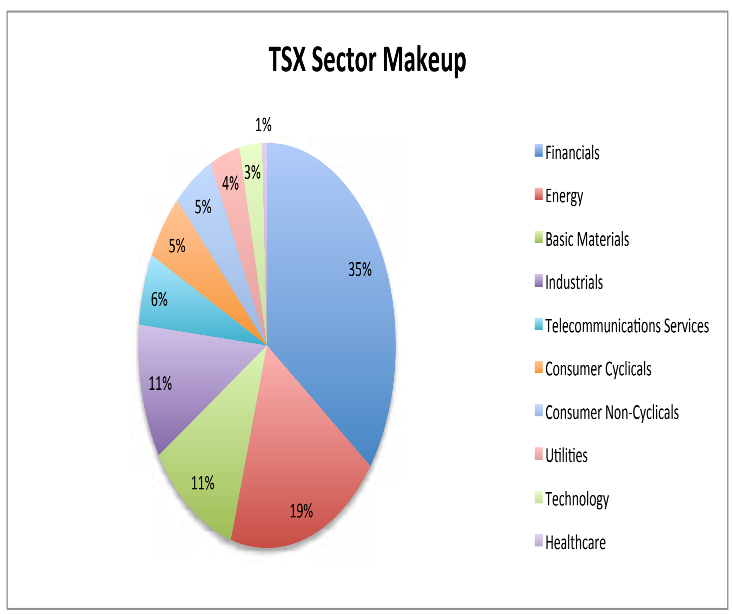
Market Radar		
Markets	**TSX Composite**	**S&P 500**
P/E	17.37	22.64
Yield (%)	3.03	2.34
YTD Performance (%)	2.88	13.66
Top Performers	**ETF**	**Mutual Fund**
1-Month	BMO Junior Gold	AlphaNorth Growth
YTD	RBC Quant EM Equity Leaders	Dynamic Power Global Growth
3-Year	BMO Equal Weight US Banks	TD Science and Technology
Market data as of October 10, 2017; top performers as of month-end.		
Note: We are no longer including leveraged ETFs in top performers list		

Filling in Portfolio Gaps for a Canadian Fund Investor

By Ryan Modesto, CFA

One of the biggest problems Canadian investors face, in our view, is how to be properly diversified. While many may think that by holding some passive funds like a TSX 60 ETF they are diversified, this could not be further from the truth. Unfortunately, many investors likely believe this to be the case. We won't belabour the issue of how passive (and even active, since they are benchmarked to the TSX) Canadian investors are not as diversified as they believe, but interested readers can get more thoughts from us in this article in the July 17, 2017 issue of the Globe and Mail entitled "Why it's almost impossible to be a passive investor in Canada". (Source: https://beta.theglobeandmail.com/globe-investor/investment-ideas/research-reports/why-its-almost-impossible-to-be-a-passive-investor-in-canada/article35711154/?ref=http://www.theglobeandmail.com&).

Investors should note 55% of the TSX is allocated toward financials and energy and that figure jumps to 66% when the materials sector is included. Put in another light, 33% of the TSX is allocated to sectors whose prospects are largely dependent on volatile commodity-based industries. Meanwhile, five of the ten (11 if you include REITs), or essentially half, of the sectors have a weighting at ~5% or less, making up just less than 18% of the TSX in total. This leaves a Canadian investor in two separate predicaments. The first is determining what your sector exposure truly is across funds held, which can be a tedious exercise and a topic we will leave for the next issue. The second problem is how does an investor gain exposure to the areas they are more than likely to be underrepresented in? The chart below sums up the crux of the issue well:



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Underrepresented Sectors

The areas that are underrepresented are Consumer Cyclicals (Discretionary), Consumer Non-Cyclicals (Staples), Utilities, Technology, and Healthcare. In order to add exposure to all of these areas, an investor would be best served in most cases to look for funds that offer US exposure. This can have two benefits. First of all, it balances out the total allocations an investor holds across sectors. The second benefit is that it offers an investor geographic diversification through a higher US exposure.

US Technology sector ETFs

Both BMO and iShares offer good options for gaining specific US Technology sector exposure. The iShares Nasdaq 100 (XQQ) has an MER of 0.39% and holdings such as Microsoft, Apple, Amazon, Facebook and Alphabet (commonly referred to as FAANG stocks recently). This fund can be a good way to gain exposure to these types of names without making a big investment in any single company. Apple, Microsoft, Amazon and Facebook do compose roughly 30% of the total fund, which could be a risk or a benefit, depending on what type of exposure an investor is looking for. This fund is also hedged to the Canadian dollar, helping to mitigate additional volatility from foreign exchange movements.

The BMO Nasdaq 100 Equity Hedged to CAD Index ETF (ZQQ) is also hedged to the Canadian dollar and has an MER of 0.39%. While the two funds are largely similar, ZQQ has a bit more concentration in the top holdings than XQQ holds. Both funds are highly correlated to one another and in turn perform quite similarly.

Consumer sector ETFs

Canadian-traded options for the consumer sectors are the slimmest of all with not many funds to choose from. If investment in Canadian dollars is desired, the only real options, in our view are the iShares Capped Consumer Staples ETF (XST) and the iShares Global Consumer Discretionary ETF (XCD). We are not very big fans of XST, as an investor could largely just own Alimentation Couche-Tard, Loblaw and Metro and mirror fund performance through these holdings, as they make up roughly 58% of the fund. XCD is a fine alternative for the Consumer Discretionary sector, with an MER of 0.65% and 94 holdings diversified across the world. For investors willing to take on foreign exchange risk for US exposure, the Standard & Poor's Depositary Receipt ETF (SPDR) make great options to fill in any sector gaps in the consumer allocations. Both are low-cost funds offering diversified exposure to the much larger consumer sector within the US compared to Canada.

US Healthcare sector ETFs

Given the weak representation in the Healthcare sector on the Canadian side, it is a bit surprising that there is such a lack of offerings in the Canadian ETF space. The two worth noting are BMO Equal Weight US Healthcare Cad-Hedged (ZUH) and Healthcare Leaders Income ETF (HHL). ZUH is the more standard, broad offering with an MER of 0.39% and 54 holdings with the highest weighting at 3.05%. This means that the success of the fund is not overly dependent on any single stock. Healthcare Leaders fund is a bit different in that it has a 1.37% MER and only 20 holdings are targeted, so there is a bit more of an active tilt here in order to get the income focus with a yield in the 8% range. We think the distinction on which fund to choose is clear: for a more passive and diversified

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preference, ZUH is the best option and for an investor looking for a more active tilt to the healthcare sector, HHL may be worth considering.

Utilities sector ETFs

This is the one sector of the five we have addressed that can actually be represented a bit better through Canadian specific funds. For more detail on some options, we direct readers to the October 2016 issue on Utility funds where we break down some offerings.

Overall, we think either ZUT or ZWU are good choices to fill in any underrepresentation in this space.

While an investor may hold a diversified portfolio, many may find that they are lacking representation in a handful of sectors that are simply not present on more traditional Canadian indices. The above sector ETFs can be an effective way to increase exposure to underrepresented sectors and even offer an opportunity for a more active investor to tilt their portfolio toward sectors or styles that they feel will outperform the market.

How Artificial Intelligence May Revolutionize Investing

By Michael Southern, CFA

To most, Artificial Intelligence (AI) brings to mind sci-fi concept movies or terminator robots that will destroy humankind. However, odds are that you and AI are already interacting with each other on a daily basis— Facebook uses AI to recognize faces in images that users post, Alphabet/Google uses AI to predict what you are searching for before you are even done typing, and Amazon uses AI to predict what products you will buy.

The potential of this industry is very exciting as are the applications. In this article, we will try to better understand the industry and look at a few Exchange Traded Funds (ETFs) that help investors capture the theme.

So What is AI?

The term "robotics" and "Artificial Intelligence" often get thrown around to describe the same thing but the two are distinctly different. Robotics describes a mechanical device used to perform a task, typically repetitive. Artificial Intelligence is software that allows computers to work, learn, and problem-solve.

While each is exciting on its own, it is the joining of the two that has everyone so excited.

Artificial Intelligence is widely seen as a technology that will replace human work. While robots have taken a lot of manufacturing jobs, Artificial Intelligence has thus far only complemented knowledge workers by making their jobs easier.

Taking Our Understanding a Bit Deeper

There are two important AI distinctions: **Applied AI** and **General AI.**

Applied AI: Machines designed to complete very specific tasks like navigating a vehicle, trading stocks, or playing chess.

General AI: Machines designed to complete any task and require machines to learn as they encounter new tasks or situations. This is also referred to as "machine learning". This is considered more cutting-edge over Applied AI. Companies here build machines/software that can access data, apply algorithms to this data,

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and then train them to deduce insights based on these underlying datasets.

Currently, General AI is typically used to recognize faces, voice commands, and objects, as well as to translate languages. Think chatbots, such as Siri (Apple), Cortana (Microsoft), and Alexa (Amazon).

Deep learning is a subset of machine learning and takes AI a step further, by mimicking how the human brain works through the use of artificial neural networks. It is beyond the scope of this article but is a very interesting read if investors want to take their understanding of AI to the next level.

Industry Potential and Why it Makes Sense

While the topic may be confusing, understanding the benefits should be straightforward. Labor costs are expensive and rising, and Heather Stewart, an analyst for the Guardian, found that "offshoring jobs could save a firm approximately 65% on labour costs while replacing workers with robots can achieve an estimated 90% in savings." (Source: https://www.theguardian.com/technology/2015/nov/05/robot-revolution-rise-machines-could-displace-third-of-uk-jobs)

Robots and AI also drive improved productivity. The industry can yield faster, higher quality outputs without cognitive and physical problems associated with fatigue or malpractice. The adoption of robotics in places like Germany, South Korea, China, Japan, and the U.S. is expected to boost productivity by up to 30% by just 2025, according to the Boston Consulting Group. (Source: https://www.bcgperspectives.com/content/articles/lean-manufacturing-innovation-robotics-revolution-next-great-leap-manufacturing/)

A Bank of America Merrill Lynch report shows that the robotics industry may expand at a robust rate from being worth $10.7 billion in 2014 to $83.0 billion by 2020 (Source: http://fortune.com/2015/11/06/five-fascinating-facts-robotics-market/). Meanwhile, reducing costs coupled with rapid advancement of technology is likely to reduce prices of robots significantly. This may further boost demand in the industry. According to the CEO of Robo Global, prices have dropped nearly 25% from 2010 through 2015 and may fall a further 20% in the next five years. (Source: https://www.zacks.com/stock/news/232107/robotics-etfs-head-to-head)

ETFs to Capture the AI Theme

There are a few household large-cap technology names that are researching AI, notably IBM, Alphabet and Facebook. These names may make more sense for the equity investor who wishes to partially participate in the theme, in a more conservative manner.

Otherwise, most industry companies are smaller in size. With the explosion of the industry and new companies/concepts popping up frequently, most investors might be better off investing in ETFs since they provide instant diversification across the entire industry. As well, AI companies can be very limited in focus to a particular industry segment, such as healthcare, fintech, or e-commerce. Unless you have a particular thesis on an AI niche, going with the ETF is the best strategy for the average investor.

Here are two of the more popular ETF options in the space:

Image 1: AI ETF Options

Name	Robotics & Artificial Intelligence ETF	Robo Global™ Robotics and Automation Index ETF
Ticker	BOTZ	ROBO
Assets ($M)	386	1,130
Inception	9/12/2016	10/21/2013
Mgmt Fee (%)	0.68	0.95

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Exchange Traded Concepts Trust ROBO Global Robotics and Automation Index ETF (ROBO) was the first robotics and automation ETF to market. The ETF captures the entire value chain of robotics, automation, and enabling technologies. It consists of two primary tiers, Technologies and Applications. The ETF is split roughly 50/50 here. Over these two segments, there are 13 focused breakouts.

The "technologies" tier captures all companies that manufacture or provide services related to any machinery, equipment, devices or sensors supporting a robot performing its task. It also includes those companies that provide key-enabling software and processing technologies used to advance the conversion to autonomous systems. These are the companies that enable robots to sense, process and act.

The "applications" segment highlights all companies that incorporate multiple robotic and automation technologies into their product or manufacturing process to improve efficiency in traditional business lines.

The Global X Funds Global X Robotics & Artificial Intelligence ETF (BOTZ) mandate is a bit less well defined and is broad in scope: the ETF seeks to invest in companies that potentially stand to benefit from increased adoption and utilization of Robotics and AI, including those involved with industrial robotics and automation, non-industrial robots, and autonomous vehicles.

Mandates aside, both ETFs will benefit from the increased adoption and popularity of AI and robotics. However, the portfolios are significantly different from a portfolio construction perspective.

The BOTZ portfolio is far more concentrated than ROBO with almost 2/3 of the fund in the 'Top 10'. If the benchmark picks work out, the ETF could significantly outperform the broad industry (of course the opposite is true as well).

Image 2: Top 10 Holdings

BOTZ		ROBO	
Name	Weight (%)	Name	Weight (%)
KEYENCE CORP	8.3	AEROVIRONMENT INC	2.7
INTUITIVE SURGICAL INC	7.8	DAIFUKU CO LTD	2.4
MITSUBISHI ELECTRIC CORP	7.7	HIWIN TECHNOLOGIES CORP	2.2
NVIDIA CORP	7.6	YASKAWA ELECTRIC CORP	2.2
FANUC CORP	7.2	HOLLYSYS AUTOMATION TECHN	2.0
ABB LTD-REG	6.8	HARMONIC DRIVE SYSTEMS IN	2.0
YASKAWA ELECTRIC CORP	6.3	NABTESCO CORP	1.9
SMC CORP	5.0	OMRON CORP	1.9
OMRON CORP	4.9	KEYENCE CORP	1.9
TRIMBLE NAVIGATION LTD	4.8	COGNEX CORP	1.9
	66.4		**21.0**

ROBO is much larger with a longer track record and has more sector coverage (about 100 holdings vs. about 30 for BOTZ). Most of the holdings in BOTZ can also be found in ROBO due to the position count differential.

Looking at 'Image 3', there is also less international risk with ROBO, and the fund trades at a cheaper valuation according to Morningstar data.

Image 3: Other Statistics

	BOTZ	ROBO
Giant-cap (%)	42	11
Large-cap (%)	23	18
Mid-cap (%)	24	42
Small-cap (%)	11	29
P/E (F12)	27.7	25.5
P/B (F12)	4	2.9
United States (%)	23	45
Japan (%)	46	28

Limited but Good Track Record

Performance has been excellent for both funds with initial investor excitement over the AI theme. Since its launch in 2013, the price return of ROBO is 46.3%, beating the SPDR S&P 500 (SPY) at 40.5%.

When you compare price performance of both since September 16, 2016 (BOTZ inception), BOTZ has increased by 33.9% and ROBO by 29.8%. Returns are comparable but there will, of course, be differences here, which makes sense given the more concentrated BOTZ portfolio.

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On the one hand, BOTZ has a highly concentrated portfolio and performance of top-weighted names will mean more volatility in returns as the fund and industry gain traction. However, the BOTZ portfolio is tilted to large-cap names relative to ROBO, as shown in 'Image 3'. ROBO has roughly twice the allocation to mid-/small-cap opportunities vs. BOTZ. This makes sense though given the larger count of portfolio names, as most companies in the space are still 'emerging' and are smaller in nature. Unfortunately, without more of a track record, it is hard to say where the better risk-adjusted opportunity lies.

Concluding Thoughts

Though there are a number of technology ETFs available in the market and larger technology names getting involved in the theme, the Robotics/AI segment is relatively unexplored. Despite attractive growth potential, these are "satellite" ETFs in our opinion and do not replace large-cap sector funds. As such, we would limit a possible ROBO/BOTZ holding to a 5% position.

For the average growth investor, we would prefer ROBO over BOTZ despite the higher MER one would incur (0.98% vs. 0.68%). When it comes to ETFs in a new, emerging theme, we do value longevity, size and diversification. As a seasoned player in the robotics domain, ROBO has the experience behind it and appears to be the better investment based on risk, diversification, and Price to Earnings (P/E) ratio. BOTZ may attract investors' attention as a comparatively cheaper option and a more aggressive play in the industry.

Outcome Oriented Model Series: Aggressive Equity

By Michael Southern, CFA

The second issue of this series will look at how investors who desire outsized growth from the portfolio can use both the equity allocation and fixed income to produce an expected higher return.

As a reminder, the purpose of an OOM is to provide an investment solution designed to meet a single objective. It is important to remember an OOM is not a complete portfolio.

Our Aggressive Equity model is shown here:

Image 1: Outcome-Oriented Model: Enhanced Equity Income

Ticker	Name	Weight	P/E	MER	Position
RSP	Guggenheim S&P 500® Equal Weight ETF	20.0%	20.0	0.20%	Core
IWO	iShares Russell 2000 Growth ETF	10.0%	24.4	0.24%	Core
VCN	iShares Core S&P/TSX Capped Composite Index ETF	15.0%	16.6	0.06%	Core
VEE	Vanguard FTSE Emerging Markets All Cap Index ETF	10.0%	15.1	0.24%	Core
XIN	iShares MSCI EAFE Index ETF (CAD-Hedged)	15.0%	15.5	0.73%	Core
ZUH	BMO Equal Weight US Health Care Hedged to CAD Index ETF	5.0%	23.1	0.39%	Satellite
ZID	BMO India Equity Index ETF	5.0%	18.1	0.73%	Satellite
XHY	iShares U.S. High Yield Bond Index ETF (CAD-Hedged)	10.0%	N/A	0.67%	Satellite
CPD	iShares S&P/TSX Canadian Preferred Share Index ETF	10.0%	N/A	0.51%	Satellite
		100.0%	**18.5**	**0.38%**	

This is a global equity portfolio that includes nine ETFs and charges an MER of 0.39%.

The largest holding here is Guggenheim S&P 500 Equal Weight ETF (RSP) and we like this fund for a few reasons. Probably the best-known equal-weighted ETF, RSP takes all the stocks in the S&P 500 and weights them equally. This reduces bias toward the largest companies and greatly increases the footprint of smaller S&P 500 stocks (many of which we consider to be mid-caps), which results in a higher beta for the portfolio. This should create a more balanced and diversified portfolio, and achieve attractive risk-adjusted performance results. Equal weighting also lowers concentrations, reducing risk from any one name. Quarterly rebalancing also complements the contrarian theme baked into all equal-weight plays: sell winners and buy losers.

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While debatable, iShares Russell 2000 Growth Index (IWO) is likely the riskiest ETF here. The ETF offers exposure to small-cap firms that exhibit growth characteristics in the U.S. equity market. Small-caps, of course, provide strong growth prospects to a portfolio and should have a much easier time achieving capital gains in the long run vs. large-cap counterparts. However, these securities are extremely volatile and can experience large losses or gains in a very short period of time. Despite their volatility, these equities can have a place in an investor's portfolio, as they tend to move somewhat independently of large-caps and can be a better 'pure play' on the American economy.

VCN, XIN, and VEE are all plain vanilla, broad market ETFs that offer exposure to a particular region. We do not need to spend too much time here, except to say VCN is an all-cap strategy and offers slightly more exposure to mid- and small-cap equity vs. traditional market-cap peers. VEE invests in emerging economies and is risky enough on its own without having to search out a growth factor ETF for this space.

VEE will have an allocation to growth countries like India but we decided to be a bit more tactical here and add the BMO India Equity Index ETF (ZID), an ETF focused exclusively on Indian equities. The Indian economy grew 6.1% in the first quarter of 2017 and looks to be picking up some steam, as the rest of the world's economies also get back on track. Government reforms are pro-business, helping groth as well. Overall, this looks to be one of the better emerging economies from a momentum perspective (Brazil looks good too).

We were also tactical in adding ZUH for exposure to one of the more 'growthy' US sectors. Over 2017, the ETF is up almost 19.0%, so momentum looks strong (the appreciating CAD$ helped a bit too).

Roughly 30.0% of ZUH is invested in healthcare equipment names but a further 35.0% is invested in the 'boom and bust' biotech/pharma industries.

Finally, we added XHY and CPD for some asset class diversification. We have covered these ETFs in the past so there is not much need to get into details here. 'Yes', these are fixed income products but both can display equity-like returns in poor markets (more on that to come). In pro-growth scenarios, these ETFs tend to do quite well as economics and business improve, and interest rates rise. They also provide some yield to the portfolio.

A Bit More on Allocations

Almost half of the equity portfolio is invested in US stocks, which is consistent with most global equity portfolios, recognizing the size and diversity of the US market. Canada, EAFE and emerging equities all contribute just shy of 20% of the equity portfolio. Canada is, of course, small on the global scale but we recognize investor 'home bias'. International opportunities look to have some of the more appealing growth prospects due to low valuations and momentum. A higher weighting to these equities makes sense for a more aggressive investor with the right time frame (multi-year).

From a sector perspective, financial stocks are the largest allocation; the sector is a solid combination of growth and dividends. The next top sectors are healthcare, technology, industrials, and consumer discretionary. They account for 45.0% of the sector allocation. As a whole, these are more aggressive cyclical sectors and tilt the portfolio in the right direction. The lowest weight sectors are of course defensive equities. Telecoms, utilities and consumer defensive stocks account for just 16.0% of the portfolio.

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Image 2: Equity Portfolio by Country

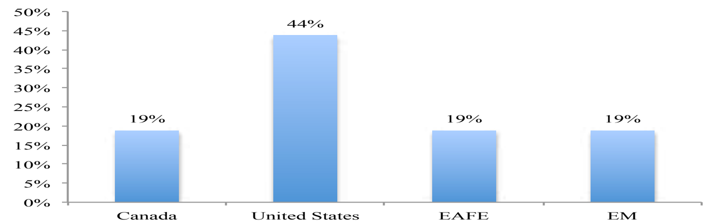
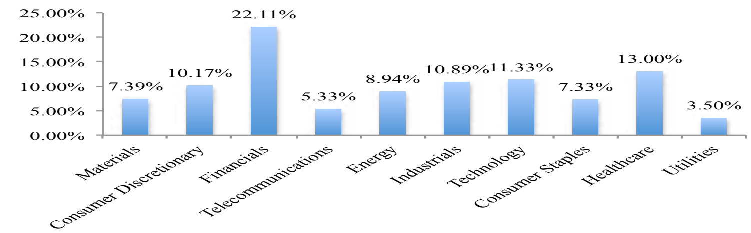


Image 3: Equity Portfolio by Sector



Valuation

The portfolio trades at a forward P/E multiple of 18.5x. Growth equity typically trades at a higher multiple vs. value peers, as investors pay more for expected future gains. With that, the portfolio is actually not too expensive when you consider the S&P500 is trading at a lofty 20.4x.

International equities in EAFE and emerging economies are helping to keep the valuation low. Global investors have shunned these equity investments for years since the Great Recession, and many markets abroad look attractive from a valuation perspective, notably Brazil and Russia. However, markets have returned to emerging market equities and valuations are coming off their 'lows'.

Diversification is the Only Free Lunch

In our opinion, Image 5 is one of the more interesting. It shows the correlation each ETF has with each other in the portfolio, and then the ETF correlation to the S&P500.

Image 4: Monthly Correlation

Name	RSP	IWO	VCN	VEE	XIN	ZUH	ZID	XHY	CPD	S&P500
RSP	-	0.86	0.67	0.47	0.71	0.72	0.22	0.72	0.65	0.97
IWO	0.86	-	0.5	0.34	0.6	0.79	0.2	0.58	0.53	0.79
VCN	0.67	0.5	-	0.47	0.48	0.4	0.01	0.72	0.61	0.62
VEE	0.47	0.34	0.47	-	0.59	0.37	0.72	0.44	0.44	0.51
XIN	0.71	0.6	0.48	0.59	-	0.57	0.46	0.53	0.48	0.77
ZUH	0.72	0.79	0.4	0.37	0.57	-	0.34	0.55	0.53	0.7
ZID	0.22	0.2	0.01	0.72	0.46	0.34	-	0.18	0.18	0.28
XHY	0.72	0.58	0.72	0.44	0.53	0.55	0.18	-	0.59	0.69
CPD	0.65	0.53	0.61	0.44	0.48	0.53	0.18	0.59	-	0.64

Correlation is a statistic that measures the degree to which two securities move in relation to each other. A perfect positive correlation means that the correlation coefficient is exactly one.

This implies that as one security moves, either up or down, the other security moves in lockstep, in the same direction. For example, RSP and IWO have a correlation of 0.86. This is not surprising as both have a high degree of exposure to mid- and small-caps. In relation to the S&P500, RSP has a correlation of 0.97 and IWO shows 0.79. Again, not surprising.

We want to highlight ZID. Overall, it looks to have the lowest degree of correlation with other ETFs and the benchmark. With diversification in mind, a theoretical growth investor would benefit most from adding a position in ZID. We also assume most of our readers are biased to Canadian stocks.

ZID shows a 0.01 correlation with VCN. With the momentum the Indian economy is seeing, ZID certainly looks like an interesting addition to a growth portfolio. VEE is also interesting in this regard, and most investors already know that emerging economies offer diversification benefits from traditional North American equities.

Final Thoughts

Over the long-term, a more aggressive outlook will likely outperform the broad market. However, with the market at new highs, the aggressive equity investor is most exposed to risk from a valuation pullback. In our opinion, before diving in headfirst, you should be constructing a watch list of positions that you can average into over time. That way you can use time and price to your advantage as the rest of the year unfolds.